SCHOOL DISTRICT OF MANAWA
CURRICULUM COMMITTEE MEETING
AGENDA

Google Meet joining information
Video call link: https://meet.google.com/ybt-wsfe-yok
Or dial: (US) +1 585-535-3266 PIN: 471 129 675#

Date: December 14, 2022 **Time: 5:00 p.m.**

Hybrid Meeting Format (In-person Meeting for Board of Education at MES Board Room, 800 Beech Street & Virtual Components)

Board Committee Members: Hollman (C), Riske, and Fietzer

In Attendance:

Timer: _____ Recorder: _____

1. Consider Endorsement of the LWHS 2023-24 Course of Study Guide (Action)
2. Consider Endorsement of the Evaluation and Recommendation Report Format for Club and Organizations as Presented (Action) Found at: Co-Curricular Club Evaluation Plan
3. Consider Endorsing K-5 Math Curriculum as Presented (Action)
4. Discuss and Recommend Applicable 2022-23 School Year Key Performance Indicators (Information / Action)
5. Curriculum Committee Planning Guide (Information / Action)
6. Next Meeting Date _____
7. Next Meeting Items:
    a.
    b.
8. Adjourn

Course of Study Guide

2023-2024

Little Wolf High School

515 E. Fourth Street
Manawa, WI 54949
(920) 596–5800

“Creating solid foundations for lifelong success.”

Approved by the School District of Manawa Board of Education 01/17/2022

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Welcome to Little Wolf High School!

During high school, students are preparing for more advanced curriculum while continuing to strengthen basic skills. It is our intention that this Course of Study Guide helps you gain a general understanding of the type of learning experiences you may participate in throughout the course of high school.

It is <u>your responsibility</u> to ensure that you have enough credits to graduate and that you have satisfied all LWHS requirements. You should check your credits at the beginning of each school year. Students planning on post-secondary education must meet with the School Counselor annually to make certain requirements are being met for acceptance to these institutions.

<u>Students interested in discussing the option to drop/add a course, should meet with the school counselor and receive parent permission PRIOR to the start of the school year.</u>

Your involvement in your education plays an important role in your success in school. Please feel free to contact your teachers, school counselor, or school administrators if you need assistance. They look forward to working with you during your high school experience.

Non-discrimination Clause

NONDISCRIMINATION AND ACCESS TO EQUAL EDUCATIONAL OPPORTUNITY

The Board is committed to providing an equal educational opportunity for all students in the District.

The Board does not discriminate on the basis of race, color, religion, national origin, ancestry, creed, pregnancy, marital status, parental status, sexual orientation, sex, (including transgender status, change of sex or gender identity), or physical, mental, emotional, or learning disability ("Protected Classes") in any of its student program and activities.

This policy is intended to support and promote nondiscriminatory practices in all District and school activities.

School District of Manawa, Policy 2260, updated September 2021

Wolf Pride

"Creating solid foundations for lifelong success."

~Tips for School Success~

- Arrive to class on time with appropriate materials (pen, pencil, notebook, textbooks, folder, Chromebook, etc.).
- Participate in classroom activities (be a good listener, respect the views of others).
- Take notes to assist in studying and test taking. Maintain notes in an orderly manner throughout the course.
- Attendance is crucial to academic success – set a goal for perfect attendance.
- Need help? Seek out teachers, counselors, or administrators for assistance. Teachers are available during their prep periods and before and after school.
- Don't procrastinate! Keep up with your studies. Turn in work on time.
- Know school procedures and policies contained in the school handbook, as well as the Co-curricular Code of Conduct if an athlete.
- Be involved in school activities, clubs and organizations.
- Parents – stay involved with your child. Please attend Parent/Teacher Conferences and student co-curricular activities. Also, provide a quiet study space at home that is free from interruptions.

Graduation Requirements

A Little Wolf High School diploma shall be granted upon successful completion of a total of 24 credits for the Class of 2023 and **25 credits for the Class of 2024** and beyond in grades 9 through 12 to include:

● English	4.0 credits
● Social Studies	3.0 credits
● Mathematics	3.0 credits
● Science	3.0 credits
● Physical Education	1.5 credits
● Health Education	0.5 credits
● Financial Literacy/Employability Skills	0.5 credits
● Elective Courses	8.5 credits
Electives for 2024 and beyond	***9.5 credits***

➢ In order to earn a high school diploma, a student must successfully complete a civics assessment in accordance with State statute.

Grade Level Requirements

Students in the 2023-2024 school year are required to have earned a minimum of:

- 6 credits to be considered a sophomore
- 12.5 credits to be considered a junior
- 19 credits to be considered a senior
- 25 credits to graduate

High school graduation requirements may be different from the entrance requirements for specific colleges and universities. The requirements listed above are the minimum requirements for students to be eligible for admission to these institutions. Students are encouraged to exceed these minimum requirements and to challenge themselves by taking rigorous courses, including Advanced Placement courses, to be competitive in the collegiate admission process.

Laude System

Our Laude System Policy

This system replaces the class rank system. Class rank will not be routinely provided to colleges for admissions purposes. The transcript will report the student's cumulative GPA with an accompanying Laude point score/distinction. A transcript note will be provided to the colleges explaining our Laude System. This point-based system is combined with the cumulative GPA. It rewards students for completing rigorous courses by enabling students to earn points for certain classes. Students have until September 30 to register for additional AP courses offered through Wisconsin Virtual School in order to have the maximum time allotted to complete these courses. Additionally, the School Counselor will meet with every student who qualifies for the Laude System beginning the fall of their junior year, when most Laude courses are begun, to update students on their Laude Status. The counselor will meet each qualifying student after each semester to continue to update their Laude status. In the event of a tie when the Laude Scores are calculated, the ACT scores will be used to declare the winner. In the event of tied ACT Scores, the Highest Laude Point Score Title will be shared.

Cum Laude or Higher Placement

Students must meet two criteria to earn Laude Distinction:

- Cumulative GPA of 3.4 or higher
- Laude Score of 4 or higher

Cum Laude (With Honor/Distinction: Laude Score of 4-17.49)
Magna Cum Laude (With Great Honor/Distinction: Laude Score of 17.5-28.79)
Summa Cum Laude (With Highest Honor/Distinction: Laude Score of 28.8+)

Laude Point Courses

Start College Now Course(s): 0.5
AP Courses & CAPP Eng.: 1.5
American Lit & College Prep Eng.: 1
Economics: 0.5
Physics: 1
Human Biology: 1
Biology 2: 1
Chemistry 1
AP Chemistry: 1.5
AP Biology: 1.5
Pre-Calculus/Trigonometry: 1
Statistics: 1
Animal Science TC: 1
Ecology TC: 1
Spanish 3: 1
Spanish 4: 1
Senior Art (3+ Art credits and 2+ years art team): 1
Music (Band and/or Chorus/Jazz Band 3yrs + 1st on class A Solo/Ens.)
Robotics/Advanced Robotics: 1
SMAW/GMAW Welding Courses: 1

How do I calculate my Laude Score?
Figure out how many Laude points you have using the listing of Laude courses and their point value and then your GPA.

This table is just a guide. To calculate your actual laude score you should multiply your Cumulative GPA by the laude points earned. (example 3.827 GPA x 8.5 Laude Points = 32.53)

Honors Points \ G.P.A.	4.0	3.9	3.8	3.7	3.6	3.5	3.4
15	60	58.5	57	55.5	54	52.5	51
14	56	54.6	53.2	51.8	50.4	49	47.6
13	52	50.7	49.4	48.1	46.8	45.5	44.2
12	48	46.8	45.6	44.4	43.2	42	40.8
11	44	42.9	41.8	40.7	39.6	38.5	37.4
10	40	39	38	37	36	35	34
9	36	35.1	34.2	33.3	32.4	31.5	30.6
8	32	31.2	30.4	29.6	28.8	28	27.2
7	28	27.3	26.6	25.9	25.2	24.5	23.8
6	24	23.4	22.8	22.2	21.6	21	20.4
5	20	19.5	19	18.5	18	17.5	17
4	16	15.6	15.2	14.8	14.4	14	13.6
3	12	11.7	11.4	11.1	10.8	10.5	10.2
2	8	7.8	7.6	7.4	7.2	7	6.8
1	4						

4 Yr. Course Planning Worksheet

FRESHMAN		SOPHOMORE	
English 9	1	World Literature 10	1
US History	1	World History	1
Biology	1	Physical Science or Chemistry	1
Math: **Choose**	1	Math: **Choose**	1
P.E. I Health	.5 .5	P.E. - **Choose**	.5
Up to 2 elective credits	1-2	Up to 3 elective credits	2-3
MUST TAKE AT LEAST 6 CREDITS	**6**	**MUST TAKE AT LEAST 6.5 CREDITS**	**6.5**

JUNIOR		SENIOR	
Course Name	**Credits**	**Course Name**	**Credits**
English 11, American Literature 11 or A.P. English-Literature and Comp.	1	English 12, College Prep English or CAPP English.	1
Chemistry, Biology 2, Physics, Earth Science, AP Chemistry, or AP Biology	1		
Math**: Choose**	1	Employability Skills Financial Literacy	.5
Global Studies Government	.5 .5	Up to 4 Elective Credits	
P.E. - **Choose**	.5		
Up to 3 Elective Credits	2-3		
MUST TAKE AT LEAST 6 CREDITS	**6.5**	**MUST TAKE AT LEAST 6 CREDITS**	**6**

***** If you take a Study Hall, this counts as a class and decreases your elective credits by 1**

Post-Secondary Admission Tips

University of Wisconsin System

Now, all UW System schools require you to complete at least 13 credits in the core subjects, plus four credits in subjects you choose (foreign language, art, music, or computer science). Technical and career courses may also be accepted for a portion of your elective credits.

English 4 credits
Mathematics 3 credits
Natural Science 3 credits
Social Science/History 3 credits

In addition to the "core college preparatory" credits identified, students need to complete a minimum of four elective credits as follows:

Electives: An additional 4 credits may be chosen from English, mathematics, natural science, social science/history, foreign language, fine arts, computer science, and other academic areas. (Two years of a single foreign language are required for admission to UW-Madison, and are encouraged at other UW System campuses.) Some UW System campuses may also accept technical and career courses for a portion of these 4 elective credits.

Nation's Top Universities

Students must meet the following minimum requirements in order to be eligible for admission:
English* 4 credits
Mathematics 4 credits
Science 3-4 credits
Social Studies** 3 credits
World Language*** 3-4 credits
*Intensive work in writing
**Includes American & European History
***At least one world language
Rigorous courses should be taken, including AP level when possible, and SAT or complete ACT achievement tests administered by the College Board.

Wisconsin's Technical Colleges

The following are recommended high school credits for adequate, comprehensive preparation for success in technical college programs:
English 4 credits
Mathematics 3 credits
Science 3 credits
Social Studies 3 credits
Technical Courses 3-4 credits
Technical college programs have admission standards, and some programs have waiting lists. Apply early and seek your counselor's advice regarding your chosen program.

Wisconsin's Private Universities

Students must meet the following minimum requirements in order to be eligible for admission:
English 4 credits
Mathematics 3 credits
Science 3 credits
Social Studies 3 credits
World Language 2 credits
Considerations for admission include either ACT or SAT scores and grades earned within the context of courses taken, as well as the challenge level of the courses.

Academic and Career Planning (ACP)

Academic and Career Planning, or ACP, is a student-driven, adult-supported process in which students create and cultivate their own unique and information-based visions for post-secondary success, obtained through self-exploration, career exploration, and the development of career management and planning skills.

What is ACP?

An **ongoing process** to actively engage students to:

* Develop an understanding of his or her self
* Create a vision of his or her future
* Develop individual goals
* Prepare a personal plan for achieving the vision and goals

A **product** that documents and reflects students':

* coursework, learning and assessment results
* post-secondary plans aligned to career goals & financial reality
* record of college and career readiness skills.

Transcripted Coursework

Transcripted Credit (TC)

- Through a memorandum of understanding and a “wash” contract between L.W.H.S. and F.V.T.C., students take a F.V.T.C. course taught by a WTCS certified high school teacher at Little Wolf High School.
- The curriculum is devised by FVTC and the student is registered in both the high school and FVTC course.
- The student receives a grade from the high school as well as from FVTC and is posted on an official FVTC transcript.
- The high school maintains the student record; FVTC also maintains its own student record.

For more information: www.fvtc.edu/techprep

Little Wolf High School courses:

Transcripted Credit

- Animal Science/Veterinary Medicine **TC**
  - Ecology **TC**
- Shielded Metal Arc Welding (SMAW) Techniques 1 **TC**
- Gas Metal Arc Welding (GMAW) Techniques 1 **TC**

NCAA Divisions I and II Initial-Eligibility Requirements

Core Courses

- **NCAA Division I require 16 core courses. NCAA Division II currently requires 16 core courses.**
- **NCAA Division I will require 10 core courses** to be completed **prior to the seventh semester** (seven of the 10 must be a combination of English, math or natural or physical science that meet the distribution requirements below).
    - It is possible for a Division I college-bound student-athlete to receive athletics aid and practice with the team if he or she fails to meet the 10-course requirement but will not be able to compete.

Test Scores

- Colleges and/or scholarship programs may still require test scores.
- **When you register for the SAT or ACT, use the NCAA Eligibility Center code of 9999 to ensure all SAT and ACT scores are reported directly to the NCAA Eligibility Center from the testing agency. Test scores that appear on transcripts will not be used.**

Grade-Point Average

- Be sure to look at your high school's List of NCAA Courses on the NCAA Eligibility Center's website (www.eligibilitycenter.org). Only courses that appear on your school's List of NCAA Courses will be used in the calculation of the core GPA. Use the list as a guide.
- The Division I core GPA requirement is a minimum of 2.3000.
- The Division II core GPA requirement is a minimum of 2.2000.
- Remember, the NCAA GPA is calculated using NCAA core courses only.

DIVISION I

16 Core Courses, 4 years English, 3 years of mathematics (Algebra 1 or higher), 2 years of natural/physical science (1 yr of Lab if offered by High School),1 year of additional English, mathematics or natural/physical science, 2 years of social sciences, 4 years of additional courses (from any area above, foreign language or comparative religion/philosophy

DIVISION II

16 Core Courses, 3 years English, 2 years of mathematics (Algebra 1 or higher), 2 years of natural/physical science (1 yr of Lab if offered by High School),3 years of additional English, mathematics or natural/physical science, 2 years of social sciences, 4 years of additional courses (from any area above, foreign language or comparative religion/philosophy)

English – 4 credits

The English curriculum is designed to stress skills in reading, writing, listening and speaking. Units of study include literature units such as short stories, novels, drama and writing units such as expository writing, personal writing, and research paper.

Recommended Sequence of Available English Courses				
Laude Points	Grade 9	Grade 10	Grade 11	Grade 12
None	English 9	World Literature 10	English 11	English 12
1			American Literature 11	College Prep English 12
1.5			A.P. English Literature & Composition	CAPP English 12

Course Descriptions

English 9 – ***required*** – This is a one credit course for all freshmen. Students will read, analyze, and discuss a wide variety of literature and nonfiction. Informative, creative, persuasive, and research writing will be expected, and the writing process will be utilized. Vocabulary, speaking, and grammar/editing skills are practiced throughout the semester. Students are heterogeneously grouped and exposed to a broad range of language arts and communication skills.

1 Credit **Grades: 9** **Prerequisite: None**

World Literature 10 – ***required*** – This one credit course is for all sophomores. Students will engage in the reading of works from a variety of places and perspectives to understand how universal themes span culture and time periods. Informative, persuasive, analytical and research writing will be expected, and the writing process will be utilized. Vocabulary, speaking, and grammar/editing skills are practiced throughout the semester. Students are heterogeneously grouped and exposed to a broad range of language arts and communication skills.

1 Credit **Grades: 10** **Prerequisite: English 9**

English 11 - *one choice of three for junior students* — This one credit course is designed to meet the needs of those students who do not intend to pursue further education at a four-year university after high school. This course presents an integrated reading and writing curriculum with traditional and modern American literature selections and associated writing assignments and essays. Students read and learn about stories, poems, plays, novels, themes, and authors in a historical context. Communication, language, and vocabulary usage skills will be emphasized. Individual and group projects and ACT test preparation/practice will also occur throughout the year.

1 Credit **Grades: 11** **Prerequisites:** **World Literature 10**

American Literature 11 – *one choice of three for junior students* — **1 Laude Point--** This one credit course is designed to meet the needs of those students who plan to pursue further schooling but will not be taking AP English coursework. Students will read, analyze, and discuss short stories, essays, poems, and a play from an American Literature anthology, as well as at least two additional novels. Author information, historical connections, literary terms, and vocabulary will also be discussed in context. Writing tasks include literary analysis essay, documented persuasive essay, and a detailed character comparison essay. Individual and group projects and ACT test preparation/practice will also occur throughout the year.

1 Credit **Grades: 11** **Prerequisites:** **World Literature 10**

A.P. English-Literature and Composition --*one choice of three for junior students*-- **1.5 Laude Points** "The AP English Literature and Composition course aligns to an introductory college-level literary analysis course. The course engages students in the close reading and critical analysis of imaginative literature to deepen their understanding of the way's writers use language to provide both meaning and pleasure. As they read, students consider a work's structure, style, and themes, as well as its use of figurative language, imagery, symbolism, and tone. Writing assignments include expository, analytical, and argumentative essays that require students to analyze and interpret literary works" (College Board AP English Literature and Composition Course Description).
NOTE: Students may receive credit/advanced course placement at a 4-year college/university by scoring a 3, 4, or 5 on the A.P. Literature and Composition test. The A.P. test is offered at Little Wolf Jr./Sr. High School. Cost is approximately $93.00. Students who take A.P. Literature and Composition are encouraged to check with any college or university they plan to attend to verify whether that school will assign credit for AP coursework.

1 Credit **Grades: 11-12** **Prerequisite: World Literature 10 (Grade of A)**

English 12 – *one choice of three for senior students.* This on credit course is designed to meet the needs of students who will not be taking CAPP or College Prep English Coursework. This course is focused for students who plan to enter the workforce or an apprenticeship program at a technical college. Students will practice basic narrative, informative, and persuasive writing, as well as, strengthen reading skills. Basic vocabulary and grammar/editing skills will be emphasized. Reading will consist of both fiction and informational text throughout the course.

1 Credit **Grades: 12** **Prerequisite: English 11 (or)**
American Literature 11 (or)
A.P. English Lit. & Composition

College Prep English 12--*one choice of three for senior students* --**1 Laude Point --**This one credit course is designed to prepare students for post-secondary training at a four-year university or for a two-year technical college. Integrated reading and writing skills will be the focus, as well as higher level speaking, vocabulary, and critical thinking skills. Various study and note-taking skills important for the college-bound student will be introduced and practiced. A research paper covering a future career will be developed practicing both MLA and APA citation format. Reading will focus on informational text and fiction, with an emphasis on annotation and close reading skills. In addition, guidance and support will be offered to assist students with the transition between high school and college.

1 Credit **Grades: 11-12** **Prerequisite: American Literature 11 (or)**
A.P. English Lit. & Composition

CAPP English 101 (Dual Credit College Course)/ Crime and Punishment in American Society --*one choice of three for senior students*--**1.5 Laude Points -**CAPP English focuses on rhetoric and writing curriculum, which requires students to develop evidence-based analytic and argumentative essays that proceed through several stages or drafts. Students evaluate, synthesize, and cite research to support their arguments. Throughout the course, students develop a personal style by making appropriate grammatical choices. Additionally, students read and analyze the rhetorical elements and their effects in fiction and nonfiction texts alike. This course will prepare students for college and will earn them 3 credits equivalent to college English at over 100 Universities nationwide, including all the UW system campuses. **There is a reduced college tuition cost for this course as college credit is awarded. **Student will be enrolled at UW Oshkosh.**

1 Credit **Grades: 11-12** **Prerequisite: American Lit. 11 (Grade of A) (or)**
A.P. English Lit. & Composition
(Grade of B or better)

English Electives–the following may be taken IN ADDITION TO, not in place of, required English coursework

Recreational Literature- Designed for non-college bound student (not a college preparatory class) To encourage readers to value literature as a leisure activity, students select and read eight-ten books within specified literary genres (both fiction and nonfiction) approved by instructor. In addition to keeping a reading log, each book requires the completion of a final project. **This course is provided through Erving.**

0.5 Credit **Grades: 11-12** **Prerequisite: None**

Oral/Interpersonal Communication: The communication process, perception, and self-concept, language, listening, nonverbal communication, interpersonal relationships, communication in groups and public communication; prepare and deliver an oral presentation. **This is provided through Erving (NTC & NWTC)**

0.5 Credit **Grades 11-12** **Prerequisite: None**

Mathematics – 3 Credits

The mathematics curriculum expands upon students' previous learning in a continuous sequence of courses focusing on advancing the students' mathematical skills in the areas of problem solving, reasoning and critical thinking.

Recommended Sequence of Available Math Courses				
Laude Points	Grade 9	Grade 10	Grade 11	Grade 12
None	Algebra (or)	Geometry (or)	Geometry (or)	Geometry
None	Geometry	Advanced Algebra (or)	Advanced Algebra (or)	Advanced Algebra
None		Trade Math	Trade Math (or)	Trade Math
None				Senior Math
1			Pre-Calculus & Trigonometry (or)	Pre-Calculus & Trigonometry
1			Statistics	Statistics
1.5			A.P. Calculus AB	A.P. Calculus AB

NOTE: All students who qualify to take Algebra in their 8th grade year will be granted one credit on their high school transcript. The grade earned for this course is not part of the high school grade point average (GPA) but is counted towards the overall graduation credit requirement**. Failure to earn a grade of a B- or higher for both semesters will require the student to retake Algebra as a freshman. However, this credit does not preclude the student from taking an additional two credits of mathematics while in high school.**

Freshmen, Sophomores, & Juniors must have a minimum of 1 credit of Math per year.

Course Descriptions

Algebra 1 –This course is designed to introduce the student to the topics needed to go into the upper level Algebra courses. It stresses rational expressions and problem solving with variables, number sets and real numbers, solving linear equations, graphing linear equations, writing linear equations, solving and graphing linear inequalities, systems of linear equations and inequalities, exponential functions, polynomials and factoring, rational expressions and equations, matrices, and radicals.

1 Credit **Grade: 9** **Prerequisite: None**

Geometry – A logical approach to the study of real objects and shapes: i.e. parallel lines, triangles, circles, solids, etc. Emphasis is placed on algebraic applications.

1 Credit **Grades: 9-11** **Prerequisite: Algebra**

Advanced Algebra Extends the student's knowledge of the real number systems and operations with complex numbers. It will develop the student's knowledge of conic sections, polynomial functions, rational expressions, exponential and logarithmic functions, sequences and series, discrete mathematics, and trigonometric functions. It gives the students a degree of understanding that helps them become more proficient in many lines of work. **NOTE: This course is required for college and university admission.**

1 Credit **Grades: 10-12** **Prerequisite: Geometry**

Trade Math – Intended for students considering attending a technical college or the world of work. Focuses on math skills needed for various trades. Topics include arithmetic fundamentals, percent and proportion applications, the metric system, conversions, practical geometry, measurement applications, signed numbers and formula evaluation. Micrometer, equation solving, and standard rule measurement units are included as needed. Scientific calculator use is introduced as needed. **NOTE: Trade Math as a junior class needs to be approved by a teacher.**

1 Credit **Grades: 10-12** **Prerequisite: Geometry**

Pre-Calculus & Trigonometry – **1 Laude Point** Prepares students for college mathematics. The basic structure of this course is built around the study of functions, their properties, graphs and applications in society. Functions included in this course: linear, polynomial, rational, trigonometric, exponential and logarithmic. Also included in this course is the study of polar coordinates and complex numbers, sequences and series, and probability. The purchase of a graphing calculator is highly recommended for this course. A TI-83 or TI-84 calculator is required**. A TI-89 is not allowed.**

1 Credit **Grades: 11-12** **Prerequisite: Advanced Algebra**
(Recommend grade of C or better)
Or (by teacher approval)

Statistics – **1 Laude Point** Students will learn how to collect, organize, display and interpret data and information. Students will also learn basic probability skills and how to apply it to data. This is a college prep course.

1 Credit **Grades: 11-12** **Prerequisite: Advanced Algebra**

A.P. Calculus AB – **1.5 Laude Points** Equivalent to a first semester college calculus course. The basis of study includes limits and continuity, derivatives, integrals, and the applications. A TI-83 or TI-84 calculator is required. **A TI-89 is not allowed**.
NOTE: Students may receive credit/advanced course placement at a 4-year college/university by scoring a 3, 4, or 5 on the A.P. AB Calculus test. The A.P. test is offered at Little Wolf Jr./Sr. High School. Cost is approximately $93.00.

1 Credit **Grades: 11-12** **Prerequisite: Pre-Calculus & Trigonometry (Recommend grade of B or better) Or (by teacher approval)**

Senior Math – Practicing math is necessary to keeping skills fresh. Many post-secondary schools do not require more than the 3 credit math graduation requirement. Therefore, some students may choose to not take a math class their senior year. This semester class is designed for students not enrolled in a math class their senior year, but wish to keep up their skills as they prepare to take math placement tests for their post-secondary education. The course topics will be based on the ACT Mathematics College and Career Readiness Standards.

0.5 Credit **Grades: 12** **Prerequisite: Senior standing and 3 credits earned in mathematics or teacher recommendation**

Science – 3 Credits

The science curriculum introduces and explores various concepts in the areas of life, earth & space, and physical science.

Recommended Sequence of Available Science Courses				
Laude Points	**Grade 9**	**Grade 10**	**Grade 11**	**Grade 12**
None	Biology 1	Physical Science (or)	Physical Science (or)	Physical Science
None		Earth & Environmental Science (or)	Earth & Environmental Science (or)	Earth & Environmental Science
1		Animal Science TC (or)	Animal Science TC (or)	Animal Science TC
1		Biology 2	Biology 2 (or)	Biology 2
1			Chemistry (or)	Chemistry
1			Physics (or)	Physics
1			Human Biology	Human Biology
1				AP Biology
1.5				AP Chemistry

Biology 1 – ***required*** – Biology is the study of life. Lab work will be included to develop critical thinking and organizational skills. Units covered include, but are not limited to: The scientific method, ecology (principles, biomes, population biology, natural resources), cells (biochemistry, structure/function, mitosis), genetics (meiosis, genes, chromosomes, DNA, heredity), and the theory of evolution by natural selection.

1 Credit **Grades: 9-12** **Prerequisite: None**

AP Biology – **1.5 Laude Point** – AP Biology is a laboratory science class designed to simulate the first semester, introductory Biology class at any college or university. For most students, this course enables them to take the second semester of Biology for any science related major, or fulfill the science requirement for non-science majors. This course is approved by the College Board. As such it is based on the 6 Big Ideas and seven science practices outlined in the curriculum framework. We will study the core scientific principles, theories, and processes that govern living organisms and biological systems. You'll do hands-on laboratory work to investigate natural phenomena.

1 Credit **Grades 10-12** **Prerequisite: Biology 1 (B or better)**

Earth & Environmental Science – A laboratory-oriented course designed to introduce the student to the structure and function of Earth processes. The main topics of study will include geology, astronomy, meteorology, oceanography and the science of the environment. The course also provides information on human influence on the environment.

1 Credit **Grades: 10-12** **Prerequisite: Biology 1**

Physical Science – Designed to expose students to various scientific concepts. The goal is science literacy. The units covered include but are not limited to: basic chemistry (the nature of matter and the changes in matter) and basic physics (motion and energy). Students will learn problem-solving skills and will be shown how science relates to their lives. Lab work is required.

1 Credit **Grades: 10-12** **Prerequisite: Biology 1**

Chemistry 1 – **1 Laude Point** A laboratory-oriented course designed to study the working of chemical reactions meant for students intending to attend a college or university. Labs are practical in nature and focus on applying concepts learned in class. An understanding of Algebra is essential to understand chemistry. Units covered include data analysis, matter, atomic structure, periodic table, compounds and chemical bonds, chemical reactions & equations, mole concept and stoichiometry, solution chemistry, and acids & bases.

1 Credit **Grades: 11-12** **Prerequisite: Biology 1, Physical Science, & Beginning Algebra (Recommend grade of c or better)**

AP Chemistry - 1.5 Laude Point AP Chemistry is a laboratory science class designed to simulate the first semester, introductory chemistry class at any college or university. For most students, this course enables them to take the second semester of chemistry for any science related major or fulfill the science requirement for non-science majors. This course is approved by the College Board. As such it is based on the 6 Big Ideas and seven science practices outlined in the curriculum framework. AP Chemistry is open to all students that have completed chemistry with a B or better and who wish to take part in a rigorous and academically challenging course.

1 Credit **Grades: 11-12** **Prerequisite: B or better in Chemistry 1**

Biology 2 – **1 Laude Point** Biology 2 is a continuation of Biology 1. The organization of life and the six-kingdom classification system (Taxonomy) will be explored in depth starting with lower life forms and working up to animals. Labs will have an emphasis on identification and dissection of several species.

1 Credit **Grades: 10-12** **Prerequisite: Biology 1 & Physical Science (or) Chemistry (Recommend grade of C or better)**

Human Biology- **1 Laude Point** This course presents the structure and function of the human body. Practical use of medical terminology as applied to and identifying organ systems, organs and what they do, pathology, treatments and specialists in medical fields. Students will be required to participate in lab exercises, lab practical, quizzes and exams**.** This course includes a laboratory component and meets graduation requirements for science.
NOTE: Students are encouraged to purchase <u>The Language of Medicine: 8th Edition</u>, by Chabner (ISBN: 9781416034926), new or used, for note taking and for future use.

1 Credit **Grades: 11-12** **Prerequisite: Biology 1 &Chemistry (Recommend grade of B or better)**

Physics 1 – **1 Laude Point** A laboratory-oriented course designed to investigate the physical aspects of our universe and meant for students intending to attend a college or university. Topics studied first term include science principles, laws of motion, Newtonian mechanics, and non-relativistic gravity. The second term will explore rotational motion, momentum, energy, work, simple machines, and fundamentals of electromagnetism.

1 Credit **Grades: 11-12** **Prerequisite: Algebra 1, Geometry, Physical Science (or) Chemistry. (grade of B or better, recommend Algebra 2)**

Animal Science TC – **1 Laude Point –** This class is designed for the person interested in animals. Students will learn about livestock, agriculture, and pets. We will learn about giving injections, suturing wounds, and general animal care. Students will develop a basic understanding of animal nutrition, genetics, reproduction, and health. Guest speakers, demonstrations, job shadows, field trips, and lab experiments are designed as part of this course. Students will also have the opportunity to bring in and incorporate their own animals into the class. FFA projects will be incorporated. **This course is articulated with Fox Valley Technical College for Transcripted Credit.**

1 Credit **Grades: 10-12** **Prerequisite: Biology 1 (with C or above)**

Astronomy- Astronomy deals with the matter and energy in the universe. We will cover various topics including early astronomy, space exploration, the solar system, search for extraterrestrial life, stars and constellations to name a few. This course allows students to choose from a variety of assignments that are geared toward their interest and ability level to learn the content. The course includes computer simulations, labs, night sky observations and visits to the UWSP planetarium. **This is provided through Erving**

1 Credit **Grades: 9-12** **Prerequisite: None (Algebra 1 with C or better)**

Anatomy & Physiology- A concentrated course on the human anatomy and physiology that demands focused study and preparation in anatomy and physiology. Students should be prepared to take quizzes and tests both on MOODLE and Paper Copy. Most Labs are virtual as we are in an ERVING classroom. Topics Include: *skeletal and muscles *nervous system *cardiovascular *endocrine system. **This is provided through Erving**

0.5 Credit **Grades 11-12** **Prerequisite: A or B in the Biology. Except 3-6 hours of study for per week.**

Medical Terminology- In medical terminology students will learn the component parts of medical terms such as prefixes, suffixes and word roots. Students will learn the rules for building and defining medical terms. Emphasis is placed of the correct spelling of the terms. Students will practice formation, analysis and reconstruction of medical terms. Students will be introduced to diagnostic, therapeutic, symptomatic, and surgical terminology for the body systems. **This is provided through Erving**

0.5 HS Credit **Grades 11-12** **Prerequisite: None**
3 FVTC or NTC Credits

Body Structure & Function- A full-year study in the structures and functions of the human body systems. Units studied include basic biochemistry, cytology, histology and twelve systems of the human body. Several animal dissections are part of the lab component, including the dog shark, white rat and domestic cat. Organ dissections of the heart and kidney are also presented. Virtual labs are also used for higher level understanding. This course would be of special interest to students interested in health and animal sciences. It is offered as Dual Credit through the NTC campus in Wausau. All Tests are taken on the CANVAS learning platform. Students must earn a grade of B or higher to receive the dual credit from the technical college. Students earning a passing grade less than a B will only receive the high school credit. **This is provided through Erving**

1 HS Credit **Grades: 10-12** **Prerequisite: Biology with a B or higher**
3 NTC Credits **Recommendation from Teacher/Counselor**

Intro to Environmental Studies- This course presents an overview of the interrelationships between humans and the environment. The material presented in the first one-third of the course focuses on important ecological concepts. The remainder of the course deals with human influence on the environment. The ecological concepts are used throughout to identify, understand, and provide a basis for proposing possible solutions to contemporary environmental problems. Overall, this course will provide the student with a better understanding of how humans can more positively affect the environment in which they live. Students will need access to internet, email and the University's course management system Canvas. Designed to apply toward the UWRF general education Ethical Citizenship requirement. **This is provided through Erving (UWRF)**

1 Credits **Grades: 11-12** **Prerequisite: None**

Intro to Health Careers- As a student, you will learn more about professionalism in a hospital or clinic setting along with communication skills it takes to work with a variation of health professionals in a busy workplace. Students will also learn the importance of patient privacy and confidentiality and why it is so important for you to know. This course will allow you to explore the job descriptions of several health careers while learning the personal characteristics needed to be successful in those careers and the career planning necessary when entering the field of medicine. **This is provided through Erving (NTC)**

1 Credits **Grades: 11-12** **Prerequisite: None**

Customer-Focused Caregiving- Do you want to learn more about customer service? This two credit on-line course will allow you to learn how healthcare workers function professionally in the healthcare setting. Also, this course will allow you to understand how passionate communication fosters healing of the human body. **This is provided through Erving (NTC)**

0.5 Credits **Grades: 11-12** **Prerequisite: None**

Culture of Healthcare- Prepares learners to work in the healthcare environment as part of a healthcare team. Learners will investigate the healthcare community, patient privacy standards, and the professional behavior that is expected in today's medical community.
Learner will examine various aspects of verbal and written communication skills, customer service principles, and problem solving techniques necessary to be a vital member of the healthcare workforce. **This is provided through Erving (NWTC)**

0.5 Credits **Grades: 11-12** **Prerequisite: None**

Social Studies – 3 Credits

The social studies curriculum strives to prepare young people to be humane, rational, participating citizens in an ever-changing world by understanding their historical roots and how past events shape their world today. Reconstructing and interpreting historical events provide needed perspective in addressing the past, the present, and the future.

Recommended Sequence of Available Social Studies Courses				
Laude Points	Grade 9	Grade 10	Grade 11	Grade 12
None	U.S. History	World History	Government	
None			Global Studies	
None			Sociology (or)	Sociology
0.5			Economics (or)	Economics
1.5			A.P. Psychology (or)	A.P. Psychology
1.5			A.P. U.S. History	A.P. U.S. History

Course Descriptions

U.S. History– U.S. History is a survey class of the American experience in all of its dimensions. The American experience is one of the most unique chapters in human history. Democratic republic, internal expansion, race relations, free enterprise economy, rise to superpower status and our role in the post-Cold War world will be discussed during the full year. The class will be taught using a mix of chronological and thematic approaches for a better understanding of our history. We live in a country with a rich history that shapes the American experience we share today and will share in the future.

1 Credit **Grade: 9** **Prerequisite: None**

World History – World History is concerned with the development of past civilizations, centering on Mesopotamian, Egyptian, Greek, Roman and the European Middle Ages, with an emphasis on their cultural development and contributions to present civilization. Linking the present to the past is an important aspect of the course as students learn to relate history to present events and developments. The course relies heavily on the study of primary and secondary sources.

1 Credit **Grade: 10** **Prerequisite: US History**

Sociology – Sociology is the study of human social behavior, and concentrates on patterns of social relationships, primarily in modern societies. This class will explore the sociological point of view towards culture, socialization, social structure, groups and organizations, deviance and social control, social classes and inequalities. Also discussed will be topics such as high school cliques, family structures, education, political and economic institutions, and social collective behaviors. This class will ask students to take a personal look at the roles they play and what groups they associate with as well as evaluate parts of our society.

0.5 Credit **Grades: 11-12** **Prerequisite: None**

Economics – Economics will challenge the way you think and react to everyday events, with or without money. Economics is ultimately the study of scarcity and how people, markets and countries deal with limited resources at the personal and global levels. The first level quarter of study will focus on microeconomics, the study of how people make decisions and how those decisions affect others in the economy. Topics of study will include; tradeoffs, opportunity cost, different types of economies, supply and demand, profit maximizing prices and the role of government. At the end of the quarter, the class will switch to macroeconomics, the study of the economy. Topics of study will include; GDP, economic growth, money, banking, the Federal Reserve and international trade. **Note: 10th grade upon teacher approval.**

0.5 Credit **Grades: 11-12** **Prerequisite: None**

A.P. Psychology – **1.5 Laude Points** AP Psychology is designed to introduce students to the scientific study of human behavior and mental processes. To accomplish this, the course provides instruction in each of the following 14 content areas: history and approaches, research methods, biological bases of behavior, sensation and perception, states of consciousness, learning, cognition, motivation and emotion, developmental psychology, personality, testing and individual differences, abnormal psychology, treatment of psychological disorders, and social psychology. The intent of this course is to prepare students for the AP Psychology Test and will incorporate opportunities for performance-based assessments as well as free response question.
NOTE: Students may receive credit/advanced course placement at a 4-year college/university by scoring a 3, 4, or 5 on the A.P Psychology test. The A.P. test is offered at Little Wolf Jr./Sr. High School. Cost is approximately $93.00. **Note: 3.0 GPA.**

1 Credit **Grades: 11-12** **Prerequisite: None**

A.P. U.S. History - 1.5 Laude Points - The AP program in US History is designed to provide students with the analytic skills and factual knowledge necessary to deal critically with US History events and issues. AP US History prepares students for intermediate and advanced college courses by making demands upon them equivalent to those made by full-year introductory college courses. Students should learn to assess historical materials, their relevance to a given interpretive problem, their reliability, and their importance and to weigh the evidence and interpretations presented in historical scholarship. An AP US History course should develop the skills necessary to arrive at conclusions based on an informed judgment and to present reasons and evidence clearly and persuasively in essay format.
NOTE: Students may receive credit/advanced course placement at a 4-year college/university by scoring a 3, 4, or 5 on the A.P. U.S. History test. The A.P. test is offered at Little Wolf High School. Cost is approximately $93.00. Note: 10th grade upon teacher approval.

1 Credit **Grades: 11-12** **Prerequisite: U.S. History**
(Recommend grade of B or better)

Global Studies– Students may take this course their 11th or 12th grade years. This course will focus on studying the culture of various regions around the world and the global connections of those cultural regions to our own and others around the world. The objectives and learning targets of this course will address two standards of the National Council for Social Studies Curriculum.

0.5 Credit **Grades: 11-12** **Prerequisite: None**

Government– This portion of the course provides the student an opportunity to acquire detailed knowledge of the Constitutional Republic form of government practiced in the United States. The overall objective of this course is to prepare students for their place in society, by helping them learn how our government works, how it can be changed and what rights and freedoms our Constitution guarantees us. It will also provide students with a broad overview of modern forms of government, present in today's global community. Finally, it will allow students to investigate and possibly participate in service-learning opportunities for hands on experience of their civic responsibilities.

0.5 Credit **Grades: 11-12** **Prerequisite: None**

Military History- The Military History course is designed to increase students critical thinking abilities by examining a number of famous battles and conflicts throughout history. Students will study the equipment, tactics, and strategies used in various conflicts from multiple perspectives. Students will examine primary source material in an effort to determine what really happened, and to gain a better understanding of the reliability, limitations, and usefulness of a source**. This is provided through Erving**

0.5 Credit **Grades: 11-12** **Prerequisite: None**

Human Behavior- Human Behavior is a social psychology course, which explores common factors which stimulate a wide variety of human behaviors. Basically, it's a chance to gain an understanding of why we act the way we do, and why people react to us the way they do. The course is primarily lecture with some project work. **This is provided through Erving**

0.5 Credit **Grades: 11-12** **Prerequisite: None**

Current Events- This class will deal with the major issues concerning both the United States and the world today. Students will learn about the differing perspectives held by people around the contemporary world. Emphasized in this class will be the relationship that the United States has with the rest of the world and the impact that has on American society. Also covered in this class will be current events focusing on American domestic issues as well as on foreign policy. Many of the topics covered in this class will change from semester to semester to encompass our ever-changing world. **This is provided through Erving**

0.5 Credit **Grades: 11-12** **Prerequisite: None**

World Cultures- This course will be exploring the world and its cultures. The primary focus of the course will be through the lens of geography, whether we're learning about where different countries are throughout the world, their landscape, their resources, their culture, their food, and their customs. The course will cover each major region of the world and we'll be covering a broad examination of the region as you focus in each unit on a specific country, region, or group of people to research more thoroughly and then you'll share your findings with the class. **This is provided through Erving**

0.5 Credit **Grades: 11-12** **Prerequisite: None**

Intro to American Government- This course introduces American political processes and institutions: focusing on rights/responsibilities of citizens and the process of participatory democracy. Examines separation of powers and checks/balances & the roles of different groups. **This is through Erving**

1 Credit **Grades: 11-12** **Prerequisite: None**
3 NWTC Credits

Psychology- This course enables students to gain knowledge of such topics as perception, motivation, emotion, memory and thought, the brain and behavior, conflict, stress, personality, abnormal behavior and experimentation. A psychology course can help students better understand themselves and others. Any student who plans on any type of post high school training should consider this course. **This is through Erving**.

0.5 Credit **Grades: 11-12** **Prerequisite: None**

Intro to Diversity Studies- Basic American values of justice and equality by teaching vocabulary, history of immigration/conquest, transcultural communication, legal liability, multicultural majority/minority relations, ageism, sexism, gender, sexual orientation, the disabled/ADA. **This is provided through Erving (NWTC)**

1 Credit **Grades: 11-12** **Prerequisite: None**
3 NWTC Credits

Intro to Diversity Studies- In this academic setting, patterns of current and historical relationships between different racial, ethnic, religious, disabled, gender, and LGBTQ+ populations are analyzed. Every informed opinion is welcome. Social Scientists have long been studying and discussing the importance of diversity. Come and experience a fun and challenging social science course where students often report, “I can’t believe how much I learned!”. **This is provided through Erving (NTC)**

1 Credit **Grades: 11-12** **Prerequisite: None**
3 NTC Credits

Developmental Psychology- Defines human development; examines theories; heredity and environmental effects; prenatal development and birth; evaluates biosocial, cognitive psychosocial development through the life span; aging, death, and dying. **This is through Erving**.

1 Credit **Grades: 11-12** **Prerequisite: None**

World Language

The world language curriculum develops an understanding of the language, culture, history and literature of Spanish-speaking countries. Spanish courses strive to develop student proficiency in reading, writing, and speaking the language.

Recommended Sequence of Available World Language Courses				
Laude Points	Grade 9	Grade 10	Grade 11	Grade 12
None	Spanish 1	Spanish 1	Spanish 1	Spanish 1
None		Spanish 2	Spanish 2	Spanish 2
1			Spanish 3	Spanish 3
1				Spanish 4

Course Descriptions

Spanish 1 – Students learn the basics of the language: alphabet, vocabulary, sounds and structure. Culture is introduced as a background for the language study. Basic conversation and reading are introduced. **This is provided through Erving**

1 Credit **Grades: 9-12** **Prerequisite: None**

Spanish 2 – The course is sequential to Spanish 1. Continued vocabulary and verb study follow but focus on past tenses. Writing skills become more complex. Conversation, reading, and writing skills continue to develop. **This is provided through Erving**

1 Credit **Grades: 10-12** **Prerequisite: Spanish 1**
(Recommend grade of C or better)

Spanish 3 – **1.0 Laude Point** Conversation and writing skills are emphasized. While continuing to learn new vocabulary and advanced grammar, students now put into practical application what they have learned in the previous two years. **This is provided through Erving**

1 Credit **Grades: 11-12** **Prerequisite: Spanish 2**
(Recommend grade of C or better)

Spanish 4 – **1.0 Laude Point** Continued conversational and writing skills are emphasized. More vocabulary and advanced grammar skills are added to proficiency level. A sampling of native Spanish literature is read. **This is provided through Erving**

1 Credit **Grade: 12** **Prerequisite: Spanish 3**
(Recommend grade of C or better)

French 1- It is the goal of this course to not only learn of the French language and culture but to use it! This course will establish basic French oral and written communication skills and knowledge of the French language and culture. This will be accomplished through the use of "hands on" activities including classroom drama, conversational skits, written composition, reading, music, and individual/group projects. Students will need to buy a specific French dictionary. This is a Blue Jeans class. Cost: $350 per student, per semester for a total of $700 for the year. **This is through Erving (Full year)**

1 Credit **Grades: 9-12** **Prerequisite: None**

French 2- This course will establish and improve French oral communication skills and also increase knowledge of the le monde Francophone. While utilizing a cultural framework of actual, everyday French activities and cultural items, the student will also increase grammar and writing skills by speaking every day! The goal of this course is to prepare student to "survive" in a French speaking country by communicating in the target language: French! Students will need to buy a specific French dictionary. This is a Blue Jeans class. Cost: $350.00 per student per semester for a total of $700.00for the year. No textbooks. **This is provided through Erving**

1 Credit **Grades: 10-12** **Prerequisite: French 1**

German 1, 2, 3, 4: This is through Erving (Full Year)

1 Credit **Grades: 9-12** **Prerequisite: None**

Japanese 101- Study of language fundamentals with emphasis on development of listening and speaking skills. Practice with reading and writing. Japanese script (hiragana, katakana and kanji) is taught from the beginning of the course. Presumes no previous language study. University Studies Requirement Met: World Language, Culture, & Philosophy Offered: Fall, online and asynchronous. **This is through Erving (UW Superior)**

1 Credit **Grades: 9-12** **Prerequisite: None**

Japanese 102- Continuation of JAPA 101. Appropriate for someone with up to two years of high school Japanese. **This is through Erving (UW Superior)**

1 Credit **Grades: 9-12** **Prerequisite: Japanese 101**

American Sign Language- Relating to the deaf culture including non-manual grammatical markers, signing, fingerspelling, classifying and the technology related to deafness. **This is through Erving (NWTC)**

1 Credits **Grades: 11-12** **Prerequisite: None**
3 NWTC credits

Physical Education & Health

(Physical Education 1.5 credit- Health 0.5 credit)

The physical education and health curriculum focus on understanding the human body, enjoying exercise, and maintaining a desirable level of physical fitness. **Note:** In grades 9-12 students must take at least 1.5 credits of physical education incorporating effects of exercise, health-related fitness, and lifetime activities. The credits must be earned over **three separate years**.

Recommended Sequence of Available Physical Education & Health Courses				
Laude Points	Both Required Grade 9	Grade 10	Grade 11	Grade 12
None	Physical Ed 1	Physical Ed Elective (or)	Physical Ed Elective (or)	Physical Ed Elective (or)
None	Health	Personal Fitness	Personal Fitness	Personal Fitness
None			Team Sports	Team Sports

Course Descriptions

*Students have to complete at least two or more Physical Education classes between 10th and 12th Grade to earn their remaining PE Credits.

Physical Education I – required – Freshman Course. Units covered are geared toward individual and team sports. The units covered are flag football, ultimate frisbee, disc golf, volleyball, basketball, weight training, fitness, badminton, softball (seasonal), OMNIKIN, Tsegball, Eclipse Ball, kickball, and Pickle Ball.

0.5 Credit **Grade: 9** **Prerequisite: None**

Health :– required – A Wellness Decision Designed to reinforce positive health attitudes and skills previously developed and to allow young people to assess the lifestyle decisions that contribute to wellness. Units of study within the course include positive ways of handling stress vs. negative ways of handling stress, addictions, your health history, sexuality and responsible behavior, self-care vs. the pill-fairy model, first aid and CPR.

0.5 Credit **Grade: 9** **Prerequisite: None**

Physical Education Elective – Units are geared toward lifetime sports. Units covered are snowshoeing, cross-country skiing, archery, badminton, pickleball, and fitness walking/principles. Team sports include flag football, volleyball, basketball, soccer, speedball, Tsegball, Eclipse Ball, and cooperative games. Guest speakers to promote careers in physical education are scheduled. This course may be taken more than one time. This is not a freshman course.

0.5 – 1 Credit Grade: 10-12 Prerequisite: Physical Education 1

Personal Fitness – Throughout this course, students will achieve a personal level of fitness through goal setting, participation, and knowledge of weight lifting. This course motivates a student to strive for optimal personal fitness, as well as create a self-awareness of lifetime wellness, with a final outcome of creating their own fitness program. Students will benefit from cardiorespiratory endurance activities and wide-ranging weight training exercises. Course includes lectures dealing with proper technique, 5 components of fitness, and the FITT principle, as well as teacher demonstration, weight training, aerobics, yoga, fitness walking, running, and other fitness activities.

0.5 – 1 Credit Grades: 10-12 Prerequisite: Physical Education 1

Team Sports -Throughout this course, students will participate in a variety of team building activities, sports, and projects dealing with teamwork, problem solving, and strategizing. This course motivates a student to strive for leadership skills and critical thinking skills. Course includes COMPETITIVE play in units such as volleyball, basketball, football, Tsegball, Tchoukball, ultimate Frisbee, eclipse ball, baseball/softball, mat ball, OMNIKIN, soccer, Pickle Ball, speedball, etc.

0.5 – 1 Credit Grades: 11-12 Prerequisite: 11th or 12th Grade

Additional Physical Education Options:

- A students who participate in a sport is eligible to substitute an English, social studies, mathematics, or science course for one-half (.5) credit in lieu of physical education. The following criteria must be met in order to complete this:

  A. Student (not a manager) must participate in a H.S. sport for an entire season.
  B. Student must submit a verification form completed by the coach no later than two (2) weeks after the conclusion of the season.
  C. The student must be an athlete who is eligible to practice for the entire season.

- A student can take one-half credit of PLATO PE to meet physical education requirement upon the teacher's approval for special circumstances.
- A student who participates in marching band for 3 H.S. years, confirmed by a verification form completed by the band director, will be eligible for one-half (0.5) credit of P.E.
- Waivers are not approved for physical education credit.

Agriculture/ Financial Literacy

Agriculture courses are for any student who has an interest in animals, plants, food, leadership and/or the environment. Students who take agriculture courses experience many diverse and challenging topics. Twenty percent of all careers are directly related to agriculture. Experience premier leadership, personal growth and career success through courses in the agriculture department.

Recommended Sequence of Available Agriculture Courses				
Laude Points	**Grade 9**	**Grade 10**	**Grade 11**	**Grade 12**
None	Plants, Animals, & You	Plants, Animals, & You	Plants, Animals, & You	Plants, Animals, & You
None	Food Science	Food Science	Food Science	Food Science
None			Leadership	Leadership
None			Independent Study	Independent Study
None			Work Study	Work Study
None			Youth Apprenticeship	Youth Apprenticeship
None				Financial Literacy & Employability Skills (Req.)
1		Animal Science TC	Animal Science TC	Animal Science TC
1			Ecology TC	Ecology TC

Course Descriptions

Plants, Animals & You: Exploratory Agriculture – This introductory class covers a wide range of topics in agriculture, including animals, food, fiber, the outdoors and leadership. This project-based class includes lessons on careers, food science, plants, pets, animals, biotechnology, business, and the outdoors. Emphasis will be on how agriculture relates to your daily life and your future. Field trips may be taken during the year. FFA projects will be incorporated.

1 Credit **Grades: 9-12** **Prerequisite: None**

Food Science – This course focuses on the science of production and processing of food. Learn about how food technology is changing agriculture. You will learn about careers and the science related to food. Create projects and research the history of food. Study everything from apples to zucchini, chocolate and cheese, and other tasty treats. This fast-growing career field is one to take a look at! FFA projects will be incorporated.

1 Credit **Grades: 9-12** **Prerequisite: None**

Animal Science TC – 1 Laude Point This class is designed for the person interested in animals. Students will learn about livestock, agriculture, & pets. We will learn about giving injections, suturing wounds, and general animal care. Students will develop a basic understanding of animal nutrition, genetics, reproduction and health. Guest speakers, demonstrations, job shadows, field trips and lab experiments are also designed as a part of this course. Students will also have the opportunity to bring in and incorporate their own animals into the class. FFA projects will be incorporated. This course is articulated with Fox Valley Technical College for Transcripted Credit. See class listing for Little Wolf High School Transcripted Courses.

1 Science Credit **Grades: 10-12** **Prerequisite: (Recommend Biology 1)**

Leadership – Students will learn about leadership as it affects individuals, organizations, and systems in food, fiber, and natural resources enterprises. This class explores the skills and abilities needed to be an influential leader in our school, home, and community. Students will learn how to be confident public speakers, to run a meeting, to effectively work as a team, to be a group leader, and most importantly become involved in the community. Students will explore leadership roles, learning styles and human relations skills for personal growth and career success. Emphasis will be placed on community service, goal setting and individual projects. FFA projects will be incorporated. Students may earn a State Leadership certificate through this course.

1 Credit **Grades: 11-12** **Prerequisite: None**

Independent Study – Students develop their own projects based on interests.

1 Credit **Grades: 11-12** **Prerequisite: FFA Membership & Instructor Approval**

Ecology TC- 1 Laude Point - This class examines the relationships and interrelationships of living organisms in their environment. Students study natural selection and speciation, environmental conditions, populations and competition, succession, energy flow and biogeochemical cycles, and the diversity of ecosystems.

1 Credit **Grades: 11-12** **Prerequisite: Biology 1**

Other Agricultural Course

Work Study – Students must be employed and work regular hours during the school year. Students must meet credit requirements to be on track for graduation. Qualified students may be granted a maximum of one period daily for work release. Approval by school counselor, principal and employer are necessary. Class will meet 32 minutes each Wednesday for instruction. **NOTE**: This course is offered to juniors and seniors.

1 Credit **Grades: 11-12** **Prerequisite: Employed**

Youth Apprenticeship - Youth Apprenticeship is a one or two-year program that combines mentored, and on-the-job learning with academic and technical classroom instruction. It opens doors for students by giving them the chance to "try-out" a career area while experiencing an adult working environment. Students gain paid, hands-on learning with a business mentor, while completing classroom instruction related to the career area.
Students apply in the Spring for jobs that will start during the summer of their junior or senior year or can come in with their own business connection. Businesses select the apprentices that are the best fit for their organizations and open positions; there are no forced placements. Once hired, apprentices spend part of their week learning at school and part of the week learning on the job. Students are responsible for their own transportation. Upon completion, students will earn industry certifications and potential of bridging the YA to a Registered Apprentice. Students enrolled in certain programs can also earn credit for UW Admissions.

Youth Apprenticeship Program areas include Agriculture, Construction, Financial Services (Banking/Accounting), Human Resources, Communication, Health Science, Hospitality, Information Technology, Manufacturing, Marketing, STEM and Transportation.

For more information, contact Stacey Kunde, Youth Apprenticeship Coordinator, smkunde@cesa6.org or go to yawisconsin.org .

1 Credit **Grades: 11-12** **Prerequisite: On track to graduate. Good attendance record. Interest in developing employability skills while gaining work experience.**

Financial Literacy/Employability Skills – **REQUIRED Employability Skills** - This class provides an opportunity to develop positive attitudes, knowledge, skills and linkages that will empower the successful transition from high school to postsecondary options. Curriculum study units will include assessment, transition, Covey's 7 Habits of Highly Effective People, core abilities, job writing, college survival, etc. Students may earn a State Employability Skills certificate through this course **- Financial Literacy** –This portion of the course will help prepare students for planning and managing their personal finances. Through instruction and activities students will be introduced to the workings of budgeting, saving, investing, the dangers of credit and debt, taxes, insurance, consumer awareness and charitable contributions.

0.5 Credit **Grades: 10-12** **Prerequisite: None**

Veterinary Medical Terminology- Develop an understanding of acceptable veterinary medical terminology for common clinically recognizable diseases, operations, systems, and procedures. Further, learners will distinguish common medical signs, abbreviations, and colloquial vocabulary. Medical terms and language is covered as it relates to the animal's body as a whole. This is through Erving (NTC)

1 Credit **Grades: 11-12** **Prerequisite: None**

Art

Course Descriptions

Art 1- 2D– An introductory course in design, art history, art terminology and related concerns; activities may include (but not limited to) drawing with various media, acrylic painting, printmaking and papermaking.

0.5 Credit (1 Semester) **Prerequisite: None**

Art 1- 3D– An introductory course in design, art history, art terminology and related concerns; activities may include (but not limited to) hand built pottery, wheel pottery, sculpture, jewelry (bead weaving), metals and glass (etching).

0.5 Credit (1 Semester) **Prerequisite: None**

Art 2 2D – Accelerated level of study in the areas explored in Art I - 2D. The student will have the opportunity to experience the use of more sophisticated art materials, concepts and techniques. Activities may include (but not limited to) drawing and painting with various media (graphite, colored pencil, pen and ink, acrylic, watercolor), relief printmaking, and paper arts (bookbinding).

0.5 Credit (1 Semester) **Prerequisite: Art I – 2D**

Art 2- 3D – Accelerated level of study in the areas explored in Art I - 3D. The student will have the opportunity to experience the use of more sophisticated art materials, concepts and techniques. Activities may include (but not limited to) intermediate hand-built pottery, wheel pottery, sculpture, jewelry, metals (lost wax cast silver rings), and glass (mosaics).

0.5 Credit (1 Semester) **Prerequisite: Art I – 3D**

Art 3 2D – The activities are a culmination of all previous art experiences in Art I and II, with an emphasis on sophisticated techniques, processes and materials. Activities may include (but not limited to) drawing with various media, oil, watercolor or acrylic painting, printmaking (intaglio), paper arts (quilling, manipulated paper).

0.5 Credit (1 Semester) **Prerequisite: Art II – 2D**

Art 3 3D – The activities are a culmination of all previous art experiences in Art I and II, with an emphasis on sophisticated techniques, processes and materials. Activities may include (but not limited to) advanced hand-built pottery, potter's wheel, art metals (fabrication), stained glass (copper foil technique), advanced jewelry.

0.5 Credit (1 Semester) **Prerequisite: Art II – 3D**

Art 4- A– This course is designed for the serious and capable art student. The overall emphasis is to allow self-direction and independent expression through the mediums, techniques, and concepts previously learned, as well as the opportunity to investigate artistic mediums not yet explored. Students will choose the medium(s) suited to their interest and ability through a contractual agreement with the instructor. It should be emphasized that the Art IV student will be working more independently, therefore - Students accepted into this course must have a strong previous background in previous years of art experiences. Students are accepted into Art IV by the Instructors' Permission. Students considering a career in art or design related fields are highly encouraged to continue in the IV class, as they will provide a broad base of artistic knowledge and exploration and prepare a portfolio for future use.

0.5 Credit (1 Semester) **Prerequisite: Teacher's approval**

Art 4 - B– This course is designed for the serious and capable art student. The overall emphasis is to allow self-direction and independent expression through the mediums, techniques, and concepts previously learned, as well as the opportunity to investigate artistic mediums not yet explored. Students will choose the medium(s) suited to their interest and ability through a contractual agreement with the instructor. It should be emphasized that the Art IV student will be working more independently, therefore - Students accepted into this course must have a strong previous background in previous years of art experiences. Students are accepted into Art IV by the Instructors' Permission. Students considering a career in art or design related fields are highly encouraged to continue in the IV class, as they will provide a broad base of artistic knowledge and exploration and prepare a portfolio for future use. Projected cost is $10 - $75 depending on materials used (see above). Replaces Senior Art

0.5 Credit (1 Semester) **Prerequisite: Teacher's approval**

Photography and Graphic Design– This class is also an introduction to darkroom photography. Projects include (but not limited to) building a rudimentary "pinhole" camera, use a 35mm "point and shoot" camera, developing film and black and white photos in the darkroom, frame and dry mount the finished photographs. Photographic terminology and art history will also be explored, as well as some photo construction projects.
Students will learn graphic design and commercial art techniques through projects created by hand as well as using Photoshop on the computer. Projects may include (but not limited to) printing, enhancing digital images, manipulating/editing images on the computer, package design, calligraphy, text/font design, creation of print media (posters, flyers, ads, business cards, notepads, stationery, etc).

0.5 Credit (1 Semester) **Prerequisite: None**

Fiber Arts - A– Students will explore projects and skills that they may use throughout their life as a hobby or a vocation. Students will learn to read instructions and follow patterns, as well as make up their own patterns. Projects may include (but not limited to) knitting, crocheting, needlecrafts, embroidery, latch-hook rugs, basketry, weaving, quilting, fabric painting, basketry, etc. as well as art history of those mediums, and the wellness associated with participating in fiber arts.

0.5 Credit (1 Semester) **Prerequisite: None**

Fiber Arts - B– Students will explore skills used in everyday life, such as (but not limited to) hand sewing techniques, hemming, sewing on buttons, snaps, zippers, grommets, use a sewing machine, understanding of different types of fabric, etc. Projects may include the creation of a quilt square and a small garment by following a sewing pattern.

0.5 Credit (1 Semester) **Prerequisite:(Preferred) Fiber Arts A**

1 Laude Point Earned for Senior Art (3+ credits of art and 2 years on Art Team)

***Please Note: Students may have an "art bill" if the student chooses to do more than one of the specific projects, purchase extra supplies or materials, chooses to make more than one of the required projects, or if the student breaks or loses some art equipment that they are responsible for*.**

Business

Personal Finance- Personal Finance contains units on the banking, checking, wages, savings, budgeting, credit buying, insurance, investments, home options and expenses, car expenses, and taxes. Students have the option at the beginning of the course for the option of three elective credits toward graduation at UWO through the CAPP Program. **This is through Erving.**

0.5 HS Credit **Grades: 11-12** **Prerequisite: None**
3 UWO Credits

Intro to Marketing- This course will give you the foundations and functions of marketing. Students will then be able to create a marketing plan, create and distribute a product, set a price, promote the product, and then learn how to manage the risks and finances. **This is through Erving.**

0.5 Credit **Grades: 10-12** **Prerequisite: None**

Accounting 1 & 2- This high school course in accounting involves principles and methods of recording business transactions and the preparation of financial statements with emphasis on the records of a sole proprietorship, partnerships, and corporations. **This is through Erving.**

1 Credit **Grades: 10-12** **Prerequisite: None**

Personal Brand Development- Learn how personal branding allows you to differentiate yourself from the competition through appearance, personality, and marketing competency**.** **This is through Erving (NWTC)**

0.5 Credits **Grades: 11-12** **Prerequisite: College 101, 10-890-101**
2 NWTC credits

Logistics/Supply Chain- Logistics supply chain, demand management and customer service, procurement and supply management, global logistics, manufacturing, inventory management, warehousing, transportation and third-party logistics. **This is through Erving (NWTC)**

0.5 Credits **Grades: 11-12** **Prerequisite: None**
3 NWTC credits

Social Media Marketing- Cover the current state of social media and provide perspective on trends moving forward. Learn about the opportunities social media provides, what interactions mean for a business, and how communication has changed. **This is through Erving (NWTC)**

0.5 Credits **Grades: 11-12** **Prerequisite: None**
3NWTC credits

Technology and Engineering

Technology courses are designed to encourage the study of how people apply knowledge, scientific, mathematical and communication skills using various tools and materials to solve problems and meet human needs. The purpose of the curriculum is to prepare all students to function in an ever-changing technological society, develop employability, and provide the transition from school to gainful employment.

Technology Course Descriptions

Recommended Sequence of Available Technology Courses				
Laude Points	**Grade 9**	**Grade 10**	**Grade 11**	**Grade 12**
None	Intro to Technology	Intro to Technology	Intro to Technology	Intro to Technology
None		Furniture & Cabinet Making	Furniture & Cabinet Making	Furniture & Cabinet Making
None		Metals 1	Metals 1	Metals 1
1			Shielded Metal Arc Welding (SMAW) Techniques	Shielded Metal Arc Welding (SMAW) Techniques
1			Gas Metal Arc Welding (GMAW) Techniques	Gas Metal Arc Welding (GMAW) Techniques

Intro to Technology - Designed to introduce students to a broad range of areas in Tech. Ed. Areas of study will contain but will not be limited to construction, manufacturing, transportation, and engineering. The course will provide hands-on experience with processes, materials, tools, machines, management ideas, and the impacts of technology. Students will understand basic measurements, how to read a tape measure, research different possible careers in the areas of study, basic woodworking principles, basic metal manufacturing, automotive knowledge (small engines), and the importance of proper tool usage. The students will work safely and efficiently with both hand and power woodworking tools. Students will learn how to make something out of wood and follow the process from a tree in the forest to a finished product and all steps in between.

1 Credit **Grades: 9-12** **Prerequisite: None**

Furniture & Cabinet Making – Students will use the skills they obtained from Building Trades to plan, develop, and build a series of small projects or one big project for the semester. Students will be able to use all necessary tools to make a finished product.

1 Credit **Grades: 10-12** **Prerequisite: Intro to Tech (Recommend grade of C or better)**

Metals 1 - This course will cover the basic manufacturing processes used in the production of goods from metal. It will also allow the student to become familiar with the different types of metals and their properties. The student will learn basic skills in arc welding, cutting, tool usage, welding symbols, and safety.

1 Credit **Grades: 10-12** **Prerequisite: Intro to Technology**

Shielded Metal Arc Welding (SMAW) Techniques 1 TC – 1 Laude Point This class is articulated through Fox Valley Technical College (FVTC). It covers the process commonly known as stick welding. Upon completion of this course, the student will be able to weld in all positions, read some basic weld symbols, and have a basic understanding of written welding procedures.
Purpose/Goals

- Identify, terminology, nomenclature, electrode selection, power source equipment requirements, quality standards, limitations and variables.
- Perform fillet and groove welds in all positions on plain carbon steel and stainless-steel fillet welds in the horizontal position using the shielded metal arc welding process.

1 Credit (2 FVTC) **Grades: 10-12** **Prerequisite: Metals 1**

Gas Metal Arc Welding (GMAW) Techniques 1 TC – 1 Laude Point This class is articulated through Fox Valley Technical College (FVTC). It demonstrates welding on steel sheet metals and plates. Emphasis is placed on axial spray, pulse spray and short circuit mode of transfer. Upon completion of this course, the student will be able to weld in all positions, read basic weld symbols, and understand written welding procedures.
Purpose/Goals

- Identify terminology, equipment, shielding gas and consumable requirements, limitations and quality standards.
- Perform fillet and groove welds on plain carbon steel in all positions with the short circuit and pulse spray mode of transfer; fillet and groove welds in the flat and horizontal positions with the spray transfer mode; and performance weld test to evaluate welders' abilities.

1 Credit (2 FVTC) **Grades: 10-12** **Prerequisite: Metals 1**

Engineering Course Descriptions

Recommended Sequence of Available Engineering Courses				
Laude Points	**Grade 9**	**Grade 10**	**Grade 11**	**Grade 12**
None	Intro to Programming	Intro to Programming	Intro to Programming	Intro to Programming
None	Intro to DC Circuits	Intro to DC Circuits	Intro to DC Circuits	Intro to DC Circuits
None		Engineering	Engineering	Engineering
None		Programming 1	Programming 1	Programming 1
1		Robotics 1	Robotics 1	Robotics 1
1			Robotics 2	Robotics 2
1			Programming 2	Programming 2

Intro to Programming - This course is designed to introduce the student to the fundamentals of programming. Students will learn the basics of block coding and basic game programming. Students will also be introduced to the basics of robotic programming, website design, JavaScript, and Python.

0.5 Credit **Grades: 9-12** **Prerequisite: None**

Intro to DC Circuits - This course is designed to introduce the student to the fundamentals of direct current circuits. Students will learn the basics of series and parallel circuits, switches, resistors, circuit diagramming, and wiring. Students will also be introduced to Ohm's Law, multimeters, and soldering.

0.5 Credit **Grades: 9-12** **Prerequisite: None**

Programming 1 - This is an introductory computer science course that takes a wide lens on computer science by covering topics such as problem-solving, programming, physical computing, user-centered design, and data while inspiring students as they build their own websites, apps, animations, games, and physical computing systems.

1.0 Credit **Grades: 10-12** **Prerequisite: Intro to Programming**

Programming 2 - **1 Laude Point** This course introduces students to the foundational concepts of computer science and challenges them to explore how computing and technology can impact the world. More than a traditional introduction to programming, it is a rigorous, engaging, and approachable course that explores many of the foundational ideas of computing so all students understand how these concepts are transforming the world we live in.

1.0 Credit **Grades: 10-12** **Prerequisite: Programming 1**

Engineering - This course is designed to introduce students to the various types of engineering through hands-on activities and challenges. Students will learn about the Engineering Design Process and will apply it to various engineering projects that include 3D printed models, laser-cut products, and automated solutions using Arduino and Raspberri Pi microcontrollers. Students will use higher-level problem-solving skills to devise solutions to real-world problems.

1.0 Credit **Grades: 10-12** **Prerequisite: Intro to Programming & Intro to DC Circuits**

Robotics 1 - **1 Laude Point** Students will walk through the engineering design process and build a mobile robot to play a sport-like game. During this process, they will learn key STEM principles and robotics concepts. At the culmination of this class, they will compete head-to-head against their peers in the classroom, or on the world stage in the FRC Robotics Competition, the largest and fastest-growing international robotics competition for middle and high school students.

1.0 Credit **Grades: 10-12** **Prerequisite: Robotics 1**

Robotics 2 - **1 Laude Point** Students will continue to use the engineering design process to build mobile robots that could be used in real-world situations such as manufacturing. They will continue to learn key STEM principles and robotics concepts. Students will also work on troubleshooting electrical, mechanical, and circuitry problems in various computers, robots, and toys.

1.0 Credit **Grades: 11-12** **Prerequisite: Robotics 1**

AP Computer Science- College-board approved AP class that focuses on the fundamentals of computer science. Focus is on the many facets of computer science and how it relates to the world: Internet, App Design, Programming, Cybersecurity and Computing Systems. Prepares students who are new to computer science for the AP
CS Principles exam. **This is through Erving**

1 Credit **Grades: 10-12** **Prerequisite: Algebra**

Computer Programing 2 CIDS- A continuation of fundamental computer concepts and programming. Java will be used to teach the basic concepts of program analysis, design and implementation. Topics include: methods, File IO, Arrays and their applications, Abstract Data Types, Classes, simple Java GUI application, Inheritance and composition. Students will need access to internet, email and the University's course management system Canvas. Designed to meet degree requirements for UWRF Computer Science and Information Systems majors. **This is through Erving (UWRF)**

1 Credits **Grades: 11-12** **Prerequisite: CIDS 1**
3 UWRF credits

Principles of Information Security- An introduction to the various technical and administrative aspects of information security and assurance. This course provides the foundation for understanding the key issues associated with protecting information assets, determining the levels of protection and response to security incidents, and designing a consistent, reasonable information security system, with appropriate intrusion detection and reporting features. **This is through Erving (NTC)**

0.5 Credit Grades: 11-12 Prerequisite: None
2 NTC credits

IT Development & Design Fundamentals- Introduces the field of IT software development and design. Learners will explore degree and career paths, IT tools and processes and begin to demonstrate professional communication. Learners will create or modify a simple computer program using an integrated development environment. **This is through Erving (NTC)**

0.5 Credit Grades: 11-12 Prerequisite: None

Programming Concepts A.- Introduces programming concepts and terminology using an object-oriented approach, with a focus on iterative development and testing. This course uses C# .NET, the Unified Modeling Language (UML) and other tools to present concepts from a variety of perspectives. Learners will create UML diagrams and write/debug C# .NET applications that incorporate classes, fields, methods, and variables. Additional topics include: utilization of an Integrated Development Environment (IDE), value and reference types, object instantiation/lifetime/scope and mathematical/conditional/logical expressions. **This is through Erving (NTC)**

0.5 Credit Grades: 11-12 Prerequisite: IT Development & Design Fundamentals
1 NTC credit

Programming Concepts B.- Reinforces programming concepts and standards, building on the object-oriented approach introduced in Programming Concepts A, with a focus on iterative development and testing. This course uses C# .NET, the Unified Modeling Language (UML) and other tools to present concepts from a variety of perspectives. Learners will create UML diagrams and write/debug C# .NET applications, applying the object-oriented basics of abstraction and encapsulation. Additional topics include: the utilization of a debugger, object multiplicity and constructors. **This is through Erving (NTC)**

0.5 Credit Grades: 11-12 Prerequisite: Programming Concepts A.
1 NTC credit

Programming Concepts C.- Emphasizes programming concepts and standards, building on the object-oriented approach of Programming Concepts B, with a focus on iterative development and testing. This course uses C# .NET, the Unified Modeling Language (UML) and other tools to present concepts from a variety of perspectives. Learners will create UML diagrams and write/debug C# .NET applications, applying the object-oriented basics of abstraction and encapsulation, inheritance. **This is through Erving (NTC)**

0.5 Credit **Grades: 11-12** **Prerequisite: Programming Concepts B.**
1 NTC credit

Intro to IT- This course provides an overview of Information Technology by comparing and contrasting the various fields within the broader IT industry. Students will be exposed to hardware, software, networking, programming, and analyst roles to understand how each plays an integral role in IT. **This is through Erving (NWTC)**

0.5 Credit **Grades: 11-12** **Prerequisite: None**
1 NWTC credit

Intro to Programming: Logic- Techniques for developing computer programs to solve business problems; includes logic, structure, flowcharting, comparing, looping, variables, arrays, file processing, objects, methods, properties, events, data validation, testing procedures. **This is through Erving (NWTC)**

0.5 Credit/ **Grades: 11-12** **Prerequisite: None**
1 NTC credit

WEB: Database Development- Database uses, database terminology, analyzing information requirements, data models, database design phases, entity relationships, normalization processes, database management systems, database objects, development environments, creating tables, writing queries using SQL, testing. (This course will require students to work outside of class to complete lab work). **This is through Erving (NWTC)**

1 Credits **Grades: 11-12** **Prerequisite: None**
3 NWTC credit

Principles of Civil Engineering- Provides fundamentals of Civil Engineering from concept to completion. Civil Engineering ethics, resume and portfolio creation, and Microsoft Word and Excel will also be introduced. **This is through Erving (NWTC)**

1 Credits **Grades: 11-12** **Prerequisite: None**
3 NWTC credit

Website Coding- Write code for functionality and design of web page text, hyperlinks, images, forms, tables, and frames using (X)HTML, XML and CSS. Apply coding standards. Test browser function and user accessibility. (This course will require students to work outside of class to complete lab work). **This is through Erving (NWTC)**

1 Credits **Grades: 11-12** **Prerequisite: None**
3 NWTC credit

Digital Media Overview- Media examples in audio, video, history of radio/tv broadcasting, concepts of videography, live video streaming, pre-production, scriptwriting and motion graphics. **This is through Erving (NWTC)**

0.5 Credits **Grades: 11-12** **Prerequisite: None**
2 NWTC credit

Renewable Energy and Sustainability- An overview of various renewable energy technologies and sustainable design practices and their current applications. Emphasis will be placed on policies, renewable energy production, green products and jobs. **This is through Erving (NWTC)**

1 Credits **Grades: 11-12** **Prerequisite: None**
4 NWTC credit

Music Education

LWHS music courses are designed to address a wide range of student skills and interests. Numerous performance opportunities, travel and competition are an integral part of the music program.

Courses Taught in Music Education				
Laude Points	**Grade 9**	**Grade 10**	**Grade 11**	**Grade 12**
None	High School Band	High School Band	High School Band	High School Band
None	High School Choir	High School Choir	High School Choir	High School Choir

Course Descriptions

High School Band– Performing opportunities include, concert band, solo/ensemble music festival, pep band, marching band, and all-conference band. As a member of the High School band, students will develop their instrumental skills, appreciation for music, and knowledge of music theory, history, and composition. All students will receive a calendar of required and non-required performances at the start of the school year. **NOTE**: Due to the early performance schedule for this course, any drop/adds must be made **PRIOR** to the first day of the school year. Drop/add requests following first rehearsal may or may not be granted according to the instructor's discretion. Parent permission is required for drop/add requests to be considered.

1 Credit **Grades: 9-12** **Prerequisite: Middle School Band (or) Instructor's Approval**

High School Choir- This is a performing group for singers. Class work will include singing, writing, note reading, listening exercises, vocal technique and singing tests. Public performance is a mandatory part of the class grade.

1 Credit **Grades: 9-12** **Prerequisite: None**

General Music: This is a class in which students explore various styles of music, musical time periods, music theory, musical instruments, the purposes of music, and music of other cultures through

1 Credit **Grades: 9-12** **Prerequisite: None**

1 Laude Point Earned for 3+ years participation in Band and/or Choir and a 1st on a Class A Solo & Ensemble Piece

Other Electives

Assisted Child Care Teacher- This course is excellent for students who are interested in a career in which they are working with children (teacher, counseling, childcare, psychology, social work, community services). The course will emphasize the physical, emotional, social and intellectual development of children, birth to adolescent. Students will focus on the application of child development principles to the care of children while in group settings. Students are required to complete 10 hours of observation and/or instruction in a child-centered environment. Upon completion of the course, observation hours, 85% attendance, and a grade of C or better, the student will receive a DPI Skills Certificate which allows them to be employed as an Assistant Child Care Teacher. The DPI and the Wisconsin Technical College System have entered into an agreement whereby three elective credits may be awarded for successful completion of this course upon enrollment in a WTCS Early Childhood Program. **This is through Erving**

0.5 Credit **Grades: 11-12** **Prerequisite: None**

Written Communication- Some topics explored in this course include: good and bad news messages, cover letters and resumes, and APA formatting. Come explore and apply professional workplace communication in this practical writing course. **This is through Erving** (NTC)

1 Credit **Grades: 11-12** **Prerequisite: None**
3 NTC credits

Intro to Teaching- Introduction to Teaching is designed for prospective teachers and other education professionals and serves as an introduction to both the field of education and to the Teacher Education program at UW River Falls. The course provides an introduction to interrelated aspects of education across three levels of analysis: Individual (teacher, child), Institution (school as a place to work and learn) System (schooling as reflective and transformative of society) Students learn through readings, class activities and discussions, assignments that utilize inquiry processes, and visits to educational settings. Several written assignments require students to reflect on their experiences and learning. **This is through Erving (UWRF)**

1 Credit **Grades: 11-12** **Prerequisite: None**
3 UWRF credits

Exceptional Child- This is a survey course examining the general aspects of students with special needs. Emphasis centers on the historical and legislative issues, definitions, eligibility, criteria and characteristics of exceptional individuals, models of delivery of services, individualized education programs and examples of accommodative techniques in the classroom and home. **This is through Erving**

1 Credit **Grades: 11-12** **Prerequisite: Intro to Teaching**

Current Events in Criminal Justice- Students will explore nine current issues related to law enforcement of today. Students will be given scenarios that speak to those issues and will be expected to research, reflect and eventually respond to those scenarios in a manner that effectively addresses the issues being explored. *Students will need to have a high level of reading and writing skills for this course; research required. **This is through Erving (NTC)**

1 Credit **Grades: 11-12** **Prerequisite: None**
3 NTC credits

College 101- Develops tools and strategies that support success in college. Focuses on study skills, college resources, goal setting, time management, and learning styles. Introduces concepts for self-assessing learning and completing an Exit Assessment that provides evidence that learning took place. Students should take this course prior to or during the first semester of their programs. **This is through Erving (NWTC)**

1 Credit **Grades: 11-12** **Prerequisite: None**

Intro to Ethics and Theory and Application- Basic understanding of theoretical foundations of ethical thought; analyze/compare relevant issues using diverse ethical perspectives; critically evaluate individual, social/professional standards of behavior--applying a systematic decision making process. **This is through Erving (NWTC)**

1 Credit **Grades: 11-12** **Prerequisite: None**
3 NWTC credits

Customer Service- Examine customer service culture, develop communication and listening skills, explore diversity in the workplace, develop skills for handling challenging customers, and explore the impact of technology on customer service and engagement. **This is through Erving (NWTC)**
1 **Credit** **Grades: 11-12** **Prerequisite: None**
3 NWTC credits

Intro to Human Services- Examine the evolution of the human services field. Distinguish the various types of human service agencies and occupations available in the field. Demonstrate the qualities of the field professionals. Complete 10 hours of community service at an agency of

learner's choice outside of class time. Assess boundaries and ethical issues commonly found in the human services profession. Apply reflective practitioner techniques. **This is through Erving (NWTC)**

1 Credit **Grades: 11-12** **Prerequisite: None**
3 NWTC credits

Intro to Law Enforcement- In this course, learners will discover the history and evolution of policing and explore thought provoking issues that underscore the challenging and rewarding world of policing. Learners will examine the role of law enforcement in a democratic society, covering concepts such as law enforcement services; crime deterrence; discretion, and the expanded role of today's police officers. This course will also explore evolving law enforcement strategies and attitudes that build effective law enforcement and community relationships including the use of problem-oriented policing. Learners will also consider how professional law enforcement officers work in conjunction with the courts, corrections and other agencies to administer criminal justice in Wisconsin. **This is through Erving (NWTC)**

1 Credit **Grades: 11-12** **Prerequisite: None**
3 NWTC credits

Private Investigation Tactics- Private investigators are used by law firms, corporations, insurance companies and other public and private entities. This course covers the basics of locating individuals using open sources of information, ethical considerations for investigators, constitutional law application and current investigative practices as preparation for success as a private investigator, corporate and private security or insurance claim investigator. Includes lessons on developing a business and marketing plan and preparing for the Wisconsin Private Detective license exam. **This is through Erving (NWTC)**

1 Credit **Grades: 11-12** **Prerequisite: None**
3 NWTC credits

Understanding Substance Abuse- Explore the bio-psych social dynamics of substance use. Examine treatment approaches, models, and screening criteria. Examine substances of abuse, history of SUDs, and their impact on the individual and society. **This is through Erving (NWTC)**

1 Credit **Grades: 11-12** **Prerequisite: None**
3 NWTC credits

Career Planning- Experiential learning introduction. Learn how personal branding allows candidates to differentiate themselves from the competition through appearance, personality, and marketing competency. Career portfolio introduced. **This is through Erving (NWTC)**

1 Credit **Grades: 11-12** **Prerequisite: 10-890-101, College 101**

Additional Offerings

Early College Credit Program/Start College Now –

Wisconsin's Start College Now (formerly known as Youth Options) program allows public high school **students** who meet certain requirements to take post-secondary courses at a UW institution, a Wisconsin technical college or one of the state's participating private nonprofit institutions of higher education. Approved courses can count toward high school graduation as well as for college credit.

This program opens the door for greater learning opportunities for motivated students who are considering a technical career, students wishing to start college early, or students who want to prepare themselves to enter the workforce immediately after high school graduation.

Parents/Guardians are responsible for satisfactory student attendance and transportation to and from the postsecondary institution. **Students will be required to reimburse the school district for tuition and fees if the student drops or fails the course.**

Students wishing to participate in this Program should contact the school counseling office. Students must be registered for the program by September 30th if they wish to enroll for the spring semester and March 1st if they wish to enroll for the following fall semester. Information sheets are also available in the Counseling Office. **Students must have a 2.5 GPA to apply. (.5 Laude Points per College Level course)**

AP Classes-- LWHS partners with Wisconsin Virtual School to offer additional online AP Courses. Students can take AP Classes and also the AP exam without taking the course itself. If a student earns a passing score of 3 or higher, students will earn college credit. Students will earn 1.5 Laude points for each AP course as well as high school credit. Students have until September 30 to add additional AP courses for the current school year.

Wisconsin Virtual School Classes--LWHS partners with Wisconsin Virtual School for high school courses not offered here. These courses are 20 weeks long and are fully online. Students are given time in their schedule to complete work. Courses must be applied for by Feb 28 for fall courses and September 30 for spring courses. All courses receive one semester high school credit. Up-to-date course offerings may be found at:

https://www.wisconsinvirtualschool.org/courses/high-school-courses.cfm#d636900

Academic & Career Planning

ACP or Academic and Career Planning is intended to equip students and their families with the tools necessary to make more informed choices about postsecondary education, training, and careers for life after high school. It is part of Wisconsin Department of Public Instruction's overall vision for every student to graduate high school academically, socially, emotionally, and life ready. The following are components involved in academic and career planning. For more information, see https://dpi.wi.gov/acp2.

4 Year Course Plan

Course selections based on academic and career goals including highest education desired, career cluster(s) of interest, and career pathway(s) of interest.

Career/Work Based Learning Experiences

Students in 9th and 10th grade are encouraged to work with their families and the school counselor to explore job shadow or interview opportunities in their areas of interest. Students in 11th and 12th grade may participate in Work Study, Youth Apprenticeship, or job shadowing.

Virtual ACP Portfolio in Xello

Xello is a software that helps students in grades 6-12 create their very own unique roadmap for future success. This roadmap will enable students to discover their own personal pathway through self-knowledge, exploration, and planning. Built on a proven model for student success, Xello is aligned to Academic and Career Planning ACP. Students complete interactive lessons each year in their virtual portfolio.
https://xello.mcoutput.com/1366560/Xello%20Scope%20and%20Sequence.pdf

Career Clusters & Pathways

There are 16 career clusters in the National Career Clusters Framework, representing more than 79 career pathways to help students navigate their way to greater success in college and career. They help students discover their interests and their passions, and empowers them to choose the educational pathway that can lead to success in high school, college, and career.

The Little Wolf High School Course Catalog along with the career clusters and pathways are ways for students to group their required and elective courses into a coherent sequence in preparation for college and careers. By connecting education to future goals, students are motivated to work harder and enroll in more rigorous courses and meet their future goals. A list of clusters, pathways, and LWHS offered courses follows this section.
https://cte.careertech.org/sites/default/files/CareerClustersPathways_0.pdf

Extracurricular Activities

Students can participate in clubs & athletics

Assessment Results

Students take WI Forward Exams, ACT Aspire, PreACT, ACT Plus Writing, & AP Exams

Financial Plan

Students complete Employability Skills/Financial Literacy course in their senior year.

Potential Post-Secondary Options

Technical School, Associate Degree or Certificate, 4-Year College, Trade School, Apprenticeship, Work, Military

This career cluster prepares learners for careers in the planning, implementation, production, management, processing, and/or marketing of agricultural commodities and resources including food, fiber, wood products, natural resources, horticulture, and other plant and animal products. It also includes related professional, technical, and educational services.

The Seven Pathways

Food Products & Processing Systems	Power, Structural, & Technical Systems	Plant Systems	Natural Resources Systems
Food & Drug Inspector	Database Administrator	Plant Breeder & Geneticist	Fish & Game Official
Food & Meat Processor	Machine Operator	Soil & Water Specialist	Geologist
Agricultural Engineer	Welder	Certified Crop Advisor	Ecologist
Agricultural Educator	Agricultural Engineer	Botanist	Logger
Bioengineer	Wastewater Treatment	Horticulturist	Park Manager
Microbiologist	Plant Operator	Education & Extension Specialist	Wildlife Manager
Dietician	Machinist	Golf Course Superintendent	Agronomist
Quality Control Specialist	Farm Equipment	Green House Manager	
Food Scientist	Technician	Forest Genetics	

Animal Systems	Environmental Service Systems	Agribusiness Systems
Animal Caretaker/Trainer	Soil Conservationist	Dairy Herd Supervisor
Animal Scientist	Chemical Engineer	Farm Manager
Equine Manager	Recycler	Bank Loan Office
Dairy Farmer	Hazardous Materials Handler	Agricultural Lender
USDA Inspector	Water Quality Manager	Feed Supply Store Manager
Veterinarian	Toxicologist	Agricultural Product Buyer
Veterinary Assistant	Conservation Warden	Agricultural Product Distributor
Animal Nutritionist	Wildlife Biologist	

LWHS Courses for Supporting Knowledge in Agriculture, Food, & Natural Resource Careers

Agriculture & Science Courses	Technology & Engineering Courses
Plants, Animals, & You	Intro to Technology
Food Science	Metals 1
Leadership	GMAW & SMAW
Animal Science TC	Furniture & Cabinetry
Ecology TC	Intro to DC Circuits
Biology & Biology 2	Engineering
Chemistry	Robotics

Additional Courses through WVS, FVTC, & ERVING

Architecture and Construction

This diverse career cluster prepares learners for careers in designing, planning, managing, building, and maintaining the building environment. People employed in this cluster work on new structures, restorations, additions, alterations, and repairs.

The Three Pathways

Construction	Design/Pre-Construction	Maintenance & Operations
Carpenter	Architect	Air Conditioning Technician
Construction Engineer	Civil Engineer	Construction Inspector
Electrician	Drafter	Equipment & Material Manager
Mason	Electrical Engineer	Cost Estimator
Contractor	Industrial Engineer	Subcontractor
Drywall Installer	Safety Director	Wastewater Maintenance Technician
Plumber	Structural Engineer	Hazardous Material Remover
Roofer	Landscape Architect	Demolition
Safety Director	Interior Designer	Service Contractor & Field Supervisor
Tile & Marble Setter	Fire Protection & Prevention Engineer	
	Surveying & Mapping Technician	

LWHS Courses for Supporting Knowledge in Architecture & Construction

Agriculture & Science Courses	Technology & Engineering Courses
Plants, Animals, and You	Intro to Technology
Ecology TC	Metals 1
Leadership	GMAW & SMAW
	Furniture & Cabinetry
Art Courses	Intro to DC Circuits
Intro to Art	Engineering
Art 3D courses (II-IV)	Robotics

Additional Courses through WVS, FVTC, & ERVING

Arts, A/V Technology, and Communications Courses

This career cluster prepares learners for designing, producing, exhibiting, performing, writing, or publishing multimedia content. Students will apply artistic talent to practical problems and learn visual arts principles that prepare students with skills and techniques to work in any number of creative design and entertainment fields.

The Six Pathways

Audio & Video Technology & Film

Audio Systems Technician
A/V Designer & Engineer
Videographer: Special Effects & Animation
Video Systems Technician
Technical Computer Support Technician
Animator
Cinematographer
Medical & Scientific Illustrator

Journalism & Broadcasting

Editor
Journalist
Producer
Publisher
Radio & Television Announcer
Writer
Reporter
Design Director
Control Room Technician

Performing Arts

Actor
Composer
Director
Makeup Artist
Lighting Director
Musician
Choreographer
Playwright
Scenic Designer

Visual Arts

Painter
Sculptor
Print Maker
Illustrator
Cartoonist
Fashion Artist
Animator
Art Director
Graphic Designer
Commercial Photographer

Telecommunications

Office Installer
Network Technician
Telecommunication

Printing Technology

Desktop Publishing
Job Printer
Platemaker
Press Operator

LWHS Courses for Supporting Knowledge in Arts, A/V Technology, & Communications

Fine Arts Courses	Technology Courses
Intro to Art	Intro to Technology
Art II 2D & 3D	Intro to DC Circuits/Intro to Programming
Art III 2D & 3D	Engineering
Art IV	Programming
Photography & Graphic Design	Digital Information Technology (WVS)
Band	Fashion Design (WVS)
Choir	Interior Design (WVS)

Additional Courses through WVS, FVTC & ERVING

Business Management and Administration

The Business Management & Administration Cluster prepares learners for careers in planning, organizing, directing, and evaluating business functions essential to efficient and productive business operations. Career opportunities are available in every sector of the economy and require specific skills in organization, time management, customer service, and communication.

The Six Pathways

Business Financial Management & Accounting	Human Resources	Marketing
Accountant	Human Resources Manager	Marketing Manager
Adjuster	Compensation & Benefits Manager	Store Manager
Auditor	Training & Development Specialist	Customer Service Supervisor
Bookkeeper	Labor & Personnel Specialist	Retail Salesperson
Billing Specialist	OSHA/ADA Convention Planner	Wholesale or Retail Buyer
Price Analyst	Personnel Recruiter	Public Relations Specialist
Treasurer		Advertising Agent
Accounts Payable Clerk		Telemarketer
Billing Clerk		

Management	Business Analysis	Adminisration & Information Support
Entrepreneur	Budget Analyst	Administrative Assistant
General Manager	Compensation Analyst	Executive Assistant
Public Relations Manager	Cost Analyst	Office Manager
Risk Manager	Database Business Analyst	Desktop Publisher
Advertising Account Executive	Investment Analyst	Customer Service Assistant
Health Care Administrator	Marketing Analyst	Data Entry Specialist
Small Business Owner		Receptionist

LWHS Courses for Supporting Knowledge in Business Management & Administration
Business & Information Technology Classes
Computer Science Principles (WVS)
Digital Information Technology (WVS)
Entrepreneurship (WVS)
Photography & Graphic Design
Web Design (WVS)
Accounting (FVTC)
Additional Courses through WVS, FVTC, & ERVING

Education and Training

This diverse Career Cluster prepares learners for careers in planning, managing and providing education and training services, and related learning support services. Millions of learners each year train for careers in education and training in a variety of settings that offer academic instruction, career technical instruction, and other education and training services.

The Three Pathways

Teaching & Training	Professional Support Services	Admin & Admin Support
Preschool or Kindergarten Teacher, Aide	Psychologist-Clinical,Developmental,Social	Superintendent
Elementary Teacher, Aide	Social Worker	Principal
Secondary Teacher, Aide	Parent Educator	Director of Training
Special Education Teacher, Aide	Counselor	Librarian
College/University Lecturer/Professor	Speech-Language Pathologist	Instructional Coordinator
Management Development Trainer	Audiologist	Educational Researcher
Human Resource Trainer		College President or Dean
Coach		Curriculum Developer
Child Care Director		Instructional Media Designer

LWHS Courses for Supporting Knowledge in Education & Training

Social Studies Courses	Other Elective Courses
Sociology	Sports Officiating
AP Psychology	Intro to Teaching (ERVING & UWRF)
Teacher Aide	Exception Child (ERVING & UWRF)
Child Development (WVS)	
Early Childhood Education (WVS)	
Real-World Parenting (WVS)	

Additional Courses through WVS, FVTC, & ERVING

Finance

The Finance Cluster prepares learners for careers in investment planning, banking, insurance, and business financial management. Career opportunities are available in every sector of the economy and require specific skills in organization, time management, customer service, and good number sense.

The Four Pathways

Financial & Investment Planning	Business Financial Management	Banking & Related Services	Insurance Services
Personal Financial Advisor	Accountant	Loan Officer	Claims Agent
Tax Preparer	Financial Analyst	Bill & Account Collector	Examiner
Sales Agent for Securities & Commodities	Controller	Teller	Claims Clerk
Investment Advisors	Chief Revenue Agent	Loan Processor	Insurance Appraiser
Brokerage Clerk	Auditor	Real Estate Appraiser	Underwriter
Development Officer	Economist	Internal Auditor	Actuary
	Tax Examiner	Title Researcher & Examiner	Sales Agent
	Collector	Debt Counselor	Customer Service Agent
	Revenue Agent		Processing Clerk

LWHS Courses for Supporting Knowledge in Finance	
Business & Information Technology Courses	**Social Studies Courses**
Entrepreneurship (WVS)	Economics
Computer Science Principles (WVS)	AP Psychology
Digital Information Technology (WVS)	
International Business (WVS)	
Finance (WVS)	**Math Courses**
Accounting (ERVING)	AP Calculus
Personal Finance (ERVING-UWO)	Statistics
Additional Courses through WVS, FVTC. & ERVING	

Government and Public Administration

Government affects Americans in countless ways. In a democratic society, government is the means of expressing the public will. There are some activities that are unique to government. The federal government defends us from foreign aggression; represents American interests abroad; deliberates, passes, and enforces laws; and administers different programs. State and local governments pass laws or ordinances and provide vital services to constituents. There are many opportunities in government in every career area. This cluster focuses on careers that are unique in government and not contained in another Cluster.

The Seven Pathways

Governance

Legislative Assistant
Congressional Aide
Lobbyist
County Commissioner
Legislator
Mayor
Governor
Lieutenant Governor
Postmaster

Foreign Service

Foreign Service Officer
Diplomatic Officer
Consular Officer
Ambassador
Peace Corps
Translator

Regulation

Investigator/Examiner
Code Inspector
Bank Examiner
Election Supervisor
Child Support Officer
Cargo Inspector
Border Inspector
Aviation Safety Officer

Public Management & Administration

County Administrator or Clerk
City or County Clerk
City Manager
Purchasing Manager
Political Scientist

National Security

Combat Control Officer
Missile & Space Systems Officer
Submarine Officer
Infantry Officer & Specialist
Air Defense Artillery Officer
Military Intelligence Officer
Cryptographer
Intelligence Analyst

Revenue & Taxation

Tax Examiner
Tax Clerk
Revenue Agent
Internal Revenue Investigator
Auditor
Lawyer

Planning

Planner
Census Clerk
Federal Aid Coordinator
Economic Development Coordinator
Chief of Vital Statistics

LWHS Courses for Supporting Knowledge in Government & Public Administration
Social Studies Courses
Economics
Sociology
US History
Government
AP Psychology
World History
World Geography (WVS)
Additional Courses through WVS, FVTC, & ERVING

Health Science

The Health Science Career Cluster orients students to careers that promote health, wellness, and diagnosis as well as treating injuries and diseases. Some of the careers involve working directly with people, while others involve research into diseases or collecting and formatting data and information. Work locations are varied and may be in hospitals, medical or dental offices or laboratories, sports arenas, space centers, or within the community.

The Five Pathways

Therapeutic Services

Athletic Trainer
Certified Nurse Assistant
Dental Hygenist
Paramedic
Massage Therapist
Anesthesiologist
Chiropractor
Pharmacist
Physician
Registered Nurse
Respiratory Therapist
Surgical Technician
Dentist

Biotechnology Research & Developent

Bioinformatics Specialist
Biostatistician
Microbiologist
Sociologist
Mathematician
Molecular Biologist
Pharmacist
Research Assistant
Geneticist
Statistician

Diagnostic Services

Medical Lab Technologist
Nuclear Medicine Technologist
Pathologist
Phlebotomist
Radiologic Technologist

Health Informatics

Admitting Clerk
Data Analyst
Health Care Administrator
Health Information Coder
Medical Biller
Medical Information Technologist
Medical Librarian
Reimbursement Specialist
Transcriptionist

Support Services

Biomedical Clinical Engineer
Central Services Technician
Dietary Technician
Hospital Maintenance Engineer
Materials Management Technician

LWHS Courses for Supporting Knowledge in Health Science

Science Courses	Social Studies Courses
Biology & Biology II	Economics
Chemistry & AP Chemistry	AP Psychology
Physical Science	Sociology
Physics	**Math Courses**
Human Biology	AP Calculus
AP Biology (WVS)	Statistics
Additional Courses through WVS, FVTC, & ERVING	

Hospitality and Tourism

The Hospitality & Tourism Cluster prepares learners for careers in the management, marketing, and operations of restaurants and other food services, lodging, attractions, recreational events and travel-related services. Hospitality operations are located in communities throughout the world.

The Four Pathways

Restaurant & Food/Beverage Services	Lodging	Travel & Tourism	Recreation, Amusements, and Attractions
Food & Beverage Manager	Front Office Manager	Event Planner	Club Manager
Catering & Banquets Manager	Executive Housekeeper	Convention Services Manager	Membership Director
Restaurant Owner	Director of Sales & Marketing	Interpreter	Parks Director
Executive Chef	Director of Operations	Heritage Tourism Developer	Resort Instructor
Cook	Front Desk Supervisor	Tour Operator/Guide/Agent	Promotional Developer
Bartender & Server	Sales Professional	Tourism Marketing Specialist	Park Ranger
Banquet Setup Attendant			Zookeeper
			Recreation Director

LWHS Courses for Supporting Knowledge in Hospitality & Tourism	
Business & Information Technology Courses	**Agriculture Courses**
Entrepreneurship (WVS)	Plants, Animals, and You
Computer Science Principles (TVS)	Food Science
Web Design (WVS)	Leadership
Marketing (WVS)	
Additional Courses through WVS, FVTC, & ERVING	

Human Services

The Human Services Career Cluster prepares learners for employment in career pathways that relate to serving families and human needs.

The Five Pathways

Consumer Services

Consumer Affairs Officer
Financial Counselor
Consumer Research Department Representative
Investment Advisor
Employee Benefits Representative
Market Researcher

Early Childhood Development & Services

Director, Childcare Facility
Childcare Assistant/Worker
Parent Educator
Nanny
Preschool Teacher/Assistant

Family & Community Services

Community Service Director
Volunteer Coordinator
Director, Religious Activities/Education Programs
Emergency Relief Worker
Grief Counselor
Social Services Worker

Counseling & Mental Health Services

Career Counselor
Clinical/Counseling Psychologist
Marriage, Child, & Family Counselor
Mental Health Counselor
Rehabilitation Counselor
School Counselor
Substance Abuse Counselor

Personal Care Services

Cosmetologist
Funeral Attendant/Director
Nail Technician
Personal Trainer
Skin Care Specialist

LWHS Courses for Supporting Knowledge in Human Services	
Agriculture & Science Courses	**Social Studies Courses**
Leadership	Sociology
Biology	AP Psychology
Biology II	Teacher Assistant
Human Biology	Developmental Psycology (FVTC)
Art Courses	Real-World Parenting (WVS)
Intro to Art	Finance
Art 2D & 3D	
Additional Courses through WVS, FVTC, & ERVING	

Information Technology

Building Linkages in Information Technology Framework, learners will gain skills in the design, development, support, and management of hardware, software, multimedia and systems integration services.

The Four Pathways

Network Systems	Information Support Services	Programming & Software Development	Interactive Media
Network Administrator	Database Administrator	Software Applications Architect	Web Designer
Network Technician	Enterprise Systems Engineer	Applications Engineer	Webmaster
Telecommunications Network Technician	Help Desk Specialist	Computer Programmer	3D Animator
Data Communications Analyst	Technical Support Engineer	Game Programmer	Virtual Reality Specialist
Security Administrator	Technical Writer	Operating Systems Design/Engineer	Multimedia Producer
	Instructional Designer		Graphic Artist
	Application Integrator		

LWHS Courses for Supporting Knowledge in Information Technology	
Technology & Engineering Courses	**Social Studies Courses**
Intro to DC Circuits/Intro to Programming	Sociology
Engineering	AP Psychology
Programming	
Robotics	**Computer/Business Classes**
Art Courses	Computer Science Principles (WVS)
Intro to Art	Digital Information Technology (WVS)
Art 2D & 3D	Web Design & Game Design (WVS)
Photography & Graphic Design	AP Computer Science (ERVING)
Additional Courses through WVS, FVTC, & ERVING	

Law, Public Safety, Corrections, and Security

The Law, Public Safety, Corrections, & Securty Career Cluster helps prepare learners for careers in planning, providing, and managing legal, public safety, protective services, and homeland security, including professional and technical support services.

The Five Pathways

Correction Services
- Warden/Jail Administrator
- Public Information Officer
- Case Manager
- Correctional Officer
- Probation/Parole Officer
- Youth Services Worker

Security & Protective Services
- Security Director
- Security Systems Designer
- Information Systems Security Specialist
- Computer Forensics Specialist
- Loss Prevention Specialist
- Security Systems Technician
- Security Officer

Law Enforcement Services
- Criminal Investigator
- Immigrations & Customs Inspector
- Federal Marshall
- Police Detective
- Police Officer/Sheriff Deputy
- Police/Fire/Ambulance Dispatcher
- Evidence Technician

Legal Services
- Judge
- Attorney
- Legal Assistant
- Law Clerk
- Case Management Specialist

Emergency & Fire Management Services
- Emergency Mgmt & Response Coordinator
- Emergency Medical Technician
- Fire Fighter
- Hazardous Materials Responder
- Training Officer

LWHS Courses for Supporting Knowledge in Law, Public Safety, Corrections, & Security	
Science Courses	**Social Studies Courses**
Biology & Biology II	Sociology
Chemistry	AP Psychology
Human Biology	Developmental Psychology
	Careers in Criminal Justice (WVS)
Agriculture Course	Criminology (WVS)
Leadership	Forensic Science (WVS)
Additional Courses through WVS, FVTC, & ERVING	

Manufacturing

This diverse Career Cluster prepares learners for careers in planning, managing, and performing the processing of materials into intermediate or final products. Careers also include related professional and technical support activities such as production planning and control, maintenance, and manufacturing/process engineering.

The Six Pathways

Manufacturing Production Process & Development

Design Engineer
Industrial Engineer
Labor Relations Manager
Manufacturing Engineer
Precision Inspector, Tester, & Grader
Process Improvement Technician
Production Manager

Production

Assemblers
Automated Manufacturing Technician
Calibration Technician
Electromechanical Equipment Assemblers/Operators
Tool & Die Maker

Maintenance, Installation & Repair

Biomedical Equipment Technician
Communication System Installer/Repair
Instrument Control Technician
Laser System Technician
Security System Installer/Repair

Quality Assurance

Calibration Technician
Inspector
Lab Technician
Process Control Technician
Quality Control Technician
Qualtiy Engineer

Logistics & Inventory Control

Dispatcher
Freight, Stock & Material Mover
Industrial Truck & Tractor Operator
Logistical Engineer
Material Handler
Process Improvement Technician
Traffic Manager

Health, Safety, & Environmental Assurance

Environmental Engineer
Health & Safety Coordinator
Safety Engineer
Safety Technician

LWHS Courses for Supporting Knowledge in Manufacturing	
Technology & Engineering Courses	**Social Studies Courses**
Intro to Technology	Sociology
Metals I	AP Psychology
Furniture & Cabinetry	**Business & Information Technology Courses**
GMAW/SMAW	Computer Science Principles (WVS)
Intro to DC Circuits/Intro to Programming	Biotechnology (WVS)
Engineering	Manufacturing: Production Design & Innovation
Robotics	
Additional Courses through WVS, FVTC, & ERVING	

Marketing, Sales, and Service

The Marketing, Sales, & Service Career Cluster prepares learners for careers in planning, managing, and performing marketing activities to reach organizational objectives.

The Seven Pathways

Management & Entrepreneurship

Chief Executive Officer
Entrepreneur
Independent Distributor
Small Business Owner

Professional Sales & Marketing

Account Executive
Broker
Regional Sales Manager
Sales Executive
Technical Sales Specialist

Buying & Merchandising

Clerk
Merchandise Buyer
Merchandising Manager
Operations Manager
Retail Marketing Coordinator
Sales Associate
Store Manager

Marketing Communication & Promotion

Advertising Manager
Art/Graphics Director
Creative Director
Interactive Media Specialist
Public Relations Manager
Sales Representative

Marketing Information & Research

Brand Manager
Database Manager
Director of Market Development
Product Planner
Research Associate
Strategic Planner

Distribution & Logistics

Distribution Coordinator
Inventory Manager/Analyst
Logistics Analyst/Engineer
Materials Manager
Shipping/Receiving Administrator
Shipping/Receiving Clerk
Warehouse Manager

E-Marketing

Copywriter/Designer
Customer Suport Specialist
E-Commerce Director
E-Merchandising Manager
Fulfillment Manager
Online Market Researcher

LWHS Courses for Supporting Knowledge in Agriculture, Food, & Natural Resource Careers	
Agriculture Courses	**Social Studies Courses**
Leadership	Sociology
Art Courses	AP Psychology
Intro to Art	**Business & Information Technology Courses**
Art 2D & 3D	Entrepreneurship (WVS)
Photography & Graphic Design	Advertising & Sales (WVS)
	Media & Communications (WVS)
Additional Courses through WVS, FVTC, & ERVING	

Science, Technology, Engineering, and Mathematics

A career in Science, Technology, Engineering, or Mathematics is exciting, challenging, and ever-changing. Learners who pursue one of these career fields will be involved in planning, managing, and providing scientific research and professional and technical services including laboratory and testing services, and research and development services.

The Two Pathways

Science & Mathematics
Biologist
Chemist
Geneticist
Physicist
Mathematician
Statistician
Research Technician
Science Teacher
Lab Technician

Engineering & Technology
Aeronautical Engineer
Architectural Engineer
Biotechnology Engineer
Chemical Engineer
Civil Engineer
Construction Engineer
Industrial Engineer
Mechanical Engineer
Materials Lab & Supply Technician
Quality Technician

LWHS Courses for Supporting Knowledge in Science, Technology, Engineering, & Mathematics				
Math Courses		**Science Courses**		**Technology/Engineering Courses**
Algebra		Biology & Biology II		Intro to Technology
Geometry		Physical Science		Metals 1
Advanced Algebra		Chemistry		Furniture & Cabinetry
Precalculus		Ecology TC		Intro to DC Circuits/Programing
AP Calculus		Physics		Engineering
Statistics		AP Chemistry		Programming
		AP Biology		Robotics
				AP Computer Science
Additional Courses through WVS, FVTC, ERVING				

Transportation, Distribution, and Logistics

The Transportation, Distribution, & Logistics Career Cluster exposes learners to careers and businesses involved in the planning, management, and movement of people, materials, and products by road, air, and water. It also includes related professional and technical support services such as infrastructure planning and management, logistic services, and the maintenance of mobile equipment and facilities.

The Six Pathways

Transportation Operations

Transportation Managers
Pilots
Locomotive Engineers
Flight Engineers & Attendants
Truck & Bus Drivers
Air Traffic Controllers
Ship & Boat Captains
Aircraft Cargo Handling Supervisors

Logistics Planning & Management

Logistician
Logistics Manager
Logistics Engineer
International Logistic Specialist

Facility & Mobile Equipment Maintenance

Industrial Equipment Mechanic
Electrician & Technician
Facility Maintenance Manager/Engineer
Mobile Equipment Mantenance Technician
Diesel Engine Specialist

Warehousing & Distribution Center Operations

Storage & Distribution Manager
Warehouse Manager
Industrial & Packaging Engineer
Shipping & Receiving Supervisor
Production, Planning, & Expediting Clerk
Freight Material Mover & Supervisor

Sales & Service

Reservation & Travel Agent
Cargo & Freight Agent
Customer Service Manager & Representative
Customer Order Supervisor
Billing Supervisor

Transportation Systems/Infrastructure Planning, Management & Regulation

Traffic Control
Urban & Regional Planner
Vehicle & System Inspector
Federal, State, & Local Transportation Agency Manager

LWHS Courses for Supporting Knowledge in Transportation, Distribution & Logistics	
Technology & Engineering Courses	**Social Studies Courses**
Intro to Technology	Economics
Furniture & Cabinetry	AP Psychology
Metals 1	Sociology
GMAW/SMAW	Manufacturing (WVS)
Intro to DC Circuits/Intro to Programming	International Business & Commerce (WVS)
Engineering	Computer Science Principles (WVS)
Robotics	
Additional Courses through WVS, FVTC, ERVING	

	Kindergarten Math		
Credits:	N/A		
Prerequisites:	N/A		
Description:	Topics covered: numbers 0-100, sorting, classifying, adding, subtracting, measurement,		
Academic Standards:	Wisconsin State Standards in Mathematics (2021)	Board Approved Curriculum Resource: Illustrative Mathematics	
Units:	**Unit Length:**	**Unit Standards:**	
Numbers	60-65 days	M.K.CC.A.1, M.K.CC.A.2, M.K.CC.A.3,M.K.CC.A.4, M.K.CC.B.5, M.K.CC.B.6, M.K.CC.C.7, M.K.OA.A.1, M.K.CC.C.8	Identify numbers 0-20, compare numbers 1-10, count and explore numbers to 100, and compare sets.
Classification and Sorting	20-25 days	M.K.CC.A.1, M.K.CC.A.2, M.K.CC.A.3, M.K.CC.A.4, M.K.CC.B.5,M.K.CC.B.6, M.K.G.A.1, M.K.G.A.2, M.K.G.A.3, M.K.G.B.4, M.K.G.B.5, M.K.G.B.6	Sort and classify numbers, objects, and shapes, identify 2D shapes, identify 3D shapes
Measurement	10-12 days	M.K.CC.A.1, M.K.CC.A.2, M.K.CC.A.3, M.K.CC.A.4, M.K.CC.B.5, M.K.CC.B.6, M.K.MD.A.1, M.K.MD.A.2, M.K.MD.B.3	Determine which object is the heaviest or lightest, compare objects by height, weight, and length using short, shorter, shortest, heavy, heavier, heaviest, long, longer, and longest.
Addition	20-25 days	M.K.CC.A.1, M.K.CC.A.2, M.K.CC.A.3, M.K.CC.A.4, M.K.CC.B.5, M.K.CC.B.6, M.K.CC.C.7, M.K.CC.C.8, M.K.OA.A.1, M.K.OA.A.2, M.K.OA.A.3, M.K.OA.A.4, M.K.OA.A.5	Identify the addition sign, add numbers from 0 -10, solve addition story problems using manipulatives.
Subtraction to 10	20-25 days	M.K.CC.A.1, M.K.CC.A.2, M.K.CC.A.3, M.K.CC.A.4, M.K.CC.B.5, M.K.CC.B.6, M.K.CC.C.7, M.K.CC.C.8, M.K.OA.A.1, M.K.OA.A.2, M.K.OA.A.3, M.K.OA.A.4, M.K.OA.A.5	Identify the minus sign, subtract numbers from 0 -10, solve subtraction story problems using manipulatives.

Unit Name: **Numbers**	**Length:** 60-65 days
Standards: M.K.CC.A.1, M.K.CC.2, M.K.CC.3, M.K.CC.4, M.K.CC.5, M.K.CC.6, M.K.CC.7, M.K.G.1-M.K.G.6, M.K.NBT.1, M.K.OA.1-M.K.OA.4	**Outcomes:** Identify numbers 0-20, compare numbers 1-10, count and explore numbers to 100, and compare sets.
Essential Questions: What number is this? How do you know a number/set is bigger than another? Smaller (less)? How can you tell if sets are equal?	**Learning Targets:** Students can identify numbers 0-20, compare numbers 1-10, count to 100, compare different groups and tell which group is greater, less than or equal.
Topic: **Numbers 0-10**	**Length:** 20-25 days
Standard(s): M.K.CC.1, M.K.CC.2, M.K.CC.3, M.K.CC.4, M.K.CC.5, M.K.OA.1-M.K.OA.4	**Academic Vocabulary:** count, one, two, three, four, five, six, seven, eight, nine, ten
Lesson Frame: counting	I can count to 10.
Lesson Frame: number identification	I can recognize and write numbers 1-10.
Lesson Frame: number order	I can order numbers 1-10.
Lesson Frame: quantity	I can state the quantity of a set.
Performance Tasks: Make a number book, games	Notes:Illustrative Math
Topic: **Comparing Numbers and Sets**	**Length:** 20-25 days
Standard(s): M.K.CC.A.1, M.K.CC.A.2, M.K.CC.A.3,M.K.CC.A.4, M.K.CC.B.5, M.K.CC.B.6, M.K.CC.C.7, M.K.OA.A.1, M.K.CC.C.8,	**Academic Vocabulary:** count, quantity, compare, greater, less, same
Lesson Frame: greater/less than	I can tell which number is bigger or smaller.
Lesson Frame: more/less	I can tell which set has more or less.
Lesson Frame: equal to	I can tell if two numbers or sets are equal.
Performance Tasks: Ten frames, games, projects	Notes: Illustrative Math
Topic: **Numbers 10-100**	**Length:** 20-25 days
Standard(s): M.K.CC.A.1, M.K.CC.A.2, M.K.CC.A.3,M.K.CC.A.4, M.K.CC.B.5, M.K.CC.B.6, M.K.CC.C.7, M.K.OA.A.1, M.K.CC.C.8,	**Academic Vocabulary:** count, tens, ones, digits, pairs, twos, fives, tally
Lesson Frame: groups of 10	I can count and understand a group of 10 or more.
Lesson Frame: using 10 frames	I can show numbers on a set of two ten frames.
Lesson Frame: skip counting	I can recognize and use pairs to assist in counting by 2's, 5's, and 10's.
Lesson Frame: compose numbers to 19	I can make number 10-10 by combining two numbers.

Lesson Frame: decompose numbers to 19	I can break apart numbers 10-19 into two groups.
Performance Tasks: ten frames, games, number charts	Notes: Illustrative Math
**KinderMath will be used to supplement teen numbers	

Unit Name: **Classification and Sorting**	**Length:** 20-25 days
Standards: M.K.CC.A.1, M.K.CC.A.2, M.K.CC.A.3, M.K.CC.A.4, M.K.CC.B.5,M.K.CC.B.6, M.K.G.A.1, M.K.G.A.2, M.K.G.A.3, M.K.G.B.4, M.K.G.B.5, M.K.G.B.6	**Outcomes:** Sort and classify numbers, objects, and shapes, identify 2D shapes, identify 3D shapes.
Essential Questions: Which number/group is bigger? smaller? Which number/group has more? less? What would come next in this pattern? How do you know? Is this a 2D or a 3D shape? How do you know?	**Learning Targets:** Students can sort and classify numbers, objects, and shapes, identify 2D shapes, identify 3D shapes.
Topic: **Sort and Classify**	**Length:** 10-12 days
Standard(s): M.K.CC.A.1, M.K.CC.A.2, M.K.CC.A.3, M.K.CC.A.4, M.K.CC.B.5,M.K.CC.B.6, M.K.G.A.1, M.K.G.A.2, M.K.G.A.3, M.K.G.B.4, M.K.G.B.5, M.K.G.B.6	**Academic Vocabulary:** alike, different, same, sort, pair, more, less, pattern
Lesson Frame: same and different	I can recognize same and different.
Lesson Frame: pairs	I can group into pairs or matches.
Lesson Frame: attributes	I can sort by attributes.
Performance Tasks: Snap cubes, ten frames, games, projects	Notes: Illustrative Math
Topic: **2D and 3D Shapes**	**Length:** 10-12 days
Standard(s): KCC.1, KCC.2, KCC.3, KCC.4, KCC.5, KCC.6, K.G.1-K.G.6, K.OA.1-K.OA.4	**Academic Vocabulary:** cubes, cones, cylinders, spheres, sides, faces, triangle, circle, square, rectangle, hexagon, corners, vertices
Lesson Frame: 2D (flat) shapes	I can identify 2D shapes.
Lesson Frame: 3D (solid) shapes	I can identify 3D shapes.
Lesson Frame: comparing 2D & 3D shapes	I can compare and sort 2D and 3D shapes.
Performance Tasks: Riddle cards, 3D and 2D shapes, games, projects	Notes: Illustrative Math

Unit Name: **Measurement**	**Length:** 10-12 days
Standards: M.K.CC.A.1, M.K.CC.A.2, M.K.CC.A.3, M.K.CC.A.4, M.K.CC.B.5, M.K.CC.B.6, M.K.MD.A.1, M.K.MD.A.2, M.K.MD.B.3	**Outcomes:** Determine which object is the heaviest or lightest, compare objects by height, weight, and length using short, shorter, shortest, heavy, heavier, heaviest, long, longer, and longest.
Essential Questions: Which object is heavier? Which object is lighter?	**Learning Targets:** Students can compare objects by height, weight, and length.
Topic: **Measurement**	**Length:** 10-12 days
Standard(s): M.K.CC.A.1, M.K.CC.A.2, M.K.CC.A.3, M.K.CC.A.4, M.K.CC.B.5, M.K.CC.B.6, M.K.MD.A.1, M.K.MD.A.2, M.K.MD.B.3	**Academic Vocabulary:** bigger, smaller, mid-sized, same, longer, shorter, longest, shortest, length, taller, height, same as, tallest, weight, heavier, lighter, equal to, heaviest, lightest, capacity, holds more, holds less, holds the same, capacity
Lesson Frame: compare height	I can compare two objects by height.
Lesson Frame: compare length	I can compare two objects by length.
Lesson Frame: compare weight	I can compare two objects by weight.
Performance Tasks: games, projects, weight cards	Notes: Illustrative Math

Unit Name: **Addition**	**Length:** 20-25 days
Standards: M.K.CC.A.1, M.K.CC.A.2, M.K.CC.A.3, M.K.CC.A.4, M.K.CC.B.5, M.K.CC.B.6, M.K.CC.C.7, M.K.CC.C.8, M.K.OA.A.1, M.K.OA.A.2, M.K.OA.A.3, M.K.OA.A.4, M.K.OA.A.5	**Outcomes:** Identify the addition sign, add numbers from 0 -10, solve addition story problems using manipulatives.
Essential Questions: What information do you need to solve that problem? What would happen if? Can you explain that more?	**Learning Targets:** Students can identify the addition sign, add numbers from 0 -10 and solve addition story problems using manipulatives.
Topic: **Addition to 10**	**Length:** 10-12 days
Standard(s): M.K.CC.A.1, M.K.CC.A.2, M.K.CC.A.3, M.K.CC.A.4, M.K.CC.B.5, M.K.CC.B.6, M.K.CC.C.7, M.K.CC.C.8, M.K.OA.A.1, M.K.OA.A.2, M.K.OA.A.3, M.K.OA.A.4, M.K.OA.A.5	**Academic Vocabulary:** combine, add
Lesson Frame: addition partners	I can combine sets of objects to make a number and understand all the possible sets up to that number.
Lesson Frame: addition	I can understand that addition is combining two sets of objects.
Lesson Frame: addition problems	I can practice and explore solving addition problems.
Performance Tasks: Playing cards, ten frames, number bonds, games, projects	Notes: Illustrative Math
Topic: **Addition with Word Problems**	**Length:** 10-12 days
Standard(s): M.K.CC.A.1, M.K.CC.A.2, M.K.CC.A.3, M.K.CC.A.4, M.K.CC.B.5, M.K.CC.B.6, M.K.CC.C.7, M.K.CC.C.8, M.K.OA.A.1, M.K.OA.A.2, M.K.OA.A.3, M.K.OA.A.4, M.K.OA.A.5	**Academic Vocabulary:** combine, add, equal
Lesson Frame: word problems	I can understand addition is combining 2 sets of objects through word problems.
Performance Tasks: Playing cards, ten frames, number bonds, games, projects.	Notes: Illustrative Math

Unit Name: **Subtraction to 10**	**Length:** 10-12 days
Standards: M.K.CC.A.1, M.K.CC.A.2, M.K.CC.A.3, M.K.CC.A.4, M.K.CC.B.5, M.K.CC.B.6, M.K.CC.C.7, M.K.CC.C.8, M.K.OA.A.1, M.K.OA.A.2, M.K.OA.A.3, M.K.OA.A.4, M.K.OA.A.5	**Outcomes:** Identify the minus sign, subtract numbers from 0 -10, solve subtraction story problems using manipulatives.
Essential Questions: What is a minus sign? What is the difference between numbers? Why does your answer make sense? How could you use this skill in real life? How could you use manipulatives to help you solve this subtraction problem?	**Learning Targets:** Students can identify the minus sign. Students can subtract up to 10. Students can use pictures and other manipulatives to help them subtract.
Topic 1: **Subtraction to 10**	**Length:** 10-12 days
Standard(s): M.K.CC.A.1, M.K.CC.A.2, M.K.CC.A.3, M.K.CC.A.4, M.K.CC.B.5, M.K.CC.B.6, M.K.CC.C.7, M.K.CC.C.8, M.K.OA.A.1, M.K.OA.A.2, M.K.OA.A.3, M.K.OA.A.4, M.K.OA.A.5	**Academic Vocabulary:** difference, left, minus, subtract
Lesson Frame: subtraction	I can subtract numbers up to 10.
Lesson Frame: minus/subtraction sign	I can understand the name and use of the minus sign.
Lesson Frame: word problems	I can solve subtraction word problems.
Performance Tasks: snap cubes, counters, games, projects, ten frames, five frames	Notes:Illustrative Math

September	October	November	December	January	February	March	April	May	June
Numbers		Classification and Sorting		Measurement	Addition		Subtraction		

Course Name:	1st Grade Mathematics		
Credits:	N/A		
Prerequisites:	N/A		
Description:	The big ideas in grade 1 include: developing understanding of addition, subtraction, and strategies for addition and subtraction within 20; developing understanding of whole-number relationships and place value, including grouping in tens and ones; developing understanding of linear measurement and measuring lengths as iterating length units; and reasoning about attributes of, and composing and decomposing geometric shapes.		
Academic Standards:	Wisconsin Standards for Mathematics (2021)	Board Approved Curriculum Resource: Illustrative Mathematics	
Units:	Unit Length:	Unit Standards:	Unit Outcomes:
Adding, Subtracting, and Working with Data	14-15 days	1.MD.C.4 1.OA.B.4 1.OA.C.5 1.OA.C.6	Students deepen their understanding of addition and subtraction within 10.
Addition and Subtraction Story Problems		1.MD.C.4 C.4 1.NBT.A.1 1.OA.A.1 1.OA.A.2 1.OA.B.3 1.OA.B.4 1.OA.C.5 1.OA.C.6 1.OA.D.7	Students learn to solve new types of addition and subtraction story problems and relate the quantities in the stories to equations.
Adding and Subtracting within 20	28-29 days	1.NBT.A.1 1.NBT.B.2a 1.NBT.B.2b 1.OA.A.1 1.OA.A.2 1.OA.B.3 1.OA.B.4 1.OA.C.5 1.OA.C.6 1.OA.D.7	Students will develop an understanding of 10 ones as a unit called a "ten" and use the structure of 10 + n to add and subtract within 20.
Numbers to 99	22-24 days	1.NBT.A.1 1.NBT.B.2 1.NBT.B.3 1.NBT.C.5 1.NBT.C.6 1.OA.A.1 1.OA.C.5 1.OA.C.6 1.OA.D.7	Students will develop an understanding of the structure of numbers in base ten, allowing them to see that two digits of a two-digit number represent how many tens and ones there are.

Adding within 100	14-15 days	1.NBT.A.1 1.NBT.B.3 1.NBT.C.4 1.NBT.C.5 1.NBT.C.6 1.OA.A.1 1.OA.C.5 1.OA.C.6 1.OA.D.7	Students will add within 100, using place value and properties of operations in their reasoning.
Length Measurements within 120 Units	17-18 days	1.MD.A.1 1.MD.A.2 1.NBT.A.1 1.NBT.B.3 1.NBT.C.4 1.NBT.C.5 1.OA.A.1 1.OA.A.2 1.OA.B.4 1.OA.C.5 1.OA.C.6	Students will extend their knowledge of linear measurement while continuing to develop their understanding of operations, algebraic thinking, and place value.
Geometry and Time	18 days	A. Reason with shapes and their attributes. 1.G.A.1 1.G.A.2 1.G.A.3 1.MD.B.3 1.NBT.A.1 1.NBT.C.4 1.NBT.C.5 1.OA.C.6 1.OA.D.7	Students will focus on geometry and time. They expand their knowledge of two- and three-dimensional shapes, partition shapes into halves and fourths, and tell time to the hour and half of an hour.
Putting It All Together	11 days	1.MD.A.1 1.MD.A.2 1.NBT.A.1 1.NBT.B.2 1.NBT.B.3 1.NBT.C.5 1.NBT.C.6 1.OA.A.1 1.OA.A.2 1.OA.B.3 1.OA.B.4 1.OA.C.5 1.OA.D.7	Students will revisit major work and fluency goals of the grade, applying their learning from the year.

Unit Name: **Adding and Subtracting within 20**	**Length:** 28-29 days
Standards: 1.NBT.A.1 Count to 120, starting at any number less than 120. In this range, read and write numerals and represent a number of objects with a written numeral. 1.NBT.B.2a. 10 can be thought of as a bundle of ten ones -- called a "ten". 1.NBT.B.2b. The numbers from 11 to 19 are composed of a ten and one, two, three, four, five, six, seven, eight, or nine ones. 1.OA.A.1 Use addition and subtraction within 20 to solve word problems involving situations of adding to, taking from, putting together, taking apart, and comparing, with unknowns in all positions by using objects, drawings, and equations with a symbol for the unknown number to represent the problem. 1.OA.A.2 Solve word problems that call for addition of three whole numbers whose sum is less than or equal to 20, e.g., by using objects, drawings, and equations with a symbol for the unknown number to represent the problem. 1.OA.B.3 Apply properties of operations as strategies to add and subtract. 1.OA.B.4 Understand subtraction as an unknown-addend problem 1.OA.C.5 Use counting and subitizing strategies to explain addition and subtraction 1.OA.C.6 Use multiple strategies to add and subtract within 20. 1.OA.D.7 Understand the meaning of the equal sign as “has the same value/amount as” and determine if equations involving addition and subtraction are true or false.	**Outcomes:** Students will develop an understanding of 10 ones as a unit called a "ten" and use the structure of 10 + n to add and subtract within 20.
Essential Questions: Can students understand and apply counting on and the commutative property in order to find the sum? Can students identify expressions that are equal? Can students solve Add To, Start Unknown problems? Can students add and subtract within 10 and 20? Can students understand that 10 ones make a ten? Can students understand that teen numbers are composed of a ten and some ones? Can students solve Take From, Result or Change Unknown problems? Can students solve story problems with three addends? Can students solve addition and subtraction story problems with the unknowns in all positions?	**Vocabulary:** data, difference, sum, survey, teen number, commutative property, associative property, addends
Topic 1: **Develop Fluency with Addition and Subtraction within 10**	
Lesson Frame: Sect. A: Lesson 1	I can identify which sums within 10 I know and which ones I am still working on.
Lesson Frame: Sect. A: Lesson 2	I can understand and apply counting on and the commutative property in order to find the sum.
Lesson Frame: Sect. A: Lesson 3	I can identify expressions that are equal.
Lesson Frame: Sect. A: Lesson 4	I can build toward fluency within 10 by looking for patterns in sums that have a value of 10.
Lesson Frame: Sect. A: Lesson 5	I can develop fluency with subtraction within 10.
Lesson Frame: Sect. A: Lesson 6	I can do Add To, Start Unknown problems.
Lesson Frame: Sect. A: Lesson 7 Center Day 1	I can add within 10.
Topic 2: **Add and Subtract using Ten as a Unit**	
Lesson Frame: Sect. B: Lesson 8	I can understand that 10 ones make a unit called a ten.
Lesson Frame: Sect. B: Lesson 9	I can understand that teen numbers are composed of a ten and some ones.
Lesson Frame: Sect. B: Lesson 10	I can find the value that makes an equation true when one value is a ten number and one is a ten.
Lesson Frame: Sect. B: Lesson 11	I can add within 20 when one addend is a teen number.

Lesson Frame: Sect. B: Lesson 12	I can add and subtract within 20 without composing or decomposing a ten.
Lesson Frame: Sect. B: Lesson 13	I can solve Take From, Result or Change Unknown story problems.
Lesson Frame: Sect. B: Lesson 14 Center Day 2	I can add and subtract within 20.
Topic 3: **Add within 20**	
Lesson Frame: Sect. C: Lesson 15	I can solve story problems with three addends, two of which make a ten, in a way that makes sense.
Lesson Frame: Sect. C: Lesson 16	I can apply the commutative and associative properties in order to make a ten when adding three numbers within 20.
Lesson Frame: Sect. C: Lesson 17	I can use patterns to add within 20.
Lesson Frame: Sect. C: Lesson 18	I can find expressions equivalent to 10+n expressions.
Lesson Frame: Sect. C: Lesson 19	I can analyze addition methods for adding within 20, then use those methods to find sums.
Lesson Frame: Sect. C: Lesson 20	I can solve story problems with three addends.
Lesson Frame: Sect. C: Lesson 21 Center Day 3	I can add within 20.
Topic 4: **Subtract within 20**	
Lesson Frame: Sect. D: Lesson 22	I can subtract from a teen number.
Lesson Frame: Sect. D: Lesson 23	I can notice how the unit of ten can be used to find differences within 20.
Lesson Frame: Sect. D: Lesson 24	I can analyze and use counting on and taking away methods to subtract within 20.
Lesson Frame: Sect. D: Lesson 25	I can use subtraction methods flexibly to find differences.
Lesson Frame: Sect. D: Lesson 26	I can solve addition and subtraction story problems with the unknowns in all positions.
Lesson Frame: Sect. D: Lesson 27 Center Day 4	I can add and subtract within 20.
Lesson Frame: Sect. D: Lesson 28	I can write and solve my own story problems involving addition and subtraction.
Performance Tasks: *Observation (small group, whole group, individual) * Illustrative Math Cool Down * Illustrative Math Section Checkpoint *Illustrative Math End-of-Unit Assessment"	Notes: *Individual student workbooks *Learn Zillion *Unit 3 Illustrative Math Teacher Guide *Illustrative Math Centers

Unit Name: **Adding within 100**	**Length:** 14-15 days
Standards: 1.NBT.A.1 Count to 120, starting at any number less than 120. In this range, read and write numerals and represent a number of objects with a written numeral. B. Understand place value. 1.NBT.B.2 Understand that the two digits of a two-digit number represent amounts of tens and ones. Understand the following as special cases: a. 10 can be thought of as a bundle of ten ones -- called a "ten". b. The numbers from 11 to 19 are composed of a ten and one, two, three, four, five, six, seven, eight, or nine ones. c. The numbers 10, 20, 30, 40, 50, 60, 70, 80, 90 refer to one, two, three, four, five, six, seven, eight, or nine tens (and 0 ones). 1.NBT.B.3 Compare two two-digit numbers based on meanings of the tens and ones digits and describe the result of the comparison using words and symbols (>, =, and <). M.1.NBT.C.4 Add within 100, including adding a two-digit number and a one-digit number, and adding a two digit number and a multiple of 10, using concrete models or drawings and strategies based on place value, properties of operations, and/or the relationship between addition and subtraction; relate the strategy to a written method and explain the reasoning used. Understand that in adding two-digit numbers, one adds tens and tens, ones and ones; and sometimes it is necessary to compose a ten. 1.NBT.C.5 Given a two-digit number, mentally find 10 more or 10 less than the number, without having to count; explain the reasoning used. 1.NBT.C.6 Subtract multiples of 10 in the range 10-90 from multiples of 10 in the range 10-90 (positive or zero differences), using concrete models or drawings and strategies based on place value, properties of operations, and/or the relationship between addition and subtraction; relate the strategy to a written method and explain the reasoning used. 1.OA.A.1 Use addition and subtraction within 20 to solve word problems involving situations of adding to, taking from, putting together, taking apart, and comparing, with unknowns in all positions, e.g., by using objects, drawings, and equations with a symbol for the unknown number to represent the problem. 1.OA.C.5 Use counting and subitizing strategies to explain addition and subtraction. a. Relate counting to addition and subtraction (e.g., by counting on 2 to add 2). b. Use conceptual subitizing in unstructured arrangements with totals up to 10 and structured arrangements anchored to 5 or 10 (e.g., 10 frames, double ten frames, math rack) with totals up to 20 to relate the compositions and decompositions to addition and subtraction. 1.OA.C.6 Use multiple strategies to add and subtract within 20. a. Flexibly and efficiently add and subtract within 10 using strategies that may include mental images and composing/decomposing up to 10. b. Add and subtract within 20 using objects, drawings or equations. Use multiple strategies that may include counting on; making a ten (e.g., 8 + 6 = 8 + 2 + 4 = 10 + 4 =14); decomposing a number leading to a ten (e.g., 13 - 4 = 13 - 3 - 1 = 10 - 1 = 9); using the relationship between addition and subtraction (e.g., knowing that 8 + 4 = 12, one knows 12 - 8 = 4); and creating equivalent but easier or known sums (e.g., adding 6 + 7 by creating the known equivalent 6 + 6 + 1 = 12 + 1 = 13). D. Work with addition and subtraction equations. 1.OA.D.7 Understand the meaning of the equal sign as “has the same value/amount as” and determine if equations involving addition and subtraction are true or false.	**Outcomes:** Students will add within 100, using place value and properties of operations in their reasoning.
Essential Questions: Can students add tens or ones to two-digit numbers without composing a ten? Can students add 2 two-digit numbers without composing a ten? Can students add within 100 without composing a ten? Can students add a two-digit number and a one-digit number within 100 with composing a ten? Can students add one-digit and two-digit numbers with composing a ten? Can students add 2 two-digit numbers within 100?	**Vocabulary:** data, difference, estimate, greater than, less than, sum, survey, teen number.
Topic 1: **Add Without Making a Ten**	
Lesson Frame: Sect. A: Lesson 1	I can add tens or ones to two-digit numbers, without composing a ten.
Lesson Frame: Sect. A: Lesson 2	I can add 2 two-digit numbers, without composing a ten, using methods based on place value and make sense of equations that represent addition methods.
Lesson Frame: Sect. A: Lesson 3	I can add 2 two-digit numbers, without composing a ten, using methods based on place value to write equations to represent addition methods.
Lesson Frame: Sect. A: Lesson 4 Center Day 1	I can add within 100 without composing a ten.
Topic 2: **Make a Ten: Add One- and Two-digit Numbers**	
Lesson Frame: Sect. B: Lesson 5	I can add a two-digit number and a one-digit number within 100, with composing a ten.
Lesson Frame: Sect. B: Lesson 6	I can add one-digit and two-digit numbers, with composing a ten, using place value understanding and the properties of operations.

Lesson Frame: Sect. B: Lesson 7	I can add one-digit numbers and two-digit numbers, and recognize when a new ten will be composed.
Lesson Frame: Sect. B: Lesson 8 Center Day 2	I can add within 100.
Topic 3: **Make a Ten: Add Within 100**	
Lesson Frame: Sect. C: Lesson 9	I can add 2 two-digit numbers within 100 in any way that makes sense, including composing a ten.
Lesson Frame: Sect. C: Lesson 10	I can add 2 two-digit numbers using methods based on place value.
Lesson Frame: Sect. C: Lesson 11	I can add 2 two-digit numbers, with composing a ten, using methods based on place value and properties of operations.
Lesson Frame: Sect. C: Lesson 12	I can add 2 two-digit numbers, with composing a ten, using methods based on place value and properties of operations.
Lesson Frame: Sect. C: Lesson 13	I can add 2 two-digit numbers with composing a ten.
Lesson Frame: Sect. C: Lesson 14 (optional)	I can apply my understanding of adding two-digit numbers to a real-world context.
Performance Tasks: *Observation (small group, whole group, individual) * Illustrative Math Cool Down * Illustrative Math Section Checkpoint *Illustrative Math End-of-Unit Assessment	Notes: *Individual student workbooks *Learn Zillion *Unit 5 Illustrative Math Teacher Guide *Illustrative Math Centers

Unit Name: Adding, Subtracting, and Working with Data	**Length:** 14-15 days
Standards: 1.MD.C.4 Organize, represent, and interpret data with up to three categories; ask and answer questions about the total number of data points, how many in each category, and how many more or less are in one category than in another 1.OA.B.4 Understand subtraction as an unknown-addend problem 1.OA.C.5 Use counting and subitizing strategies to explain addition and subtraction 1.OA.C.6 Use multiple strategies to add and subtract within 20.	**Outcomes:** Students deepen their understanding of addition and subtraction within 10.
Essential Questions: Are students able to count objects and relate counting to addition? Are students able to add within 10 when one addend is 1 or 2? Are students able to subtract 1 or 2 within 10? Are students able to sort objects? Are students able to sort shapes? Are students able to ask and answer questions about data?	**Vocabulary:** count, add, sums, expressions, subtraction, categories, sort, objects, representations, data, survey.
Topic 1: **Add and subtract within 10.**	
Lesson Frame: Sect. A Lesson 1	I can count objects and relate counting to addition.
Lesson Frame: Sect. A Lesson 2	I can write addition expressions within 10 and find the sums.
Lesson Frame: Sect. A Lesson 3	I can add within 10 when one addend is 1 or 2.
Lesson Frame: Sect. A Lesson 4	I can subtract 1 or 2 within 10.
Lesson Frame: Sect. A Lesson 5	I can add and subtract within 10.
Lesson Frame: Sect. A Lesson 6 Center Day	I can practice adding and subtracting within 10.
Topic 2: **Show Us Your Data**	
Lesson Frame: Sect. B Lesson 7	I can sort objects into categories and tell how many objects are in each category.
Lesson Frame: Sect. B Lesson 8	I can sort shapes and create a representation that shows the number of shapes in each category.
Lesson Frame: Sect. B Lesson 9	I can collect categorical data about the class, organize it, and represent it in a way others can understand.
Lesson Frame: Sect. B Lesson 10 Center Day	I can add and subtract within 10.
Topic 3: **What Does the Data Tell Us?**	
Lesson Frame: Sect. C Lesson 11	I can write and evaluate statements based on data in a visual representation.
Lesson Frame: Sect. C Lesson 12	I can answer "how many in each category" and "how many in all" questions about data and explain.
Lesson Frame: Sect. C Lesson 13	I can ask questions about data that can be answered by a given data representation.
Lesson Frame: Sect. C Lesson 14 Center Day	I can practice working with data and adding and subtracting within 10.
Lesson Frame: Sect. C Lesson 15 (optional)	I can create a survey, collect and represent data, and ask and answer questions related to the data.
Performance Tasks: *Observation (small group, whole group, individual) * Illustrative Math Cool Down * Illustrative Math Section Checkpoint *Illustrative Math End-of-Unit Assessment	Notes: *Individual student workbooks *Learnzillion *Unit 1 Illustrative Math Teacher Guide *Illustrative Math Centers

Unit Name: Addition and Subtraction Story Problems	**Length:**
Standards: 1.MD.C.4 C.4 Organize, represent, and interpret data with up to three categories; ask and answer questions about the total number of data points, how many in each category, and how many more or less are in one category than in another. 1.NBT.A.1 Count to 120, starting at any number less than 120. In this range, read and write numerals and represent a number of objects with a written numeral. 1.OA.A.1 Use addition and subtraction within 20 to solve word problems involving situations of adding to, taking from, putting together, taking apart, and comparing, with unknowns in all positions by using objects, drawings, and equations with a symbol for the unknown number to represent the problem. 1.OA.A.2 Solve word problems that call for addition of three whole numbers whose sum is less than or equal to 20, e.g., by using objects, drawings, and equations with a symbol for the unknown number to represent the problem. M.1.OA.B.3 Apply properties of operations as strategies to add and subtract. 1.OA.B.4 Understand subtraction as an unknown-addend problem. 1.OA.C.5 Use counting and subitizing strategies to explain addition and subtraction. 1.OA.C.6 Use multiple strategies to add and subtract within 20. M.1.OA.D.7 Understand the meaning of the equal sign as “has the same value/amount as” and determine if equations involving addition and subtraction are true or false.	**Outcomes**: Students learn to solve new types of addition and subtraction story problems and relate the quantities in the stories to equations.
Essential Questions: Can students represent and solve Add To and Take From, Result or Change Unknown and Take From, Result Unknown, Put Together, Total Unknown story problems in a way that makes sense to them? Can students write an addition or subtraction equation to represent each story problem, and orally explain how the equation represents the story problem? Can students make sense of, represent, and solve Put Together/Take Apart, Both Addends Unknown story problems? Can students represent and solve Compare, Difference Unknown problems?	**Vocabulary:** category, data, difference, sum, survey
Topic 1: **Add To and Take From Story Problems**	
Lesson Frame: Sect. A: Lesson 1	I can represent and solve Add To and Take From, Result Unknown story problems in a way that makes sense to me.
Lesson Frame: Sect. A: Lesson 2	I can solve Add To and Take From, Result Unknown story problems, write an addition or subtraction equation to represent each story problem, and orally explain how the equation represents the story problem.
Lesson Frame: Sect. A: Lesson 3	I can solve a new type of problem, Add To, Change Unknown.
Lesson Frame: Sect. A: Lesson 4	I can solve Add To, Result or Change Unknown, and Take From, Result Unknown story problems and write equations to match each problem.
Lesson Frame: Sect. A: Lesson 5 Center Day	I can tell and solve story problems, and add and subtract within 10.
Topic 2**: Put Together/Take Apart Story Problems**	
Lesson Frame: Sect. B: Lesson 6	I can solve Put Together, Total Unknown problems and write equations to match.
Lesson Frame: Sect. B: Lesson 7	I can make sense of, represent, and solve Put Together/Take Apart, Both Addends Unknown story problems.

Lesson Frame: Sect. B: Lesson 8	I can solve and represent Put Together/Take Apart, Addend Unknown story problems.
Lesson Frame: Sect. B: Lesson 9	I can solve the different Put Together/Take Apart story problems that have been introduced so far.
Lesson Frame: Sect. B: Lesson 10 Center Day	I can practice adding and subtracting within 10.
Topic 3: **Compare Story Problems**	
Lesson Frame: Sect. C: Lesson 11	I can represent and solve Compare, Difference Unknown problems.
Lesson Frame: Sect. C: Lesson 12	I can solve Compare, Difference Unknown problems.
Lesson Frame: Sect. C: Lesson 13	I can solve Compare, Difference Unknown problems in a data context.
Lesson Frame: Sect. C: Lesson 14	I can solve Compare, Difference Unknown story problems and match addition and subtraction equations to the problems.
Lesson Frame: Sect. C: Lesson 15	I can solve a variety of story problems and write equations that match each problem.
Lesson Frame: Sect. C: Lesson 16 Center Day	I can practice adding and subtracting within 10.
Performance Tasks: *Observation (small group, whole group, individual) * Illustrative Math Cool Down * Illustrative Math Section Checkpoint *Illustrative Math End-of-Unit Assessment	Notes: *Individual student workbooks *Learnzillion *Unit 2 Illustrative Math Teacher Guide *Illustrative Math Centers
Performance Tasks: *Observation (small group, whole group, individual) * Illustrative Math Cool Down * Illustratvie Math Section Checkpoint *Illustrative Math End-of-Unit Assessment	Notes: *Individual student workbooks *Learn Zillion *Unit 2 Illustrative Math Teacher Guide *Illustrative Math Centers

Unit Name: **Geometry and Time**	**Length:** 18 days
Standards: A. Reason with shapes and their attributes. 1.G.A.1 Distinguish between defining attributes (e.g., triangles are closed and three-sided) versus non defining attributes (e.g., color, orientation, overall size); build and draw shapes to possess defining attributes. 1.G.A.2 Compose two-dimensional shapes (rectangles, squares, trapezoids, triangles, half-circles, and quarter-circles) or three-dimensional shapes (cubes, right rectangular prisms, right circular cones, and right circular cylinders) to create a composite shape, and compose new shapes from the composite shape. Student use of formal names such as "right rectangular prism" is not expected. 1.G.A.3 Partition circles and rectangles into two and four equal shares, describe and count the shares using the words halves and fourths, and use the phrases half of and fourth of the whole. Describe the whole as being two of the shares, or four of the shares. Understand for these examples that decomposing into more equal shares creates smaller shares. B. Tell and write time. 1.MD.B.3 Tell and write time in hours and half-hours using analog and digital clocks. 1.NBT.A.1 Count to 120, starting at any number less than 120. In this range, read and write numerals and represent a number of objects with a written numeral. 1.NBT.C.4 Add within 100, including adding a two-digit number and a one-digit number, and adding a two digit number and a multiple of 10, using concrete models or drawings and strategies based on place value, properties of operations, and/or the relationship between addition and subtraction; relate the strategy to a written method and explain the reasoning used. Understand that in adding two-digit numbers, one adds tens and tens, ones and ones; and sometimes it is necessary to compose a ten. 1.NBT.C.5 Given a two-digit number, mentally find 10 more or 10 less than the number, without having to count; explain the reasoning used. 1.OA.C.6 Use multiple strategies to add and subtract within 20. a. Flexibly and efficiently add and subtract within 10 using strategies that may include mental images and composing/decomposing up to 10. b. Add and subtract within 20 using objects, drawings or equations. Use multiple strategies that may include counting on; making a ten (e.g., 8 + 6 = 8 + 2 + 4 = 10 + 4 = 14); decomposing a number leading to a ten (e.g., 13 - 4 = 13 - 3 - 1 = 10 - 1 = 9); using the relationship between addition and subtraction (e.g., knowing that 8 + 4 = 12, one knows 12 - 8 = 4); and creating equivalent but easier or known sums (e.g., adding 6 + 7 by creating the known equivalent 6 + 6 + 1 = 12 + 1 = 13). D. Work with addition and subtraction equations. M.1. OA.D.7 Understand the meaning of the equal sign as “has the same value/amount as” and determine if equations involving addition and subtraction are true or false.	**Outcomes:** Students will focus on geometry and time. They expand their knowledge of two- and three-dimensional shapes, partition shapes into halves and fourths, and tell time to the hour and half of an hour.
Essential Questions: Can students sort three-dimensional shapes? Can students use three-dimensional shapes to compose larger shapes? Can students draw and describe two-dimensional shapes?	**Vocabulary:** fourth, a half, category, data, difference, estimate, fourths, greater than, half-past, halves, length, less than, o'clock, sum, survey, teen number, two-digit number
Topic 1: **Flat and Solid Shapes**	
Lesson Frame: Sect. A Lesson 1	I can sort three-dimensional shapes and describe them.
Lesson Frame: Sect. A Lesson 2	I can use three-dimensional shapes to compose larger shapes.
Lesson Frame: Sect. A Lesson 3	I can describe two-dimensional shapes.
Lesson Frame: Sect. A Lesson 4	I can draw and describe two-dimensional shapes.
Lesson Frame: Sect. A Lesson 5	I can identify defining and non-defining attributes of triangles.
Lesson Frame: Sect. A Lesson 6	I can identify defining and non-defining attributes of squares and rectangles.
Lesson Frame: Sect. A Lesson 7	I can compose larger shapes from pattern blocks and describe the shapes.
Lesson Frame: Sect. A Lesson 8	I can work with two-dimensional and three-dimensional shapes.
Topic 2: **Halves and Quarters**	
Lesson Frame: Sect. B Lesson 9	I can partition circles and rectangles into halves and fourths and determine whether a shape is partitioned into equal pieces.
Lesson Frame: Lesson Frame: Sect. B Lesson 10	I can partition circles and rectangles into halves and fourths and use precise language to describe the pieces as a half of or a fourth of the whole shape.
Lesson Frame: Lesson Frame: Sect. B Lesson 11	I can compare the size of halves and fourths of the same shape and understand that partitioning a shape into more equal pieces creates smaller pieces.
Lesson Frame: Lesson Frame: Sect. B Lesson 12	I can work with shapes and numbers.
Topic 3: **Tell Time in Hours and Half Hours**	

Lesson Frame: Lesson Frame: Sect. C Lesson 13	I can tell and write time in hours.
Lesson Frame: Sect. C Lesson 14	I can learn about the position of the hands of an analog clock at half past the hour.
Lesson Frame: Sect. C Lesson 15	I can understand that times called half past are represented as __:30. I can write time in hours and half hours to match analog clocks.
Lesson Frame: Sect. C Lesson 16	I can show and write times in hours and half hours.
Lesson Frame: Sect. C Lesson 17	I can work with shapes and addition and subtraction.
Performance Tasks: *Observation (small group, whole group, individual) * Illustrative Math Cool Down * Illustrative Math Section Checkpoint *Illustrative Math End-of-Unit Assessment	Notes: *Individual student workbooks *Learn Zillion *Unit 7 Illustrative Math Teacher Guide *Illustrative Math Centers

Unit Name: **Length Measurements within 120 Units**	**Length:** 17-18 days
Standards: 1.MD.A.1 Order three objects by length; compare the lengths of two objects indirectly by using a third object. 1.MD.A.2 Express the length of an object as a whole number of length units, by laying multiple copies of a shorter object (the length unit) end to end; understand that the length measurement of an object is the number of same-size length units that span it with no gaps or overlaps. 1.NBT.A.1 Count to 120, starting at any number less than 120. In this range, read and write numerals and represent a number of objects with a written numeral. 1.NBT.B.3 Compare two two-digit numbers based on meanings of the tens and ones digits and describe the result of the comparison using words and symbols (>, =, and <). M.1.NBT.C.4 Add within 100, including adding a two-digit number and a one-digit number, and adding a two digit number and a multiple of 10, using concrete models or drawings and strategies based on place value, properties of operations, and/or the relationship between addition and subtraction; relate the strategy to a written method and explain the reasoning used. Understand that in adding two-digit numbers, one adds tens and tens, ones and ones; and sometimes it is necessary to compose a ten. 1.NBT.C.5 Given a two-digit number, mentally find 10 more or 10 less than the number, without having to count; explain the reasoning used. 1.OA.A.1 Use addition and subtraction within 20 to solve word problems involving situations of adding to, taking from, putting together, taking apart, and comparing, with unknowns in all positions by using objects, drawings, and equations with a symbol for the unknown number to represent the problem. 1.OA.A.2 Solve word problems that call for addition of three whole numbers whose sum is less than or equal to 20, e.g., by using objects, drawings, and equations with a symbol for the unknown number to represent the problem. 1.OA.B.4 Understand subtraction as an unknown-addend problem 1.OA.C.5 Use counting and subitizing strategies to explain addition and subtraction. 1.OA.C.6 Use multiple strategies to add and subtract within 20.	**Outcomes**: Students will extend their knowledge of linear measurement while continuing to develop their understanding of operations, algebraic thinking, and place value.
Essential Questions: Can students compare the length of objects by lining up the endpoints and order objects by length?	**Vocabulary:** category, data, difference, estimate, greater than, length, less than, sum, survey
Topic 1: **From Direct to Indirect Comparisons**	
Lesson Frame: Sect. A: Lesson 1	I can compare the length of objects by lining up the endpoints and order objects by length.
Lesson Frame: Sect. A: Lesson 1	I can compare the length of two objects indirectly by comparing each with the length of a third object.
Lesson Frame: Sect. A: Lesson 1	I can compare the length of two objects that cannot be compared directly.
Lesson Frame: Sect. A: Lesson 4 Center Day 1	I can add and subtract within 100.
Topic 2: **Measure by Iterating up to 120 Length Units**	Length:
Lesson Frame: Sect. B: Lesson 5	I can measure objects in connecting cube side lengths using connecting cube towers.
Lesson Frame: Sect. B: Lesson 6	I can measure length by iterating same-length units with no gaps or overlaps.
Lesson Frame: Sect. B: Lesson 7	I can measure length of objects using different length units and understand that the number associated with a length depends on the chosen unit.
Lesson Frame: Sect. B: Lesson 8	I can measure length and count and read numbers to 110.
Lesson Frame: Sect. B: Lesson 9	I can count, read, and write numbers up to 120 in a measurement context.
Lesson Frame: Sect. B: Lesson 10 Center Day 2	I can measure and add within 100.
Topic 3: **All Kinds of Story Problems**	
Lesson Frame: Sect. C: Lesson 11	I can use addition and subtraction to solve story problems about measurement.
Lesson Frame: Sect. C: Lesson 12	I can solve Compare story problems about measurement.
Lesson Frame: Sect. C: Lesson 13	I can solve Take From problems, with unknowns in all positions.
Lesson Frame: Sect. C: Lesson 14	I can analyze story problems and match addition and subtraction equations to them.

Lesson Frame: Sect. C: Lesson 15	I can solve story problems with unknowns in all positions using addition and subtraction.
Lesson Frame: Sect. C: Lesson 16	I can work with numbers to 120 and measuring lengths.
Lesson Frame: Sect. C: Lesson 17	I can use addition and subtraction to solve Compare story problems.
Performance Tasks: *Observation (small group, whole group, individual) * Illustrative Math Cool Down * Illustrative Math Section Checkpoint *Illustrative Math End-of-Unit Assessment	Notes: *Individual student workbooks *Learn Zillion *Unit 6 Illustrative Math Teacher Guide *Illustrative Math Centers

Unit Name: **Numbers to 99**	**Length:** 22-24 days
Standards: 1.NBT.A.1 Count to 120, starting at any number less than 120. In this range, read and write numerals and represent a number of objects with a written numeral. 1.NBT.B.2 Understand that the two digits of a two-digit number represent amounts of tens and ones. Understand the following as special cases:a. 10 can be thought of as a bundle of ten ones -- called a "ten".b. The numbers from 11 to 19 are composed of a ten and one, two, three, four, five, six, seven, eight, or nine ones.c. The numbers 10, 20, 30, 40, 50, 60, 70, 80, 90 refer to one, two, three, four, five, six, seven, eight, or nine tens (and 0 ones). 1.NBT.B.3 Compare two two-digit numbers based on meanings of the tens and ones digits and describe the result of the comparison using words and symbols (>, =, and <). 1.NBT.C.4 Add within 100, including adding a two-digit number and a one-digit number, and adding a two digit number and a multiple of 10, using concrete models or drawings and strategies based on place value, properties of operations, and/or the relationship between addition and subtraction; relate the strategy to a written method and explain the reasoning used. Understand that in adding two-digit numbers, one adds tens and tens, ones and ones; and sometimes it is necessary to compose a ten. 1.NBT.C.5 Given a two-digit number, mentally find 10 more or 10 less than the number, without having to count; explain the reasoning used. 1.NBT.C.6 Subtract multiples of 10 in the range 10-90 from multiples of 10 in the range 10-90 (positive or zero differences), using concrete models or drawings and strategies based on place value, properties of operations, and/or the relationship between addition and subtraction; relate the strategy to a written method and explain the reasoning used. 1.OA.A.1 Use addition and subtraction within 20 to solve word problems involving situations of adding to, taking from, putting together, taking apart, and comparing, with unknowns in all positions, e.g., by using objects, drawings, and equations with a symbol for the unknown number to represent the problem. 1.OA.C.5 Use counting and subitizing strategies to explain addition and subtraction. a. Relate counting to addition and subtraction (e.g., by counting on 2 to add 2). b. Use conceptual subitizing in unstructured arrangements with totals up to 10 and structured arrangements anchored to 5 or 10 (e.g., 10 frames, double ten frames, math rack/rekenrek) with totals up to 20 to relate the compositions and decompositions to addition and subtraction. 1.OA.C.6 Use multiple strategies to add and subtract within 20. a. Flexibly and efficiently add and subtract within 10 using strategies that may include mental images and composing/decomposing up to 10. b. Add and subtract within 20 using objects, drawings or equations. Use multiple strategies that may include counting on; making a ten (e.g., 8 + 6 = 8 + 2 + 4 = 10 + 4 = 14); decomposing a number leading to a ten (e.g., 13 - 4 = 13 - 3 - 1 = 10 - 1 = 9); using the relationship between addition and subtraction (e.g., knowing that 8 + 4 = 12, one knows 12 - 8 = 4); and creating equivalent but easier or known sums (e.g., adding 6 + 7 by creating the known equivalent 6 + 6 + 1 = 12 + 1 = 13). D. Work with addition and subtraction equations. 1.OA.D.7 Understand the meaning of the equal sign as “has the same value/amount as” and determine if equations involving addition and subtraction are true or false.	**Outcomes:** Students will develop an understanding of the structure of numbers in base ten, allowing them to see that two digits of a two-digit number represent how many tens and ones there are.
Essential Questions: Can students count groups of multiples of 10 objects? Can students interpret different base-ten representations of multiples of 10? Can students add and subtract 10 and multiples of 10 from 10 and multiples of 10? Can students add and subtract within 20? Can students use tens and ones? Can students compare numbers to 99? Can students make two-digit numbers and compare two-digit numbers?	**Vocabulary:** category, data, difference, estimate, greater than, less than, sum, survey, teen number
Topic 1: **Units of Ten**	
Lesson Frame: Sect. A: Lesson 1	I can count groups of multiples of 10 objects.
Lesson Frame: Sect. A: Lesson 2	I can interpret different base-ten representations of multiples of 10.
Lesson Frame: Sect. A: Lesson 3	I can add and subtract 10 from multiples of 10.
Lesson Frame: Sect. A: Lesson 4	I can add and subtract multiples of 10 from multiples of 10.
Lesson Frame: Sect. A: Lesson 5 Center Day 1	I can add and subtract multiples of 10 from multiples of 10, and add and subtract within 20.
Topic 2: **Tens and Ones**	
Lesson Frame: Sect. B: Lesson 6	I can organize, count, and represent a group of objects.
Lesson Frame: Sect. B: Lesson 7	I can understand that two-digit numbers are composed of tens and ones.
Lesson Frame: Sect. B: Lesson 9	I can represent the base-ten structure of two-digit numbers with drawings, words, and addition expressions that show the value of the tens and ones.
Lesson Frame: Sect. B: Lesson 10	I can write numbers to represent different base-ten representations including base-ten diagrams, tens, ones, and expressions that show the value of the tens and ones digits.
Lesson Frame: Sect. B: Lesson 11	I can add a two-digit number and a multiple of 10.
Lesson Frame: Sect. B: Lesson 12	I can use base-ten understanding to mentally determine 10 more or 10 less than a two-digit number.
Lesson Frame: Sect. B: Lesson 13 Center Day 2	I can add and subtract within 20 and work with two-digit numbers.
Topic 3: **Compare Numbers to 99**	

Lesson Frame: Sect. C: Lesson 14	I can compare two-digit numbers based on the value of the tens and ones digits and use "greater than" and "less than" to describe comparisons.
Lesson Frame: Sect. C: Lesson 15	I can learn the meaning of the symbols < and > and interpret comparison statements that use these symbols and the equal sign.
Lesson Frame: Sect. C: Lesson 16	I can compare numbers based on the value of the tens and ones digits and read and write comparisons using <, >, or =.
Lesson Frame: Sect. C: Lesson 17	I can compare and order numbers based on the value of tens and ones digits.
Lesson Frame: Sect. C: Lesson 18 Center Day 3	I can count, compare, and write two-digit numbers.
Topic 4: **Different Ways to Make a Number**	
Lesson Frame: Sect. D: Lesson 19	I can represent a two-digit number in more than one way, using tens and ones.
Lesson Frame: Sect. D: Lesson 20	I can represent two-digit numbers in different ways and identify two-digit numbers represented with different amounts of tens and ones.
Lesson Frame: Sect. D: Lesson 21	I can compare two-digit numbers that are represented in different ways.
Lesson Frame: Sect. D: Lesson 22 Center Day 4	I can use place value understanding to compare and write numbers.
Lesson Frame: Sect. D: Lesson 23	I can consider the magnitude of numbers to 99 by estimating and counting.
Performance Tasks: *Observation (small group, whole group, individual) * Illustrative Math Cool Down * Illustrative Math Section Checkpoint *Illustrative Math End-of-Unit Assessment	Notes: *Individual student workbooks *Learn Zillion *Unit 4 Illustrative Math Teacher Guide *Illustrative Math Centers

Unit Name: **Putting It All Together**	**Length:** 11 days
Standards: 1.MD.A.1 Order three objects by length; compare the lengths of two objects indirectly by using a third object. 1.MD.A.2 Express the length of an object as a whole number of length units, by laying multiple copies of a shorter object (the length unit) end to end; understand that the length measurement of an object is the number of same-size length units that span it with no gaps or overlaps. 1.NBT.A.1 Count to 120, starting at any number less than 120. In this range, read and write numerals and represent a number of objects with a written numeral. B. Understand place value. 1.NBT.B.2 Understand that the two digits of a two-digit number represent amounts of tens and ones. Understand the following as special cases: a. 10 can be thought of as a bundle of ten ones -- called a "ten". b. The numbers from 11 to 19 are composed of a ten and one, two, three, four, five, six, seven, eight, or nine ones. c. The numbers 10, 20, 30, 40, 50, 60, 70, 80, 90 refer to one, two, three, four, five, six, even, eight, or nine tens (and 0 ones). 1.NBT.B.3 Compare two two-digit numbers based on meanings of the tens and ones digits and describe the result of the comparison using words and symbols (>, =, and <).M.1.NBT.C.4 Add within 100, including adding a two-digit number and a one-digit number, and adding a two digit number and a multiple of 10, using concrete models or drawings and strategies based on place value, properties of operations, and/or the relationship between addition and subtraction; relate the strategy to a written method and explain the reasoning used. Understand that in adding two-digit numbers, one adds tens and tens, ones and ones; and sometimes it is necessary to compose a ten. 1.NBT.C.5 Given a two-digit number, mentally find 10 more or 10 less than the number, without having to count; explain the reasoning used. 1.NBT.C.6 Subtract multiples of 10 in the range 10-90 from multiples of 10 in the range 10-90 (positive or zero differences), using concrete models or drawings and strategies based on place value, properties of operations, and/or the relationship between addition and subtraction; relate the strategy to a written method and explain the reasoning used. 1.OA.A.1 Use addition and subtraction within 20 to solve word problems involving situations of adding to, taking from, putting together, taking apart, and comparing, with unknowns in all positions, e.g., by using objects, drawings, and equations with a symbol for the unknown number to represent the problem. 1.OA.A.2 Solve word problems that call for addition of three whole numbers whose sum is less than or equal to 20, e.g., by using objects, drawings, and equations with a symbol for the unknown number to represent the problem. B. Understand and apply properties of operations and the relationship between addition and subtraction. 1.OA.B.3 Apply properties of operations as strategies to add and subtract. Examples: If 8 + 3 = 11 is known, then 3 + 8 = 11 is also known. (Informal use of the commutative property of addition.) To add 2 + 6 + 4, the second two numbers can be added to make a ten, so 2 + 6 + 4 = 2 + 10 = 12 (Informal use of the associative property of addition.) 1.OA.B.4 Understand subtraction as an unknown-addend problem. For example, subtract 10 - 8 by finding the number that makes 10 when added to 8. 1.OA.C.5 Use counting and subitizing strategies to explain addition and subtraction. a. Relate counting to addition and subtraction (e.g., by counting on 2 to add 2). b. Use conceptual subitizing in unstructured arrangements with totals up to 10 and structured arrangements anchored to 5 or 10 (e.g., 10 frames, double ten frames, math rack/rekenrek) with totals up to 20 to relate the compositions and decompositions to addition and subtraction. 1.OA.C.6 Use multiple strategies to add and subtract within 20. a. Flexibly and efficiently add and subtract within 10 using strategies that may include mental images and composing/decomposing up to 10. b. Add and subtract within 20 using objects, drawings or equations. Use multiple strategies that may include counting on; making a ten (e.g., 8 + 6 = 8 + 2 + 4 = 10 + 4 = 14); decomposing a number leading to a ten (e.g., 13 - 4 = 13 - 3 - 1 = 10 - 1 = 9); using the relationship between addition and subtraction (e.g., knowing that 8 + 4 = 12, one knows 12 - 8 = 4); and creating equivalent but easier or known sums (e.g., adding 6 + 7 by creating the known equivalent 6 + 6 + 1 = 12 + 1 = 13). D. Work with addition and subtraction equations. 1.OA.D.7 Understand the meaning of the equal sign as “has the same value/amount as” and determine if equations involving addition and subtraction are true or false.	**Outcomes:** Students will revisit major work and fluency goals of the grade, applying their learning from the year.
Essential Questions: Can students fluently add within 10? Can students add and subtract within 10? Can students solve Add To and Take From, Change Unknown story problems? Can students solve Compare, Difference Unknown story problems? Can students organize, count, and represent a collection of up to 120 objects using place value understanding?	**Vocabulary:** fourth, a half, category, data, difference, estimate, fourths, greater than, half-past, halves, length, less than, o'clock, sum, survey, teen number, two-digit number
Topic 1: **Add and Subtract Within 20**	
Lesson Frame: Sect. A: Lesson 1	I can develop fluency with sums within 10.
Lesson Frame: Sect. A: Lesson 2	I can use the relationship between addition and subtraction to fluently add and subtract within 10.
Lesson Frame: Sect. A: Lesson 3	I can add and subtract within 10.
Topic 1: **Story Problems**	
Lesson Frame: Sect. B: Lesson 4	I can solve Add To and Take From, Change Unknown story problems.
Lesson Frame: Sect. B: Lesson 5	I can solve Put Together/Take Apart, Addend Unknown story problems.
Lesson Frame: Sect. B: Lesson 6	I can solve Compare, Difference Unknown story problems.
Topic 3: **Numbers to 120**	
Lesson Frame: Sect. C: Lesson 7	I can organize, count, and represent a collection of up to 120 objects or images using place value understanding.
Lesson Frame: Sect. C: Lesson 8	I can represent two-digit numbers in different ways to demonstrate place value understanding.
Lesson Frame: Sect. C: Lesson 9	I can use my understanding of place value to solve number riddles.
Performance Tasks: *Observation (small group, whole group, individual) * Illustrative Math Cool Down * Illustrative Math Section Checkpoint *Illustrative Math End-of-Unit Assessment	Notes: *Individual student workbooks *Learn Zillion *Unit 8 Illustrative Math Teacher Guide *Illustrative Math Centers

Course Name:	Grade 2 Mathematics		
Description:	A comprehensive collection of Mathematics topics including: addition, subtraction, telling time, place value, money, graphing, and fractions.		
Academic Standards:	Wisconsin State Standards in Mathematics (2021 revisions)	Board Approved Curriculum Resource: Illustrative Mathematics	
Units:	**Unit Length: 1 school year**	**Unit Power Standards:**	**Unit Outcomes:**
Operations & Algebraic Thinking	4 Quarters	M.2.OA.B.2 Flexibly and efficiently add and subtract within 20 using various strategies which may include counting on; making ten; decomposing a number leading to a ten; using the relationship between addition and subtraction; and creating equivalent but easier or known sums.	Students represent and solve problems with addition and subtraction and work with equal groups of objects to gain foundations for multiplication. Addition and subtraction can be represented on various models. Numbers are composed of other numbers. There are different problem solving structures which can be used to solve problems in multiple ways. Flexible methods of computation involve grouping numbers in strategic ways. Even numbered objects can be modeled using pairs. Compose rectangular arrays up to 5 rows and 5 columns.
Number Base Ten	1 Quarter	M.2.NBT.A.3 Read and write numbers to 1000 using base-ten numerals, number names, and expanded form.	Students focus on understanding and using place value and the properties of operations to add and subtract. Numbers are composed of other numbers. Place value is based on groups of ten. Place value can be used to understand and model properties of operations. Number patterns repeat predictable and can be generalized and applied.
Measurement & Data	1 Quarter	M.2.MD.C.7 Tell and write time from analog and digital clocks to the nearest 5 minutes, using A.M. and P.M.	Students show time to the nearest 5 minutes using analog and digital clocks. We use measurement and data, telling time, and money in our everyday life.

Unit Name: **Measurement & Data**	**Length:** One Quarter
Standards: I can measure the length of an object with the correct tool. I can recognize and draw shapes with specific attributes. I can tell and write time using analog and digital clocks to the nearest 5 minutes. I can draw a picture graph and a bar graph with single unit scale to represent a data set with up to four categories. I can count quarters, dimes, nickels and pennies up to one dollar. I can solve word problems involving dollar bills, quarters, dimes, nickels and pennies using $ and cent symbols.	**Outcomes:** We use measurement and data, telling time, and money in our everyday life.
Essential Questions: What is the process for measuring length? How can bar graphs and pictographs be used to show data and answer questions? How can we relate addition and subtraction to compare lengths? How do we tell time to 5 minutes? What strategies can be used to count money?	**Learning Targets:** 1. Students will measure the length of an object using units of inch, feet, centimeter, and meter. 2.Students will measure to determine how much longer one object os compared to another and using the term of standard length unit. 3. Students will draw and identify shapes with specific attributes. 4. Students will use analog and digital clocks to tell time to the nearest 5 minutes. 5. Students will draw a picture graph to represent a data set with up to four categories. 6. Students will solve word problems involving dollar bills, quarters, dimes, nickels, and pennies, using symbols appropriately.
Topic 1: **Measuring Length**	**Length:** 2 weeks
Standard(s): I can measure the length of an object with the correct tool.	**Academic Vocabulary:** length, inch, foot, yard, centimeter, meter, ruler, horizontal, vertical, width, height
Lesson Frame: measure in inches with a ruler	I can measure objects in inches using a ruler accurately.
Lesson Frame: measure in feet with a ruler or yardstick	I can measure objects in feet with a yardstick.
Lesson Frame: measure in centimeters with a ruler	I can measure objects in cm with a ruler.
Lesson Frame: relate addition and subtraction to length	I can add or subtract within 100 to solve word problems involving length that are given with the same unit, by using drawings (such as a number line) and equations with a symbol for the unknown number.
Performance Tasks: checkpoint assessment unit assessment informal and formal assessment Completion of Rubric	Notes: Activities may vary depending on individual needs. Materials needed: Inch and Centimeter rulers

Topic 2: **Geometry**	**Length:** 2 weeks
Standard(s): I can recognize and draw shapes with specific attribute.	**Academic Vocabulary:** square, rectangle, triangle, quadrilateral, pentagon, hexagon, opposite sides
Lesson Frame: Recognize Shapes: triangle, quadrilateral, pentagon, hexagon, cube	I can name shapes having specific attributes
Lesson Frame: Draw shapes with specific attributes; given number of sides, opposite sides, angles, face	I can draw shapes with specific attributes.
Performance Tasks: checkpoint assessment unit assessment informal and formal assessment Completion of Rubric	Notes: Activities may vary depending on individual needs. Materials needed: dry erase boards
Topic 3: **Telling Time to Nearest 5 minutes**	**Length:** 2 weeks
Standard(s): I can read and write the time on an analog and digital clock to the nearest five minutes.	**Academic Vocabulary:** clock, analog, digital, minute hand, hour hand, AM, PM
Lesson Frame: Tell time to the nearest 5 minutes	I can tell time on analog clocks and digital clocks to the nearest five minutes.
Lesson Frame: Determine if a time is AM or PM	I can tell if a time is AM or PM.
Performance Tasks: checkpoint assessment unit assessment informal and formal assessment Completion of Rubric	Notes: Activities may vary depending on individual needs. Materials needed: clock manipulatives, dry erase boards
Topic 4: **Money**	**Length:** 2 weeks
Standard(s): I can identify and count quarters, dimes, nickels, and pennies. I can solve word problems involving dollar bills, quarters, dimes, nickels, and pennies, using symbols appropriately.	**Academic Vocabulary:** penny, nickel, dime, quarter, dollar
Lesson Frame: Identify and count quarters, dimes, nickels & pennies	I can identify and count coins within a dollar.
Lesson Frame: Solve word problems using dollars and coins	I can count coins and dollars. I can solve word problems related to counting coins and dollars.

Performance Tasks: checkpoint assessment unit assessment informal and formal assessment Completion of Rubric	Notes: Activities may vary depending on individual needs. Materials needed: coin manipulatives, dry erase boards
Topic 5: **Represent and Interpret Data**	**Length:** 2 weeks
Standard(s): I can draw a picture graph and bar graph to represent data from a table. I can solve simple put-together, take-apart, and comparing problems using information presented in a bar graph.	**Academic Vocabulary:** picture graph, bar graph, data, table, horizontal, vertical, sort, survey, title, more, most, fewest, less, fewer, line segment, line plot
Lesson Frame: Picture Graphs and Bar Graphs	I can draw a picture graph and bar graph to represent data from a table.
Lesson Frame: Answer questions using a Bar Graph	I can put -together, take-apart, and compare numbers from a bar graph so solve simple problems.
Lesson Frame: Line Plots	I can plot points on a line segment to represent data.
Performance Tasks: Formal and informal assessment Completion of rubric	Notes: Activities may vary depending on individual needs. Manipulatives- dry erase boards

Unit Name: **Numbers & Operations Base 10**	**Length:** January through May
Standards: I can read numbers to 1,000 using base-ten numerals. I can read numbers to 1,000 using number names. I can read numbers to 1,000 using expanded-form. I can write numbers to 1,000 using base-ten numerals. I can write numbers to 1,000 using number names. I can write numbers to 1,000 using expanded-form. I can flexibly and efficiently add and subtract 2-digit numbers using place value. I can flexibly and efficiently add and subtract 3-digit numbers using place value.	**Outcomes:** Numbers are composed of other numbers. Place value is based on groups of ten. Place value can be used to understand and model properties of operations. Number patterns repeat predictable and can be generalized and applied.
Essential Questions: How can numbers to 100 be shown and compared? What number patterns are helpful in reading and writing numbers to 1,000? How does the position of a digit in a number affect its value? How do predictable patterns help me understand how number work? In what ways can numbers be composed or decomposed? What are efficient methods for finding sums and differences?	**Learning Targets:** 1. Students will compare numbers based on the value of the hundreds, tens, and ones digits, using >, <, and = symbols. 2. Students will read and write numbers to 1,000 using base-ten numerals, number names, and expanded form. 3. Students will fluently and efficiently add and subtract within 1,000, using concrete models or drawings and strategies based on place value, properties of operations, and/or the relationship between addition and subtraction.
Topic 1: **Reading numbers to 1,000**	**Length:** January through May
Standard(s): I can read numbers using base-ten numerals, number names, and expanded-form.	**Academic Vocabulary:** base-ten numerals, pattern, ones, tens, hundreds, thousands, decade numbers, expanded form, number name, greater than, less than, equal to
Lesson Frame: Base-ten numerals	I can: read numbers to 1,000 using base-ten numerals.
Lesson Frame: Number Names	I can: read numbers to 1,000 using number names.
Lesson Frame: Expanded-Form	I can: read numbers to 1,000 using expanded form.
Performance Tasks: checkpoint assessment unit assessment rubric	Notes: Activities may vary depending on individual needs. Various videos Dry erase math boards, base ten blocks, and other manipulatives
Topic 2: **Write Numbers to 1,000**	**Length:** January through May
Standard(s): I can write numbers using base-ten numerals, number names, and expanded-form.	**Academic Vocabulary:** base-ten numerals, pattern, ones, tens, hundreds, thousands, decade numbers, expanded form, number name, greater than, less than, equal to
Lesson Frame: Base-Ten Numerals	I can write numbers to 1,000 using base-ten numerals.
Lesson Frame: Number Names	I can write numbers to 1,000 using number names.
Lesson Frame: Expanded-Form	I can write numbers to 1,000 using expanded-form.

Performance Tasks: checkpoint assessment unit assessment Completion of rubric	Notes: Activities may vary depending on individual needs. Various videos Dry erase math boards, base ten blocks, and other manipulatives
Topic 3: **Addition and Subtraction using Place Value**	**Length:** January through May
Standards(s): I can flexibly and efficiently add numbers without regrouping I can flexibly and efficiently add numbers with regrouping. I can flexibly and efficiently subtract numbers without decomposing. I can flexibly and efficiently subtract numbers with decomposing.	**Academic Vocabulary:** sum, difference, ones, ten, hundreds, thousands, regroup, ungroup
Lesson Frame: Addition without regrouping	I can add numbers efficiently and flexibly without regrouping.
Lesson Frame: Addition with regrouping	I can add numbers efficiently and flexibly with regrouping.
Lesson Frame: Subtraction without decomposing	I can subtract numbers efficiently and flexibly without decomposing.
Lesson Frame: Subtraction with decomposing	I can subtract numbers efficiently and flexibly with decomposing
Performance Tasks: Formal and informal assessment, checkpoint and unit assessment completion of rubric	Notes: Activities may vary depending on individual needs dry erase boards base ten blocks and other math manipulatives

Unit Name: **Operations & Algebraic Thinking**	**Length:** Four Quarters
Standards: I can add & subtract within 20 using multiple strategies.	**Outcomes:** Addition and subtraction can be represented on various models. Numbers are composed of other numbers. There are different problem solving structures which can be used to solve problems in multiple ways. Flexible methods of computation involve grouping numbers in strategic ways. Even numbered objects can be modeled using pairs or rectangular arrays.
Essential Questions: What are some ways to think about addition and subtraction? What are strategies for finding addition and subtraction facts? Why do we have to know how to add and subtract quickly without mistakes? How can numbers be put together and taken apart to solve problems?	**Learning Targets:** 1. Students will add and subtract flexibly and efficiently. 2. Students will be able to determine whether a group of objects is odd or even. 3. Students will be able to skip-count by 2s, 5s, 10s, and 100s.
Topic 1: **Fluent computation to add and subtract**	**Length:** ongoing
Standard(s): I can add and subtract flexibly and efficiently within 20.	**Academic Vocabulary:** addend, sum, difference, double
Lesson Frame: Addition & subtractions within 20	I can add and subtract within 20 using flexible methods.
Performance Tasks: checkpoint assessment, unit assessment, formal and informal observation	Notes: activities may vary depending on individual needs
Topic 2: **Math Patterns**	**Length:** Ongoing
Standard(s): I can determine if a number is odd or even to gain foundations for multiplication. I can use number patterns.	**Academic Vocabulary:** odd, even
Lesson Frame: Odd and Even Numbers	I can: determine if a number is odd or even. I can write an equation to express an even number as a sum of two equal addends.
Lesson Frame: Skip Counting	I can count by 2's to 20. I can count by 5's to 100. I can count by 10's to 1000. I can count by 100's to 1000.
Performance Tasks: checkpoint assessment unit assessment Completion of rubric	Notes: Activities may vary depending on individual needs. Various videos Dry erase math boards, base ten blocks and other manipulatives

September	October	November	December	January	February	March	April	May	June
Operations & Algebraic Thinking									
				Numbers Base Ten					
						Measurement & Data			

Course Name:	3rd Grade Math		
Credits:	N/A		
Prerequisites:	N/A		
Description:	The big ideas in grade 3 include: developing understanding of multiplication and division and strategies for multiplication and division within 100; developing understanding of fractions, especially unit fractions (fractions with numerator 1); developing understanding of the structure of rectangular arrays and of area; and describing and analyzing two-dimensional shapes.		
Academic Standards	Wisconsin State Standards in Mathematics (2021)	Board Approved Curriculum Resource: Illustrative Mathematics	
Units:	**Unit Length:**	**Unit Standards:**	**Unit Outcomes:**
Introducing Multiplication	22-23 days	3.OA.A.1 3.OA.A.3 3.OA.A.4 3.OA.B.5 3.OA.C.7 3.OA.D.9 3.MD.B.3	Students represent and solve multiplication problems through the context of picture and bar graphs that represent categorical data.
Area and Multiplication	15-17 days (optional lessons 11, 15)	3.OA.A.1 3.OA.B.5 3.OA.D.9 3.NBT.A.2 3.MD.C.5 3.MD.C.6 3.MD.C.7	Students learn about area concepts and relate area to multiplication and to addition.
Wrapping Up Addition and Subtraction within 1,000	22-23 days (optional lesson 21)	3.NBT.A 1 3.NBT.A.2 3.OA.B.5 3.OA.C.7 3.OA.D.8 3.OA.D.9	Students use place value understanding to round whole numbers and add and subtract within 1,000. They also represent and solve two-step word problems using addition, subtraction, and multiplication and assess the reasonableness of answers.

Relating Multiplication to Division	23-24 days (optional lesson 22)	3.NBT.A.2 3.OA.A. 23.OA.A.3 3.MD.C.7.c 3.NBT.A.3 3.OA.B.6 3.OA.C.7 3.OA.D.9 3.OA.B.5 3.OA.D.8 3.MD.C.7 3.OA.A.4	Students learn about and use the relationship between multiplication and division, place value understanding, and the properties of operations to multiply and divide whole numbers within 100. They also represent and solve two-step word problems using the four operations.
Fractions as Number	21 days	3.NF.1 3.NF.2a 3.NF.2b 3.NF.3d 3.G.2 3.NF.3a 3.NF.3b 3.NF.3c 3.NF.3d 3.G.A.2 3.NF.A.1 3.OA.C.7 3.NF.A.2 3.NF.A.2.a 3.NF.A.2.b 3.NF.A.3.c 3.NF.A.3.a 3.NF.A.3.b 3.OA.B.5	Students develop an understanding of fractions as numbers and of fraction equivalence by representing fractions on diagrams and number lines, generating equivalent fractions, and comparing fractions.
Measuring Length, Time, Volume, Weight	18 days	3.MD.B.4 3.NF.A.3.c 3.OA.C.7 3.MD.A.2 3.NF.A 3.MD.A.1 3.NBT.A.2 3.OA.A.3	Students generate and represent length measurement data in halves and fourths of an inch on line plots. They learn about and estimate relative units of measure including weight, liquid volume, and time, and use the four operations to solve problems involving measurement.

Two-dimensional Shapes and Perimeter	18 days	3.G.A.1 3.NBT.A.3 3.OA.C.7 3.MD.D 3.MD.D.8 3.NBT.A.2 3.OA.D.8	Students reason about shapes and their attributes, with a focus on quadrilaterals. They solve problems involving the perimeter and area of shapes.

Unit Name: **Introducing Multiplication**	**Length:** 22-23 days
Standards: 3.OA.A.1 3.OA.A.3 3.OA.A.4 3.OA.B.5 3.OA.C.7 3.OA.D.9 3.MD.B.3	**Outcomes:** Students will represent and solve multiplication problems through the context of picture and bar graphs that represent categorical data. Students will create multiplication expressions from an array. Students will solve a multiplication expression with an unknown. Students will relate understand the commutative property of multiplication.
Essential Questions: Can you Interpret picture graphs and bar graphs to generate questions (orally and in writing) about the data? How can you represent data using bar graphs and picture graphs? Can you solve one- and two-step problems using addition and subtraction within 20? How can you choose an appropriate scale for a bar graph that represents a given data set? How can you solve one-step "how many more" and "how many fewer" problems within 100, based on the data presented in scaled bar graphs? Can you represent a situation involving equal groups in a way that makes sense? Can you interpret a situation involving equal groups and represent it with a diagram? Can you make sense of tape diagrams that represent multiplication? Are you able to write equations for multiplication situations and diagrams using a symbol for the unknown number? Can you solve multiplication problems involving arrays? Can you describe the commutative property of multiplication using arrays?	**Learning Targets:** Interpret scaled picture and bar graphs.Represent data using scaled picture and bar graphs.Solve one- and two-step story problems using addition and subtraction.Represent and solve multiplication problems involving equal groups.Understand multiplication in terms of equal groups.Represent and solve multiplication problems involving arrays and the commutative property of multiplication.
Topic 1: **Interpret and Represent Data on Scaled Graphs**	**Length:** 10 days
Standard(s): 3.MD.B 3.MD.B.3 3.MD.B.3	**Academic Vocabulary:** array, bar graph, equation, expression, factor, key, multiplication, picture graph, product, scaled bar graph, scaled picture graph
Lesson Frame: Make Sense of Data	I can read and ask questions about data.
Lesson Frame: Represent Data and Solve Problems	I can represent data and solve problems.
Lesson Frame: Scaled Picture Graphs	I can explore scaled picture graphs.
Lesson Frame: Create Scaled Picture Graphs	I can create scaled picture graphs.
Lesson Frame: Represent Data in Scaled Bar Graphs	I can represent data in scaled bar graphs.
Lesson Frame: Choose a Scale	I can choose a scale for a bar graph.

Lesson Frame: Answer Questions About Scaled Bar Graphs	I can answer questions using a scaled bar graph.
Lesson Frame: More Questions About Scaled Bar Graphs	I can answer more questions about scaled bar graphs
Performance Tasks: lesson cool downs, weekly fact fluency checks, section checkpoint	Notes:
Topic 2: **From Graphs to Multiplication**	**Length:** 8 days
Standard(s): 3.OA.A.1 3.OA.A.3 3.OA.A.4 3.OA.D.9 MP2, MP3, MP4, MP6, MP7, MP8	**Academic Vocabulary:** equation, variable, equal groups, tape diagram
Lesson Frame: Multiplication as Equal Groups	I can work with equal groups of things.
Lesson Frame: Drawings, situations and diagrams	I can represent equal groups
Lesson Frame: Multiplication Expressions	I can write multiplication expressions
Lesson Frame: Represent and Solve Multiplication Expressions	I can represent and solve problems involving equal groups.
Lesson Frame: Multiplication Equations	I can learn about multiplication equations.
Lesson Frame: Write and Solve equations with Unknowns	I can work with equations with unknown numbers.
Lesson Frame: More Factors More Problems	I can solve more multiplication problems.
Performance Task: lesson cool downs, weekly fact fluency checks, section checkpoint	Notes:
Topic 3: **Represent Multiplication with Arrays and the Commutative Property**	**Length:** 8 days
Standard(s): 3.OA.A.1 MP2 MP7 3.OA.A.3 3.OA.C.7 3.OA.D.9 MP8 3.OA.B.5 MP2 MP3 MP6 MP7	**Academic Vocabulary:** product, multiplier, commutative, factor, array
Lesson Frame: Arrange Objects into Arrays	I can describe arrays and arrange objects into arrays relating to multiplication.

Lesson Frame: Match and Draw Arrays	I can relate arrays to equal-groups drawings and describe arrays in terms of multiplication.
Lesson Frame: Represent Arrays with Expressions	I can represent multiplication situations with arrays and multiplication expressions.
Lesson Frame: Solving Problems Involving Arrays	I can represent an array situation using an equation with a symbol for the unknown number and solve.
Lesson Frame: The Commutative Property	I can describe the commutative property of multiplication using arrays.
Topic 3: Represent Multiplication with Arrays and the Communtative Property	Notes:

Unit Name: **Area and Multiplication**	**Length:** 17 days
Standards: 3.OA.A.1 3.OA.B.5 3.OA.D.9 3.NBT.A.2 3.MD.C.5 3.MD.C.6 3.MD.C.7	**Outcomes:** Students will know area concepts and relate area to multiplication and to addition.
Essential Questions: Can you describe concepts of area measurement? How can you relate area to multiplication? How can you find area of figures composed of rectangles?	**Learning Targets:** Describe the relative size of plane figures in their own language. Explore area by building shapes with unit squares. Use unit squares to measure area. Explain that rectangles that can be covered by the same number of unit squares without gaps or overlaps have the same area. Find the area of rectangles (within 24 square units) by counting unit squares. Describe and represent the area of a rectangle as the total number of unit squares arranged in equal groups of rows and columns. Find the area of rectangles (within 60 square units) by counting unit squares. Relate multiplication to finding the area of rectangles. Describe square units based on different linear units of measurement. Use square inches and square centimeters to measure the area of a rectangle. Use square feet and square meters to measure the area of a rectangle. Determine the area of rectangles not displayed on a grid. Find the area of rectangles by measuring and multiplying the side lengths. Solve real-world and mathematical problems involving area. Explore connections between area and the multiplication table. Find the area of figures composed of rectangles. Recognize that area is additive. Calculate the area of ungridded figures made of rectangles using multiplication and addition. Calculate the area of ungridded figures composed of rectangles, including figures with missing side lengths.
Topic 1: **Concepts of Area Measurement**	**Length:** 11 days
Standard(s): 3.MD.C.5 3.MD.C.5.a 3.MD.C.5.b 3.MD.C.6 3.OA.A.1 3.MD.C.5 3.MD.C.5.b MP6	**Academic Vocabulary:** length, width, area, square number, height, square units

Lesson Frame: What is Area?	I can recognize that different shapes cover different amounts of space.
Lesson Frame: How Do We Measure Area	I can explore area by building shapes with unit squares and use unit squares to measure area.
Lesson Frame: Tile Rectangles	I can explain that rectangles that can be covered by the same number of unit squares without gaps or overlaps have the same area and find the area of rectangles (within 24 square units) by counting unit squares.
Lesson Frame: Area of Rectangles	I can describe and represent the area of a rectangle as the total number of unit squares arranged in equal groups of rows and columns and find the area of rectangles (within 60 square units) by counting unit squares.
Performance Tasks: lesson cool downs, fact fluency checks, section checkpoint	Notes:
Topic 2: **Relate Area to Multiplication**	**Length:** 9 days
Standard(s): 3.OA.1 3.OA.2 3.OA.3 3.OA.4 3.OA.5 3.OA.6 3.OA.7 3.OA.8 3.OA.9 3.NBT.3 3.OA.B.5 3.OA.D.9 MP7	**Academic Vocabulary:** product, square unit, expression, rectangular area, meters, feet, inches, equal size groups
Lesson Frame: Represent Products as Area	I can relate multiplication to finding the area of rectangles.
Lesson Frame: Different Square Units (Part 1)	I can learn that there are different units that can be used to measure area, specifically square centimeters and square inches..
Lesson Frame: Different Square Units (Part 2)	I can use square feet and square meters to measure the area of a rectangle.
Lesson Frame: Area of Rectangles Without a Grid	I can determine the area of rectangles that are not fully gridded with squares.
Lesson Frame: Measure to Find the Area	I can find the area of rectangles by measuring and multiplying the side lengths.
Lesson Frame: Solve Area Problems	I can solve real-world and mathematical problems involving area.
Lesson Frame: Area and the Multiplication Table	I can explore connections between area and the multiplication table.
Performance Tasks: Lesson Cool Downs, fact fluency checks, Section Checkpoint	
Topic 3: **Find Area of Figures Composed of Rectangles**	**Length:** 7 days

Standard(s): MP3 3.MD.C.7.d MP7 MP2 3.NBT.A.2 MP3 MP4 MP1 3.MD.C.7.d 3.MD.C.7.b 3.MD.C.6 3.MD.C.5	**Academic Vocabulary:** decompose, additive, parentheses,expressions, equations, area, gridded, ungridded
Lesson Frame: Area and Addition	I can find the area of figures composed of rectangles, and recognize that area is additive.
Lesson Frame: Find the Area of Figures	I can calculate the area of ungridded figures made of rectangles using multiplication and addition.
Lesson Frame: Find the Area of Figures with Missing Sides	I can find the area of figures with missing side lengths.
Performance Tasks: Lesson Cool Downs, fluency checks, section checkpoint, Unit 2 Assessment	Notes:

Unit Name: **Fractions**	**Length**: 18 days
Standards: 3.G.A.2 3.NF.A.1 3.OA.C.7 3.NF.A.2 3.NF.A.2.a 3.NF.A.2.b 3.NF.A.3.c 3.NF.A.3.a 3.NF.A.3.b 3.OA.B.5	**Outcomes:** Students make sense of fractions as numbers, using various diagrams to represent and reason about fractions, compare their size, and relate them to whole numbers. The denominators of the fractions explored here are limited to 2, 3, 4, 6, and 8.
Essential Questions: Can students use fraction strips and tape diagrams to represent fractions? Are students able to think about fractions more abstractly: as lengths and locations on the number line? Are students able to identify 1 whole? Can students use the representations on tape diagrams and number lines to learn about equivalent fractions and to compare fractions? Are students able to see that fractions are equivalent if they are the same size or at the same location on the number line, and that some fractions are the same size as whole numbers? Can students compare fractions with the same denominator and those with the same numerator? Are they able to recognize that as the numerator gets larger, more parts are being counted, and as the denominator gets larger,the size of each part in a whole gets smaller?	**Learning Targets:** Understand that fractions are built from unit fractions such that a fraction a over b where a is the quantity formed by a parts of size 1 over b. Understand that unit fractions are formed by partitioning shapes into equal parts. Understand a fraction as a number and represent fractions on the number line. Explain equivalence of fractions in special cases and express whole numbers as fractions and fractions as whole numbers
Topic 1: **Introduction to Fractions**	**Length**: 6 days
Standard(s): 3.G.A.2 3.NF.A.1 3.OA.C.7 3.G.A.2 MP6 MP7	**Academic Vocabulary:** partition, parts, pieces, fraction, half, third, fourth, sixth, eighth, whole, unit fraction,
Lesson Frame: Name the Parts	I can partition shapes into 2, 3, 4, 6, or 8 parts with equal area and name those parts as halves, thirds, fourths, sixths, and eighths and recognize that equal-size parts in a shape can be named with numbers called fractions.
Lesson Frame: Name Parts as Fractions	I can express the area of each part as a unit fraction of the whole, and partition shapes into halves, thirds, fourths, sixths, and eighths.

Lesson Frame: Non-unit Fractions	I can understand a fraction a over b as the quantity formed by a parts of a size 1 over b, thus understand non-unit fractions.
Lesson Frame: Build Fractions from Unit Fractions	I can build non-unit fractions and whole numbers from unit fractions.
Lesson Frame: Section A Practice Problems	I can use the knowledge I learned in Section A lessons to complete practice problems.
Lesson Frame: Section A Checkpoint Quiz	I can complete a checkpoint quiz to show my understanding.
Performance Tasks: Lesson cool-downs, weekly fact fluency checks, Checkpoint Quiz	Notes:
Topic 2: **Fractions on the Number Line**	**Length:** 7-8 days
Standard(s): 3.NF.A.2 3.NF.A.2.a 3.NF.A.2.b 3.NF.A.3.c 3.OA.C.7	**Academic Vocabulary:** numerator, denominator, fraction, number line
Lesson Frame: To the Number Line	I can understand whole numbers on the number line as I work with number lines partitioned into fractions.
Lesson Frame: Locate Unit Fractions on the Number Line	I can partition the interval from 0 to 1 and locate unit fractions within that interval.
Lesson Frame: Non-unit Fractions on the Number Line	I can Locate non-unit fractions on the number line (including fractions greater than 1).
Lesson Frame: Fractions and Whole Numbers	I can locate whole numbers on the number line given the location of a unit fraction and express them as fractions and recognize that whole numbers can be written as fractions.
Lesson Frame: All Kinds of Numbers on the Number Line	I can locate 1 on the number line given the location of a non-unit fraction.
Lesson Frame: Section B Practice Problems	I can use the math knowledge I gained to complete practice problems from section B
Performance Tasks: Lesson Cool-downs, weekly fact fluency checks, Section B Checkpoint Quiz	Notes:
Topic 3: **Equivalent Fractions**	**Length:** 6 days
Standard(s): 3.NF.A.3.a 3.NF.A.3.b 3.NF.A.3.c 3.OA.B.5	**Academic Vocabulary:** equivalent fractions, equal length, fraction strips, tape diagrams, decomposing, fractional part
Lesson Frame: Equivalent Fractions	I can Identify equivalent fractions, and understand two fractions as equivalent if they are the same size and the parts refer to the same whole.
Lesson Frame: Generate Equivalent Fractions	I can use diagrams to explain or show fraction equivalence and use diagrams to generate equivalent fractions.

Lesson Frame: Equivalent Fractions on a Number Line	I can Identify and generate equivalent fractions and understand two fractions as equivalent if they are at the same point on a number line.
Lesson Frame: Whole Numbers and Fractions	I can express whole numbers as fractions and recognize fractions that are equivalent to whole numbers.
Lesson Frame: Section C Practice Problems	I can use the information that I learned in the lessons to complete related practice problems.
Performance Tasks: Lesson Cool-downs, weekly fact fluency checks, Section C Checkpoint Quiz	Notes:
Topic 4: **Fraction Comparisons**	**Length:** 8 days
Standard(s): 3.NF.A.2 3.NF.A.3 3.NF.A.3.c 3.NF.A.3.d	**Academic Vocabulary:** fraction, numerator, denominator, equivalent, comparison
Lesson Frame: How do you Compare Fractions?	I can represent and compare fractions in a way that makes sense to me.
Lesson Frame: Compare Fractions with the Same Denominator	I can compare two fractions with the same denominator by reasoning about their size.
Lesson Frame: Compare Fractions with the Same Numerator	I can compare two fractions with the same numerator by reasoning about their size.
Lesson Frame: Compare Fractions	I can compare two fractions with the same numerator or the same denominator and record the results of comparison with the symbols >, =, or <.
Lesson Frame: Design with Fractions	I can apply my understanding of fractions to create geometric designs.
Lesson Frame: Section D Practice Problems	I can use the knowledge I learned in Section D to complete practice problems.
Performance Tasks: lesson cool-downs, weekly fact-fluency checks, section D Checkpoint Quiz, Unit 5 Assessment	Notes:

Unit Name: **Measuring Length, Time, Liquid Volume, and Weight**	**Length:** 18 days
Standards: 3.MD.B.4 3.NF.A.3.c 3.OA.C.7 3.MD.A.2 3.NF.A 3.MD.A.1 3.NBT.A.2 3.OA.A.3	**Outcomes:** Students will be able to measure lengths using rulers marked with halves and fourths of an inch to generate data for making a line plot, measure and estimate weights and liquid volumes of objects, solve problems involving addition and subtraction of time intervals in minutes, tell time to the minute, and solve problems involving the four operations and measurement contexts.
Essential Questions: Are students able to measure lengths using rulers marked with halves and fourths of an inch to generate data for making a line plot? Can students measure and estimate weights and liquid volumes of objects? Can students solve problems involving addition and subtraction of time intervals in minutes.Tell time to the minute? Are students able to solve problems involving the four operations and measurement contexts?	**Learning Targets:** Measure lengths using a ruler marked with halves of an inch. Measure lengths using rulers marked with fourths of an inch. Measure lengths using a ruler marked with both halves and fourths of an inch. Use equivalent fractions to describe length measurements. Interpret line plots that display measurement data in fractions of an inch. Create a line plot where the horizontal scale is marked off in appropriate units— whole numbers, halves, or quarters—to represent measurement data. Generate measurement data by measuring lengths using a ruler marked with halves and fourths of an inch.
Topic 1: **Measurement Data on Line Plots**	**Length:** 8 days
Standard(s): 3.MD.B.4 3.NF.A.3.c 3.OA.C.7	**Academic Vocabulary:** gram, kilogram, liquid volume, liter, mixed number, weight
Lesson Frame: Measure in Halves of an Inch	I can measure lengths using a ruler marked with halves of an inch.
Lesson Frame: Measure in Fourths of an Inch	I can measure lengths using rulers marked with fourths of an inch.
Lesson Frame: Measure in Halves and Fourth of an Inch	I can measure lengths using a ruler marked with both halves and fourths of an inch, and use equivalent fractions to describe length measurements.
Lesson Frame: Interpret Measurement Data on Line Plots	I can interpret line plots that display measurement data in fractions of an inch.
Lesson Frame: Represent Measurement Data on Line Plots	I can create a line plot where the horizontal scale is marked off in appropriate units— whole numbers, halves, or quarters—to represent measurement data, and generate measurement data by measuring lengths using a ruler marked with halves and fourths of an inch.
Lesson Frame: Section A Practice Problems	I can use the information learned in Section A to complete practice problems.
Lesson Frame: Section A Checkpoint Quiz	I can complete the Section A Checkpoint Quiz
Performance Tasks: Lesson Cool-Downs, weekly fact fluency checks, Section A Checkpoint Quiz	Notes:

Topic 2: **Weight and Liquid Volume**	**Length:** 5 days
Standard(s): 3.MD.A.2 MP1 MP3 3.MD.A.2 MP4 3.OA.C.7 MP3 3.NF.A MP7	**Academic Vocabulary:** gram, kilogram, liquid volume, liter, mixed number, weight
Lesson Frame: Estimate and Measure Weight	I can measure and estimate weights of objects using standard units of grams (g) and kilograms (kg).
Lesson Frame: Introduction to Liquid Volume	I can measure and estimate liquid volumes of objects using standard units of liters (L).
Lesson Frame: Estimate and Measure Liquid Volume	I can recognize that rectangles with the same perimeter can have different areas, and rectangles with the same area can have different perimeters.
Lesson Frame: Section B Practice Problems	I can use what I've learned in Section B to do the practice problems.
Lesson Frame: Section B Checkpoint Quiz	I can use concepts learned in Section B to complete the Checkpoint Quiz
Performance Tasks: Lesson Cool-Downs, weekly fact fluency checks, Section B Checkpoint Quiz	Notes:
Topic 3: **Problems Involving Time**	**Length:** 5 days
Standards: 3.MD.A.1 MP6 3.MD.A.1 MP8 MP2	**Academic Vocabulary:** time, minute, hour, analog
Lesson Frame: Time to the Nearest Minute	I can tell and write time to the nearest minute
Lesson Frame: Solve Problems Involving Time (Part 1)	I can solve problems involving addition and subtraction of time intervals in minutes in a way that makes sense to them.
Lesson Frame: Solve Problems Involving Time (Part 2)	I can solve problems involving addition and subtraction of time intervals in minutes.
Lesson Frame: Section C Practice Problems	I can use what I've learned in Section C to do the practice problems.
Lesson Frame: Section C Checkpoint Quiz	I can use what I've learned in Section C to do the Checkpoint C Quiz.
Performance Tasks: Lesson Cool-Downs, weekly fact fluency checks, Section C Checkpoint Quiz	Notes:

Topic 4: **Measurement Problems in Context**	**Length:** 7 days
Standard(s): 3.MD.A.1 3.MD.A.2 3.NBT.A.2 3.OA.A.3 3.OA.C.7 3.MD.A.2 MP2 MP7 MP6 MP1 MP4 MP3	**Academic Vocabulary:**
Lesson Frame: Ways to Represent Measurement Situations	I can ask and answer questions about situations involving measurements, and interpret representations of situations involving measurements.
Lesson Frame: Problems with Missing Information	I can determine information that is needed to solve measurement problems, and solve one-step word problems involving weight.
Lesson Frame: What Makes Sense in the Problem	I can reason about quantities, questions, and solutions that make sense in measurement problems, and solve one-step word problems involving time and liquid volume.
Lesson Frame: Ways to Solve Problems and Show Solutions	I can analyze strategies for solving problems and for presenting solutions, and use the four operations to solve one-step word problems involving measurements.
Lesson Frame: Design a Carnival Game	I can apply knowledge of measurement and operations to design a game.
Lesson Frame: Section D Practice Problems	I can use knowledge learned in Section D to answer practice problems.
Lesson Frame: Section D Checkpoint Quiz	I can take the Section D Checkpoint Quiz
Performance Tasks: lesson cool-downs, weekly fact fluency checks, section checkpoint quizzes, Unit 6 Assessment	Notes:

Unit Name: **Wrapping Up Addition and Subtraction within 1,000**	**Length:** 23 days
Standards: 3.NBT.A.1 3.NBT.A.2 3.OA.B.5 3.OA.C.7 3.OA.D.8 3.OA.D.9	**Outcomes:** Students understand every number in a multidigit number has a value based on its location. Students know that each place value implies 10 units. Students interpret sums and differences of larger digit numbers in real world problems.
Essential Questions: How does place value support addition and subtraction? How can you use addition and subtraction to solve problems? What does it mean when a number is rounded? In what situations would rounding/estimating numbers be useful?	**Learning Targets:** Students use place value understanding to round whole numbers to the nearest 10 and 100. Students fluently add and subtract within 1000 using strategies and algorithms based on place value, properties of operations, and/or the relationship between addition and subtraction.
Topic 1: **Add Within 1,000**	**Length:** 7 days
Standard(s): 3.NBT.1 3.NBT.2 3.NBT.A.2 3.OA.D.9	**Academic Vocabulary:** Place value, place value drawing, ten, hundred, thousand, base ten block
Lesson Frame: Represent Numbers in Different Ways	I can represent numbers to 1,000 in different ways using place value understanding.
Lesson Frame: Addition and Subtraction Situations	I can solve addition and subtraction problems within 1,000 in a way that makes sense to me.
Lesson Frame: Add Your Way	I can add within 1,000 in a way that makes sense.
Lesson Frame: Introduction to Addition Algorithms	I can add within 1,000 and relate base-ten diagrams to written algorithms for addition.
Lesson Frame: Another Addition Algorithm	I can relate written algorithms to each other using place value understanding.
Lesson Frame: Use Strategies and Algorithms to Add	I can add within 1,000 using an algorithm or another strategy based on the numbers being added.
Performance Tasks: Lesson cool downs, weekly fact fluency checks, section checkpoint quiz	
Topic 2: **Subtract Within 1,000**	**Length:** 7 days
Standard(s): 3.NBT.A.2 3.OA.B.5	**Academic Vocabulary:** algorithms, grouping, base ten blocks, digit, difference, decompose
Lesson Frame: Subtract Your Way	I can subtract within 1,000 in a way that makes sense to me.
Lesson Frame: Subtraction Algorithms (Part 1)	I can relate base-ten diagrams to written algorithms for subtraction.
Lesson Frame: Subtraction Algorithms (Part 2)	I can analyze and use a subtraction algorithm with the numbers written in expanded form.
Lesson Frame: Subtraction Algorithms (Part 3)	I can relate subtraction algorithms to one another using place value understanding, and subtract numbers within 1,000 using another algorithm based on place value.

Lesson Frame: Analyze Subtraction Algorithms	I can analyze different steps in subtraction algorithms and reason about when certain steps might be more productive.
Lesson Frame: Subtract Strategically	I can subtract within 1,000 using algorithms or other strategies based on the numbers in the problem.
Lesson Frame: Section B practice problems	I can review and practice the skills worked on in section B.
Performance Tasks: lesson cool downs, weekly fact fluency checks, section checkpoint quiz	Notes:
Topic 1: **Round Within 1,000**	**Length:** 7 days
Standard(s): 3.NBT.A.1 3.OA.C.7 3.NBT.A.1 MP1 MP3 MP4 MP6 MP7 MP8	**Academic Vocabulary:** multiple, rounding, number line
Lesson Frame: Multiples of 100	I can recognize that numbers are often approximated by their closest multiples of 10 or 100, and understand the meaning of the nearest multiple of 100.
Lesson Frame: Nearest Multiples of 10 and 100	I can identify the closest multiples of 10 and 100 for numbers within 1,000.
Lesson Frame: Round to the Nearest Ten and Hundred	I can round whole numbers within 1,000 to the nearest ten and hundred, using the convention of rounding up when the number is halfway between two multiples of 10 or 100.
Lesson Frame: Round and Round Again	I can look for patterns in rounding.
Lesson Frame: Section C practice problems	I can practice and discuss skills I've learned.
Performance Tasks: Section C Checkpoint, weekly fact fluency checks, Unit 3 Assessment	Notes:

Unit Name: **Relating Multiplication to Division**	**Length:** 24 days
Standards: 3.NBT.A.2 3.OA.A.2 3.OA.A.3 3.MD.C.7.c 3.NBT.A.3 3.OA.B.6 3.OA.C.7 3.OA.D.9 3.OA.B.5 3.OA.D.8 3.MD.C.7 3.OA.A.4	**Outcomes:** Students use the relationship between multiplication and division, place value understanding, and the properties of operations to multiply and divide whole numbers within 100. They also represent and solve two-step word problems using the four operations.
Essential Questions: Can students represent and solve “how many groups?” and “how many in each group?” problems? Do students understand division as a missing-factor problem? Can students use properties of operations to develop fluency with single-digit multiplication facts, and their related division facts? Can students use properties of operations and place value understanding to develop strategies to multiply within 100 and to multiply one-digit numbers by a multiple of 10. Can students use properties of operations, place value understanding, and the relationship between multiplication and division to divide within 100?	**Learning Targets:** Solve “how many groups?” problems in a way that makes sense to them. Solve “how many in each group?” problems in a way that makes sense to them. Interpret and relate drawings and descriptions of division situations. Understand that a division situation may involve finding an unknown number of groups or finding an unknown number of objects in each group. Interpret division expressions. Understand that the same division expression can be used to represent both types of division situations. Solve “how many groups?” and “how many in each group?” problems. Write division expressions to represent division situations. Explain the relationship between multiplication and division equations. Interpret division equations and multiplication equations with a missing factor. Represent situations involving equal groups using multiplication and division equations with a symbol for the unknown quantity. Use multiplication and division within 100 to solve problems involving equal groups. Identify known single-digit multiplication facts and their related division facts. Identify arithmetic patterns in the multiplication table and use them to find unknown multiplication facts. Recognize that multiplication is commutative. Use area diagrams to explore strategies based on properties of multiplication. Apply associative and distributive properties of multiplication to find products within 100. Recognize that multiplication is associative and can be distributed over addition.
Topic 1: **Write Division Expressions**	**Length:** 7 days

Standard(s): 3.NBT.A.2 3.OA.A.2 3.OA.A.3 MP2 MP6 MP7 3.OA.A.2 3.NBT.A.2 MP3	**Academic Vocabulary:** factor, product, equal size groups, tape diagram, equal size drawings, array, division, division situation drawing
Lesson Frame: How Many Groups?	I can solve “how many groups?” problems in a way that makes sense to me.
Lesson Frame: How Many in Each Group	I can solve “how many in each group?” problems in a way that makes sense to me.
Lesson Frame: Division Situation Drawings	I can represent division situations with drawings.
Lesson Frame: Interpret Division Situations	I can Interpret division expressions and understand that the same division expression can be used to represent both types of division situations.
Lesson Frame: Write Division Expressions	I can write division expressions and solve “how many groups?” and “how many in each group?” problems.
Performance Tasks: Lesson Cool Downs, Fact Fluency Checks, Section Checkpoint	Notes:
Topic 2: **Relate Multiplication and Division**	**Length:** 8 days
Standard(s): 3.MD.C.7.c 3.NBT.A.3 3.OA.A.2 3.OA.A.3 3.OA.B.6 3.OA.C.7 3.OA.D.9	**Academic Vocabulary:** quotient, factor, equation, decompose, associative
Lesson Frame: Division as an Unknown Factor	I can explain the relationship between multiplication and division equations, and interpret division equations and multiplication equations with a missing factor.
Lesson Frame: Relate Multiplication and Division	I can represent situations involving equal groups using multiplication and division equations with a symbol for the unknown quantity, and use multiplication and division within 100 to solve problems involving equal groups.
Lesson Frame: Patterns in the Multiplication Table	I can identify arithmetic patterns in the multiplication table and use them to find unknown multiplication facts, and recognize that multiplication is commutative.
Lesson Frame: Explore Multiplication Strategies with Rectangles	I can use area diagrams to explore strategies based on properties of multiplication.
Lesson Frame: Multiplication Strategies on Ungridded Rectangles	I can apply associative and distributive properties of multiplication to find products within 100, and recognize that multiplication is associative and can be distributed over addition.

Performance Tasks: Lesson Cool Downs, Fact Fluency Checks, Section Checkpoint	Notes:
Topic 3: **Multiplying Larger Numbers**	**Length:** 8 days
Standard(s): 3.MD.C.7.c 3.NBT.A.3 3.OA.A.3 3.OA.B.5 3.OA.D.8	**Academic Vocabulary:** Multiples, place value, associative property of multiplication
Lesson Frame: Multiply Multiples of Ten	I can multiply one-digit whole numbers by multiples of 10 using strategies based on place value and the properties of operations.
Lesson Frame: Solve Problems with Equal Groups	I can multiply within 100, where one factor is a teen number, in a way that makes sense to them.
Lesson Frame: Lesson Frame: Ways to Represent Multiplication of Teen Numbers	I can make sense of representations of multiplication (base-ten blocks and area diagrams) where one factor is a teen number.
Lesson Frame: Equal Groups, Larger Numbers	I can solve some problems with equal groups that have larger numbers.
Lesson Frame: Multiply Numbers Larger than 20	I can multiply within 100, where one factor is greater than 20 and use properties based on place value and properties of operations to multiply.
Lesson Frame: Use the Four Operations to Solve Problems	I can represent two-step word problems using equations with a letter standing for the unknown quantity, and solve two-step word problems using the four operations.
Performance Tasks: Lesson Cool Downs, weekly fact fluency checks, section checkpoint quiz	Notes:
Topic 4: **Dividing Larger Numbers**	**Length:** 7days
Standard(s): 3.MD.C.7.c 3.NBT.A.3 3.OA.A.3 3.OA.B.5 3.OA.D.8	**Academic Vocabulary:** division, quotient, divisor
Lesson Frame: Larger Numbers in Equal Groups	I can solve problems involving division within 100, with quotients over 10, in a way that makes sense to me.
Lesson Frame: Ways to Divide Larger Numbers	I can recognize that division of larger numbers can still mean finding the number of groups or finding the size of each group, and use base-ten blocks to represent division where the quotient is more than 10.
Lesson Frame: Strategies for Dividing	I can analyze strategies for representing and reasoning about division, and divide within 100 using strategies based on place value and properties of operations.
Lesson Frame: Solve Problems Using the Four Operations	I can represent two-step word problems using equations with a letter standing for the unknown quantity, and solve two-step word problems using the four operations.

Lesson Frame: Use Skills to Design School Community Garden	I can represent and solve “How many groups?” and “How many in each group?” problems in a real world context, and solve two-step problems in a real world context
Performance Tasks:	Notes:

Unit 7: **Two-dimensional Shapes and Perimeter**	**Length:** 16 days
Standards: 3.G.A.1 3.NBT.A.3 3.OA.C.7 3.MD.D.8	**Outcomes:** Students will reason about shapes and their attributes, find the perimeter of two-dimensional shapes, including when all or some side lengths are given, solve problems involving perimeter and area, in and out of context, and apply geometric understanding to solve problems.
Essential Questions: Are students able to reason with shapes? Can students tell the perimeter of shapes? Are students able to expand their knowledge of perimeter by solving problems and drawing to specifications? Can students design with perimeter and area?	**Learning Targets:** Describe attributes of shapes.Sort shapes based on attributes in a way that makes sense to them. Sort triangles and quadrilaterals into subcategories. Understand that shared attributes of shapes can define a larger category, such as triangle or quadrilateral. Describe and identify shapes using their distinguishing attributes. Identify attributes of rhombuses, rectangles, and squares. Draw examples of quadrilaterals that are not rhombuses, rectangles, or squares. Understand that shapes can be in more than one category. Describe perimeter as the length of the boundary of a flat shape. Find the perimeter of two-dimensional shapes. Find the perimeter of two-dimensional shapes. Understand that many different shapes can have the same perimeter. Find the perimeter of two-dimensional shapes given all or some of the side lengths. Find unknown side lengths given the perimeter of a shape. Solve problems that involve perimeters of shapes. Solve problems that involve perimeter and area of rectangles. Draw rectangles with the same perimeter and different areas. Draw rectangles with the same area and different perimeters. Apply geometric understanding to solve problems about parks. Apply geometric understanding to solve problems about wax prints. Apply geometric understanding to solve problems about robots.
Topic 1: **Reason With Shapes**	**Length:** 7 days
Standards: 3.G.A.1 3.NBT.A.3 3.OA.C.7 MP6 MP7	**Academic Vocabulary:** angle in a shape, perimeter, right angle in a shape
Lesson Frame: What Attributes Do You See?	I can describe attributes of shapes, and sort shapes based on attributes in a way that makes sense to me.
Lesson Frame: Attributes of Triangles and Quadrilaterals	I can sort triangles and quadrilaterals into subcategories, and understand that shared attributes of shapes can define a larger category, such as triangle or quadrilateral.
Lesson Frame: Attributes that Define Shapes	I can describe and identify shapes using their distinguishing attributes.
Lesson Frame: Attributes of Rectangles, Rhombuses, and Squares	I can identify attributes of rhombuses, rectangles, and squares.

Lesson Frame: Attributes of Other Quadrilaterals	I can draw examples of quadrilaterals that are not rhombuses, rectangles, or squares, and understand that shapes can be in more than one category.
Lesson Frame: Practice Problems Section A	I can complete the practice problems from Section A.
Lesson Frame: Section A Checkpoint	I can complete the Checkpoint for Section A
Performance Tasks: Lesson Cool-downs, Section A Checkpoint, weekly fact fluency checks	Notes:
Topic 2: **What is Perimeter?**	**Length:** 6 days
Standard(s): 3.MD.D 3.MD.D.8 3.NBT.A.2 3.OA.C.7 MP7	**Academic Vocabulary:** perimeter
Lesson Frame: Distance Around Shapes	I can describe perimeter as the length of the boundary of a flat shape, and find the perimeter of two-dimensional shapes.
Lesson Frame: Same Perimeter, Different Shapes	I can find the perimeter of two-dimensional shapes, and understand that many different shapes can have the same perimeter.
Lesson Frame: Find the Perimeter	I can find the perimeter of two-dimensional shapes given all or some of the side lengths.
Lesson Frame: Perimeter Problems	I can find unknown side lengths given the perimeter of a shape, and solve problems that involve perimeters of shapes.
Lesson Frame: Section B Practice Problems	I can complete Section B practice problems.
Lesson Frame: Section B Checkpoint Quiz	I can complete the Section B Checkpoint Quiz
Performance Tasks: Lesson Cool-downs, Section B Checkpoint Quiz, weekly fact fluency checks	Notes:
Topic 3: **Expanding on Perimeter**	**Length:** 5 days
Standard(s): 3.MD.D.8 3.OA.C.7 3.OA.D.8 MP1 MP3 MP6 MP7	**Academic Vocabulary:** perimeter, area
Lesson Frame: Problem Solving with Perimeter and Area	I can solve problems that involve perimeter and area of rectangles.
Lesson Frame: Rectangles with the Same Perimeter	I can draw rectangles with the same perimeter and different areas.

Lesson Frame: Rectangles with the Same Area	I can draw rectangles with the same area and different perimeters.
Lesson Frame: Section C Practice Problems	I can work on Section C practice problems
Lesson Frame: Section C Checkpoint Quiz	I can complete the Section C Checkpoint Quiz
Performance Tasks: Lesson Cool-downs, weekly fact fluency checks, Section C Checkpoint Quiz	Notes:
Topic 4: **Design with Perimeter and Area**	**Length:** 6 days
Standard(s): MP1MP6 3.G.A.13.MD.D.8 MP4 MP2	**Academic Vocabulary:**
Lesson Frame: Shapes and Play	I can apply geometric understanding to solve problems about parks.
Lesson Frame: Wax Prints	I can apply geometric understanding to solve problems about wax prints.
Lesson Frame: Design Your Own Robot	I can draw rectangles with specified parameters to create a robot.
Lesson Frame: Section D Practice Problems	I can work on the Section D Practice Problems
Lesson Frame: Section D Checkpoint Quiz	I can complete Section D Checkpoint Quiz
Lesson Frame: Unit 7 Assessment	I can complete the Unit 7 Assessment
Performance Tasks: Lesson Cool-downs, weekly fact fluency checks, Section D Checkpoint Quiz, Unit 7 Assessment, End of Course Assessment	Notes:

Course Name:	4th Grade Mathematics		
Credits:	N/A		
Prerequisites:	N/A		
Description:	In Grade 4, instructional time focuses on several bi ideas: developing understanding and fluency with multi-digit multiplication, and developing understanding of dividing to find quotients involving multi-digit dividends; developing an understanding of fraction equivalence, addition and subtraction of fractions with like denominators, and multiplication of fractions by whole numbers; understanding that geometric figures can be analyzed and classified based on their properties, such as having parallel sides, perpendicular sides, particular angle measures, and symmetry.		
Academic Standards:	Wisconsin Standards for Mathematics (2021)	Board Approved Curriculum Resource: Illustrative Mathematics	
Units:	**Unit Length:**	**Unit Standards:**	**Unit Outcomes:**
Factors and Multiples	12 days	M.4.OA.A.3 M.4.OA.B.4 M.4.OA.C.5	Students should apply understanding of multiplication and area to work with factor pairs and multiples.
Fraction Equivalence and Comparison	22 days	4.NF.A.1 4.NF.A.2 4.NBT.B.4 4.NBT.B.5	Students should generate and reason about equivalent fractions and compare and order fractions with the following denominators: 2, 3, 4, 5, 6, 8, 10, 12, and 100.
Extending Operations to Fractions	25 days	4.NF.A.1 4.NF.A.2 4.NF.B.3 4.NF.B.3.a 4.NF.B.3.b. 4.NF.B.3.c 4.NF.B.3.d 4.NF.B.4 4.NF.B.4.a 4.NF.B.4.b 4.NF.B.4.c 4.NF.C.5	Students should learn that a fraction a/b is a product of a whole number 'a' and a unit fraction 1/b. Students should learn to add and subtract fractions with like denominators, and to add and subtract tenths and hundredths.
From Hundredths to Hundred-thousands	29 days	4.NF.C.5 4.NF.C.6 4.NF.C.7 4.NBT.A.1 4.NBT.A.2 4.NBT.A.3 4.NBT.B.4 4.NF.B.3.c	Students should read, write and compare numbers in decimal notation. Students should extend place value understanding for multi-digit whole numbers and add and subtract within 1,000,000.

Multiplicative Comparison and Measurement	23 days	4.NBT.B.5 4.OA.A.1 4.OA.A.2 4.OA.A.3 4.MD.A.1 4.MD.A.2 4.MD.A.3 4.NF.B.4 4.NF.B.4.c	Students should interpret, represent, and solve multiplicative comparison problems using an understanding of the relationship between multiplication and division. Students should use this thinking to convert units of measure within a given system from larger to smaller units.
Multiplying and Dividing Multi-digit Numbers	31 days	4.OA.A.3 4.OA.B.4 4.OA.C.5 4.MD.A.2 4.MD.A.3 4.NBT.B.4 4.NBT.B.5 4.NBT.B.6	Students should multiply and divide multi-digit whole numbers using partial products and partial quotients strategies, and apply this understanding to solve multi-step problems using the four operations.
Angles and Angle Measurements	21 days	4.G.A.1 4.MD.C.5 4.MD.C.5.a 4.MD.C.5.b 4.MD.C.6 4.MD.C.7 4.NBT.B.4 4.NBT.B.5 4.NBT.B.6	Students should learn to draw and identify points, rays, segments, angles, and lines, including parallel and perpendicular lines. Students should learn how to use a protractor to measure angles and draw angles of given measurements, and identify acute, obtuse, right, and straight angles in two-dimensional figures.
Properties of Two-Dimensional Shapes	14 days	4.G.A.1 4.G.A.2 4.G.A.3 4.MD.A.3 4.MD.C.7 4.NBT.B.5 4.NF.B.3.c 4.NF.B.4 4.NF.B.4.b	Students should classify triangles and quadrilaterals based on the properties of their side lengths and angles, and learn about lines of symmetry in two-dimensional figures. Students should use their understanding of these attributes to solve problems, including problems involving perimeter and area.

Unit Name: **Fraction Equivalence and Comparison**	**Length:** 22 days
Standards: 4.NF.A.1 Understand fraction equivalence. 4.NF.A.2 Compare fractions with different numerators and different denominators while recognizing that comparisons are valid only when the fractions refer to the same whole. 4.NBT.B.4 Flexibly and efficiently add and subtract multi-digit whole numbers using strategies. 4.NBT.B.5 Multiply a whole number of up to four digits by a one-digit whole number, and multiply two two-digit numbers, using strategies based on place value and the properties of operations.	**Outcomes:** Students should generate and reason about equivalent fractions and compare and order fractions with the following denominators: 2, 3, 4, 5, 6, 8, 10, 12, and 100.
Essential Questions: Are students able to use physical and visual representations to explain fractions? Are students able to make sense of the numerator and denominator of unit fractions? Are students able to locate fractions on a number line? Are students able to find equivalent fractions using visual representation? Are students able to explain equivalent fractions? Are students able to find equivalent fractions using factors and multiplies? Are students able to compare fractions using a visual representation? Are students able to compare fractions by finding equivalent fractions? Are students able to compare fractions by finding common denominators?	
Topic 1: Size and Location of Fractions	**Academic Vocabulary:** fraction, numerator, denominator, number line
Lesson Frame: Sect. A Lesson 1, 2	I can use physical and visual representations to explain fractions.
Lesson Frame: Sect. A Lesson 3, 4	I can make sense of the numerator and denominator of unit fractions.
Lesson Frame: Sect. A Lesson 5, 6	I can locate fractions on a number line.
Topic 2: Equivalent Fractions	**Academic Vocabulary:** numerator, denominator, equivalence, factors, multiples
Lesson Frame: Sect. B Lesson 7, 8	I can find equivalent fractions using visual representation.
Lesson Frame: Sect. B Lesson 9	I can explain equivalent fractions.
Lesson Frame: Sect. B Lesson 10, 11	I can find equivalent fractions using factors and multiplies.
Topic 3: Fraction Comparison	**Academic Vocabulary:** numerator, denominator, comparison, common denominator, equivalence
Lesson Frame: Sect. C Lesson 12	I can compare fractions using a visual representation.
Lesson Frame: Sect. C Lesson 13, 14	I can compare fractions by finding equivalent fractions.
Lesson Frame: Sect. C Lesson 15, 16	I can compare fractions by finding common denominators.

Performance Tasks: * Observation (small group, whole group, individual) * Illustrative Math Cool Down worksheets * Illustrative Math Section Checkpoint * Illustrative Math End-of-Unit Assessment	**Notes:** * Individual student workbooks * Learn Zillion * Unit 2 illustrative Math Teacher Guide * Illustrative Math Activity Cards * Illustrative Math Centers

Unit Name: Extending Operations to Fractions	**Length:** 25 days
Standards: 4.NF.A.1 Understand fraction equivalence. 4.NF.A.2 Compare fractions with different numerators and different denominators while recognizing that comparisons are valid only when the fractions refer to the same whole. 4.NF.B.3 Understand composing and decomposing fractions. 4.NF.B.3.a Understand addition and subtraction of fractions as joining and separating parts referring to the same whole. 4.NF.B.3.b. Decompose a fraction into a sum of unit fractions and/or multiples of that unit fraction. 4.NF.B.3.c Add and subtract fractions, including mixed numbers, with like denominators and related denominators. 4.NF.B.3.d Solve word problems involving addition and subtraction of fractions with like and related denominators. 4.NF.B.4 Apply and extend previous understandings of multiplication to multiply a whole number times a fraction. 4.NF.B.4.a Understand a fraction as a group of unit fractions or as a multiple of a unit fraction. 4.NF.B.4.b Represent a whole number times a non-unit fraction. 4.NF.B.4.c Solve word problems involving multiplication of a whole number times a fraction. 4.NF.C.5 Express a fraction with denominator 10 as an equivalent fraction with denominator 100, and use this technique to add two fractions with respective denominators 10 and 100.	**Outcomes:** Students should learn that a fraction a/b is a product of a whole number 'a' and a unit fraction 1/b. Students should learn to add and subtract fractions with like denominators, and to add and subtract tenths and hundredths.
Essential Questions: Are students able to interpret a diagram or expression as multiplication of a whole number and a unit fraction? Are students able to evaluate multiplication expressions as n x a/b, where n is the whole number? Are students able to solve problems involving multiplication or a fraction by a whole number? Are students able to add fractions? Are students able to subtract fractions? Are students able to analyze fractional measurements on a line plot? Are students able to use equivalence to add and subtract fractions? Are students able to find equivalent tenths and hundredths to add and subtract fractions? Are students able to solve problems that involve addition, subtraction, and multiplication?	
Topic 1: Equal Groups of Fractions	**Academic Vocabulary:** expression, unit fraction, multiply
Lesson Frame: Sect. A Lesson 1, 2, 4	I can interpret a diagram or expression as multiplication of a whole number and a unit fraction.
Lesson Frame: Sect. A Lesson 3, 4, 5	I can evaluate multiplication expressions as n x a/b, where n is the whole number.
Lesson Frame: Sect. A Lesson 4, 5, 6	I can solve problems involving multiplication or a fraction by a whole number
Topic 2: Addition and Subtraction of Fractions	**Academic Vocabulary:** decompose, line plot, addition, subtraction
Lesson Frame: Sect. B Lesson 7, 8, 12	I can add fractions.
Lesson Frame: Sect. B Lesson 9, 10, 11, 12	I can subtract fractions.
Lesson Frame: Sect. B Lesson 13, 14	I can analyze fractional measurements on a line plot.

Topic 3: Addition of Tenths and Hundredths	**Academic Vocabulary:** equivalence, tenths, hundredths, addition, subtraction, multiply
Lesson Frame: Sect. C Lesson 15	I can use equivalence to add and subtract fractions.
Lesson Frame: Sect. C Lesson 16, 17, 18	I can find equivalent tenths and hundredths to add and subtract fractions.
Lesson Frame: Sect. C Lesson 19, 20	I can solve problems that involve addition, subtraction, and multiplication.
Performance Tasks: * Observation (small group, whole group, individual) * Illustrative Math Cool Down worksheets * Illustrative Math Section Checkpoint * Illustrative Math End-of-Unit Assessment	**Notes:** * Individual student workbooks * Learn Zillion * Unit 3 illustrative Math Teacher Guide * Illustrative Math Activity Cards * Illustrative Math Centers

Unit Name: Angles and Angle Measurements	**Length:** 21 days
Standards: 4.G.A.1 Draw points, lines, line segments, rays, angles (right, acute, obtuse), and perpendicular and parallel lines. Identify these in two-dimensional figures. 4.MD.C.5 Recognize angles as geometric shapes that are formed wherever two rays share a common endpoint, and understand concepts of angle measurement. 4.MD.C.5.a An angle is measured with reference to a circle. 4.MD.C.5.b An angle that turns through n one-degree angles is said to have an angle measure of n degrees. 4.MD.C.6 Measure angles in whole-number degrees using a protractor. Sketch angles of specified measure. 4.MD.C.7 Recognize angle measure as additive. When an angle is decomposed into non-overlapping parts, the angle measure of the whole is the sum of the angle measures of the parts. 4.NBT.B.4 Flexibly and efficiently add and subtract multi-digit whole numbers using strategies or algorithms. 4.NBT.B.5 Multiply a whole number of up to four digits by a one-digit whole number, and multiply two two- digit numbers. 4.NBT.B.6 Find whole-number quotients and remainders with up to four-digit dividends and one-digit divisors.	**Outcomes:** Students should learn to draw and identify points, rays, segments, angles, and lines, including parallel and perpendicular lines. Students should learn how to use a protractor to measure angles and draw angles of given measurements, and identify acute, obtuse, right, and straight angles in two-dimensional figures.
Essential Questions: Are students able to draw points, lines, segments, and rays and identify them in geometric figures? Are students able to draw parallel and intersecting lines and identify them in drawings? Are students able to identify angles? Are students able to compare and describe angles, identifying the benchmark angles? Are students able to draw and identify perpendicular lines? Are students able to use a protractor to identify angle measurements? Are students able to identify and draw acute and obtuse angles? Are students able to compose and decompose angles to find measurements? Are students able to draw angles of given measurements? Are students able to	
Topic 1: Points, Lines, Segments, Rays, and Angles	**Academic Vocabulary:** points, line segments, lines, rays, parallel lines, intersecting lines, angles
Lesson Frame: Sect. A Lesson 1, 2	I can draw points, lines, segments, and rays and identify them in geometric figures.
Lesson Frame: Sect. A Lesson 3, 4	I can draw parallel and intersecting lines and identify them in drawings.
Lesson Frame: Sect. A Lesson 5	I can identify angles.
Topic 2: The Size of Angles	**Academic Vocabulary:** right angle, acute angle, obtuse angle, straight angle, circle, perpendicular lines, protractor
Lesson Frame: Sect. B Lesson 6, 7, 8	I can compare and describe angles, identifying the benchmark angles.
Lesson Frame: Sect. B Lesson 10, 16	I can draw and identify perpendicular lines.
Lesson Frame: Sect. B Lesson 9, 10, 11	I can use a protractor to identify angle measurements.

Topic 3: Angle Analysis	**Academic Vocabulary:** right angle, acute angle, obtuse angle, straight angle, compose, decompose
Lesson Frame: Sect. C Lesson 12, 16	I can identify and draw obtuse and acute angles.
Lesson Frame: Sect. C Lesson 13, 15, 16	I can compose and decompose angles to find measurements.
Lesson Frame: Sect. C Lesson 14, 16	I can draw angles of given measurements.
Performance Tasks: * Observation (small group, whole group, individual) * Illustrative Math Cool Down worksheets * Illustrative Math Section Checkpoint * Illustrative Math End-of-Unit Assessment	**Notes:** * Individual student workbooks * Learn Zillion * Unit 7 illustrative Math Teacher Guide * Illustrative Math Activity Cards * Illustrative Math Centers

Unit Name: **Factors and Multiples**	**Length:** 12 days
Standards: M.4.OA.A.3 Solve multi-step word problems posed with whole numbers and having whole-number answers using the four operations, including problems in which remainders must be interpreted. M.4.OA.B.4 Find all factor pairs for a whole number in the range 1-100. Recognize that a whole number is a multiple of each of its factors. M.4.OA.C.5 Generate a number or shape pattern that follows a given rule. Identify apparent features of the pattern that were not explicit in the rule itself.	**Outcomes:** Students should apply understanding of multiplication and area to work with factor pairs and multiples.
Essential Questions: Are students able to explain what factor pairs are? Are students able to explain what multiples are? Are students able to identify if a number is prime? Are students able to identify if a number is composite? Are students able to find factor pairs of given numbers? Are students able to find multiples of given numbers?	
Topic 1: Understanding Factors and Multiples	**Academic Vocabulary:** factor pairs, multiples, prime, composite, area
Lesson Frame: Sect. A Lesson 1	I can explain what multiples are.
Lesson Frame: Sect. A Lesson 2	I can explain what factor pairs are.
Lesson Frame: Sect. A Lesson 3 / Sect. B Lesson 6	I can determine if a number is prime.
Lesson Frame: Sect. A Lesson 3 / Sect. B Lesson 6	I can determine if a number is composite.
Topic 2: Finding Factor Pairs and Multiples	**Academic Vocabulary:** factor pairs, multiples, prime, composite, area
Lesson Frame: Sect. B Lesson 5, 6	I can find multiples by applying multiplication fluency.
Lesson Frame: Sect. B Lesson 6, 7	I can find factor pairs by applying multiplication fluency.
Performance Tasks: * Observation (small group, whole group, individual) * Illustrative Math Cool Down worksheets * Illustrative Math Section Checkpoint * Illustrative Math End-of-Unit Assessment	**Notes:** * Individual student workbooks * Learn Zillion * Unit 1 illustrative Math Teacher Guide * Illustrative Math Activity Cards * Illustrative Math Centers

Unit Name: From Hundredths to Hundred-thousands	**Length:** 29 days
Standards: 4.NF.C.5 Express a fraction with denominator 10 as an equivalent fraction with denominator 100, and use this technique to add two fractions with respective denominators 10 and 100. 4.NF.C.6 Use decimal notation for fractions with denominators 10 or 100, connect decimals to real-world contexts. 4.NF.C.7 Compare decimals to hundredths by reasoning about their size and using benchmarks. 4.NBT.A.1 Recognize that in a multi-digit whole number, a digit in one place represents ten times what it represents in the place to its right. 4.NBT.A.2 Read and write multi-digit whole numbers using base-ten numerals, number names, and expanded form. 4.NBT.A.3 Use place value understanding to generate estimates for real-world problem situations, with multi-digit whole numbers. 4.NBT.B.4 Use place value understanding to generate estimates for real-world problem situations, with multi-digit whole numbers. 4.NF.B.3.c Use place value understanding to generate estimates for real-world problem situations, with multi-digit whole numbers.	**Outcomes:** Students should read, write and compare numbers in decimal notation. Students should extend place value understanding for multi-digit whole numbers and add and subtract within 1,000,000.
Essential Questions: Are students able to recognize and make sense of the decimals tenths and hundredths in a variety of forms (square grids / numberline)? Are students able to compare and order decimals to the hundredths? Are students able to represent, read, and write multi-digit whole numbers up to 1,000,000? Are students able to describe that the value of a digit in one place represents ten times the place to the right of it? Are students able to compare and order whole numbers within 1,000,000? Are students able to identify closest multiples and round numbers to 1,000, 10,000, 100,000 and 1,000,000? Are students able to add multi-digit numbers up to 1,000,000 in a variety of methods? Are students able to subtract multi-digit numbers up to 1,000,000 in a variety of methods?	
Topic 1: Decimals with Tenths and Hundredths	**Academic Vocabulary:**
Lesson Frame: Sect. A Lesson 1, 2, 3	I can recognize and make sense of the decimals tenths and hundredths in a variety of forms (square grids / numberline).
Lesson Frame: Sect. A Lesson 3, 4, 5	I can compare and order decimals.
Topic 2: Place-value Relationships through 1,000,000	**Academic Vocabulary:**
Lesson Frame: Sect. B Lesson 6, 7, 8	I can represent, read, and write multi-digit whole numbers up to 1,000,000.
Lesson Frame: Sect. B Lesson 9, 10, 11	I can describe that the value of a digit in one place represents ten times the place to the right of it.
Topic 3: Compare, Order, and Round	**Academic Vocabulary:**
Lesson Frame: Sect. C Lesson 12, 13	I can compare and order whole numbers within 1,000,000.
Lesson Frame: Sect. C Lesson 14, 15, 16, 17	I can identify closest multiples and round numbers to 1,000, 10,000, and 100, 000.
Topic 4: Add and Subtract	**Academic Vocabulary:**

Lesson Frame: Sect. D Lesson 18, 19, 20, 22	I can add multi-digit numbers up to 1,000,000 in a variety of methods.
Lesson Frame: Sect. D Lesson 18, 19, 20, 21, 22	I can subtract multi-digit numbers up to 1,000,000 in a variety of methods.
Performance Tasks: * Observation (small group, whole group, individual) * Illustrative Math Cool Down worksheets * Illustrative Math Section Checkpoint * Illustrative Math End-of-Unit Assessment	**Notes:** * Individual student workbooks * Learn Zillion * Unit 4 illustrative Math Teacher Guide * Illustrative Math Activity Cards * Illustrative Math Centers

Unit Name: Multiplicative Comparison and Measurement	**Length:** 23 days
Standards: 4.NBT.B.5 Multiply a whole number of up to four digits by a one-digit whole number, and multiply two two-digit numbers. 4.OA.A.1 Interpret a multiplication equation as a multiplicative comparison. 4.OA.A.2 Multiply or divide to solve word problems involving multiplicative comparison. 4.OA.A.3 Solve multi-step word problems posed with whole numbers and having whole-number answers using the four operations, including problems in which remainders must be interpreted. 4.MD.A.1 Know relative sizes of measurement units within one system of units including km, m, cm; kg, g; lb., oz.; l, ml; hr., min., sec. 4.MD.A.2 Use the four operations to solve word problems involving distances, intervals of time, liquid volumes, masses of objects, and money. 4.MD.A.3 Apply the area and perimeter formulas for rectangles in real-world and mathematical problems. 4.NF.B.4 Apply and extend previous understandings of multiplication to multiply a whole number times a fraction. 4.NF.B.4.c Solve word problems involving multiplication of a whole number times a fraction by using visual fraction models and equations to represent the problem**.**	**Outcomes:** Students should interpret, represent, and solve multiplicative comparison problems using an understanding of the relationship between multiplication and division. Students should use this thinking to convert units of measure within a given system from larger to smaller units.
Essential Questions: Are students able to represent and solve multiplicative comparison problems? Are students able to solve one- and two-step problems involving multiplicative comparison? Are students able to identify the relationship (multiplicative) between the metric system? Are students able to solve multi-step problems that involve multiplicative comparison measurements? Are students able to describe the relationship between pounds and ounces? Are students able to describe the relationship the units of time (hours, minutes, seconds)? Are students able to use multiplicative comparisons to solve multi-step problems about weight and capacity? Are students able to use multiplicative comparisons to solve multi-step problems about length? Are students able to solve problems involving the perimeter of rectangles using the multiplicative comparison?	
Topic 1: Multiplicative Comparison	**Academic Vocabulary:** multiplicative comparisons
Lesson Frame: Sect. A Lesson 1, 2, 3, 4	I can represent and solve multiplicative comparison problems.
Lesson Frame: Sect. A Lesson 5, 6	I can solve one- and two-step problems involving multiplicative comparison.
Topic 2: Measurement Comparison	**Academic Vocabulary:** metric system, meters, centimeters, kilometers, grams, kilograms, liters, milliliters, pounds, ounces, hours, minutes, seconds, multi-step
Lesson Frame: Sect. B Lesson 7, 8, 9	I can identify the relationship (multiplicative) between the metric system.
Lesson Frame: Sect. B Lesson 10, 13	I can solve multi-step problems that involve multiplicative comparison measurements.
Lesson Frame: Sect. B Lesson 11	I can describe the relationship between pounds and ounces.
Lesson Frame: Sect. B Lesson 12	I can describe the relationship the units of time (hours, minutes, seconds).

Topic 3: Let's Put It to Work	**Academic Vocabulary:** pounds, ounces, gallons, quarts, cups, yards, feet, inches, perimeter, multi-step
Lesson Frame: Sect. C Lesson 14, 18	I can use multiplicative comparisons to solve multi-step problems about weight and capacity.
Lesson Frame: Sect. C Lesson 15, 18	I can use multiplicative comparisons to solve multi-step problems about length.
Lesson Frame: Sect. C Lesson 16, 17, 18	I can solve problems involving the perimeter of rectangles using the multiplicative comparison.
Performance Tasks: * Observation (small group, whole group, individual) * Illustrative Math Cool Down worksheets * Illustrative Math Section Checkpoint * Illustrative Math End-of-Unit Assessment	**Notes:** * Individual student workbooks * Learn Zillion * Unit 5 illustrative Math Teacher Guide * Illustrative Math Activity Cards * Illustrative Math Centers

Unit Name: Multiplying and Dividing Multi-digit Numbers	**Length:** 31 days
Standards: 4.OA.A.3 Solve multi-step word problems posed with whole numbers and having whole-number answers using the four operations, 4.OA.B.4 Find all factor pairs for a whole number in the range 1-100. Recognize that a whole number is a multiple of each of its factors. 4.OA.C.5 Generate a number or shape pattern that follows a given rule. 4.MD.A.2 Use the four operations to solve word problems involving distances, intervals of time, liquid volumes, masses of objects, and money. 4.MD.A.3 Apply the area and perimeter formulas for rectangles in real-world and mathematical problems. 4.NBT.B.4 Flexibly and efficiently add and subtract multi-digit whole numbers using strategies or algorithms. 4.NBT.B.5 Multiply a whole number of up to four digits by a one-digit whole number, and multiply two two- digit numbers. 4.NBT.B.6 Find whole-number quotients and remainders with up to four-digit dividends and one-digit divisors.	**Outcomes:** Students should multiply and divide multi-digit whole numbers using partial products and partial quotients strategies, and apply this understanding to solve multi-step problems using the four operations.
Essential Questions: Are students able to analyze and describe patterns? Are students able to extend numerical patterns using knowledge of place value and operations? Are students able to multiply multi-digit whole numbers by one-digit whole numbers in ways that make sense to them? Are students able to multiply two two-digit whole numbers using place value understanding and properties of operations? Are students able to multiply multi-digit whole numbers numbers by one- or two-digit whole numbers using partial products? Are students able to reason about division of two- and three-digit whole number by one-digit whole numbers in a variety of situations (equal groups, factors & multiples, and area)? Are students able to divide two- and three-digit numbers by one-digit whole numbers using base ten blocks and diagrams? Are students able to find whole number quotients and remainders using an algorithm that uses partial products? Are students able to interpret the result and remainder of division in situations? Are students able to solve multi-step problems in a ways that makes sense to them? Are students able to solve multi-step problems involving measurement conversions, perimeter, and area? Are students able to solve multi-step problems involving the four operations?	
Topic 1: Features of Patterns	**Academic Vocabulary:** patterns
Lesson Frame: Sect. A Lesson 1, 2	I can analyze and describe patterns.
Lesson Frame: Sect. A Lesson 1, 2, 3, 4	I can extend numerical patterns using knowledge of place value and numerical operations.
Topic 2: Multi-digit Multiplication	**Academic Vocabulary:** multiply, place value, partial products
Lesson Frame: Sect. B Lesson 5, 6, 7	I can multiply two-digit by one-digit whole numbers in ways that make sense to them.
Lesson Frame: Sect. B Lesson 8, 11, 12	I can multiply two two-digit numbers using place value understanding and properties of operations.
Lesson Frame: Sect. B Lesson 9, 10, 11, 12	I can multiply multi-digit whole numbers numbers by one- or two-digit whole numbers using partial products.
Topic 3: Multi-digit Division	**Academic Vocabulary:** division, base ten, remainders

Lesson Frame: Sect. C Lesson 13, 14, 15	I can reason about division of two- and three-digit number in a variety of situations (equal groups, factors and multiples, and area).
Lesson Frame: Sect. C Lesson 16, 17	I can divide two- and three-digit numbers by one-digit whole numbers using base ten blocks and diagrams.
Lesson Frame: Sect. C Lesson 18, 19	I can find whole number quotients and remainders using an algorithm that uses partial products.
Lesson Frame: Sect. C Lesson 20	I can interpret the result and remainder of division in situations.
Topic 4: Let's Put It Together: Problem Solving with Large Numbers	**Academic Vocabulary:** multi-step, perimeter
Lesson Frame: Sect. D Lesson 21, 22, 23, 24, 25	I can solve multi-step problems in a ways that makes sense to them.
Lesson Frame: Sect. D Lesson 22	I can solve multi-step problems involving measurement conversions, perimeter, and area.
Lesson Frame: Sect. D Lesson 23, 24, 25	I can solve multi-step problems involving the four operations.
Performance Tasks: * Observation (small group, whole group, individual) * Illustrative Math Cool Down worksheets * Illustrative Math Section Checkpoint * Illustrative Math End-of-Unit Assessment	**Notes:** * Individual student workbooks * Learn Zillion * Unit 6 illustrative Math Teacher Guide * Illustrative Math Activity Cards * Illustrative Math Centers

Unit Name: Properties of Two-Dimensional Shapes	**Length:** 14 days
Standards: 4.G.A.1 Draw points, lines, line segments, rays, angles (right, acute, obtuse), and perpendicular and parallel lines. Identify these in two-dimensional figures. 4.G.A.2 Classify two-dimensional figures based on the presence or absence of parallel or perpendicular lines, or the presence or absence of angles of a specified size. 4.G.A.3 Recognize a line of symmetry for a two-dimensional figure as a line across the figure such that the figure can be folded along the line into matching parts. 4.MD.A.3 Apply the area and perimeter formulas for rectangles in real-world and mathematical problems. 4.MD.C.7 Recognize angle measure as additive. When an angle is decomposed into non-overlapping parts, the angle measure of the whole is the sum of the angle measures of the parts. 4.NBT.B.5 Multiply a whole number of up to four digits by a one-digit whole number, and multiply two two- digit numbers. 4.NF.B.3.c Add and subtract fractions, including mixed numbers, with like denominators. 4.NF.B.4 Apply and extend previous understandings of multiplication to multiply a whole number times a fraction. 4.NF.B.4.b Apply and extend previous understandings of multiplication to multiply a whole number times a fraction.	**Outcomes:** Students should classify triangles and quadrilaterals based on the properties of their side lengths and angles, and learn about lines of symmetry in two-dimensional figures. Students should use their understanding of these attributes to solve problems, including problems involving perimeter and area.
Essential Questions: Are students able to classify two-dimensional shapes by angle size and and sides (lengths and types of lines)? Are students able to identify and draw lines of symmetry in two-dimensional figures? Are students able to find perimeters of two-dimensional shapes using their properties? Are students able to find unknown side lengths of two-dimensional shapes using their attributes? Are students able to solve problems involving symmetry, side lengths, and perimeter of two-dimensional shapes? Are students able to unknown angle measurements using attributes of two-dimensional shapes?	
Topic 1: Side Lengths, Angles, and Lines of Symmetry	**Academic Vocabulary:** two-dimensional shapes, symmetry
Lesson Frame: Sect. A Lesson 1, 2, 3	I can classify two-dimensional shapes by angle size and and sides (lengths and types of lines).
Lesson Frame: Sect. A Lesson 4, 5, 6	I can identify and draw lines of symmetry in two-dimensional figures.
Topic 2: Reason about Attributes to Solve Problems	**Academic Vocabulary:** perimeter, attributes, symmetry, unknown numbers
Lesson Frame: Sect. B Lesson 7	I can find perimeters of two-dimensional shapes using their properties.
Lesson Frame: Sect. B Lesson 8	I can find unknown side lengths of two-dimensional shapes using their attributes
Lesson Frame: Sect. B Lesson 9	I can solve problems involving symmetry, side lengths, and perimeter of two-dimensional shapes.
Lesson Frame: Sect. B Lesson 10	I can unknown angle measurements using attributes of two-dimensional shapes.

Performance Tasks: * Observation (small group, whole group, individual) * Illustrative Math Cool Down worksheets * Illustrative Math Section Checkpoint * Illustrative Math End-of-Unit Assessment	**Notes:** * Individual student workbooks * Learn Zillion * Unit 8 illustrative Math Teacher Guide * Illustrative Math Activity Cards * Illustrative Math Centers

Course Name:	5th Grade Math		
Credits:	N/A		
Prerequisites:	N/A		
Description:	In Grade 5, instructional time focuses on three critical areas: (1) developing flexible strategies with addition and subtraction of fractions, and developing understanding of the multiplication of fractions and of division of fractions in limited cases (unit fractions divided by whole numbers and whole numbers divided by unit fractions); (2) extending division to 2-digit divisors, integrating decimal fractions into the place value system and developing understanding of operations with decimals to hundredths, and developing flexibility with strategies to compute whole number and decimal operations; and (3) developing understanding of volume.		
Academic Standards:	2021 Wisconsin Standards for Mathematics	Board Approved Curriculum Resource: Illustrative Mathematics	
Units:	**Unit Length:**	**Unit Standards:**	**Unit Outcomes:**
Finding Volume	13-14 days	5.OA.A.1, 5.OA.A.2, 5.MD.C.3, 5.MD.C.4, 5.MD.C.5	Describe volume as the space taken up by a solid object. Measure the volume of a rectangular prism by finding the number of unit cubes needed to fill it. Use the layered structure in a rectangular prism to find volume. Describe the calculations from the previous section as length×width×height or area of the base×height. Find volume using length×width×height or area of the base×height. Find the volume of a figure composed of rectangular prisms.
Fractions as Quotients and Fraction Multiplication	17-19 days	5.OA.A.1, 5.OA.A.2, 5.MD.C.3, 5.MD.C.4, 5.MD.C.5	Represent and explain the relationship between division and fractions. Solve problems involving division of whole numbers leading to answers that are fractions. Connect division to multiplication of a whole number by a non-unit fraction. Connect division to multiplication of a whole number by a unit fraction. Explore the relationship between multiplication and division. Find the area of a rectangle when one side length is a whole number and the other side length is a fraction or mixed number. Represent and solve problems involving the multiplication of a whole number by a fraction or mixed number. Write, interpret and evaluate numerical expressions that represent multiplication of a whole number by a fraction or mixed number.
Multiplying and Dividing Fractions	19-22 days	5.NF.B.4, 5.NF.B.6, 5.NF.B.7	Recognize that ab×cd=a × cb × d and use this generalization to multiply fractions numerically. Represent and describe multiplication of a fraction by a fraction using area concepts. Divide a unit fraction by a whole number using whole-number division concepts. Divide a whole number by a unit fraction using whole-number division concepts. Solve problems involving fraction multiplication and division.

Wrapping up Multiplication and Division with Multi-Digit Numbers	21-23 days	5.MD.C.3, 5.MD.C.5, 5.NBT, 5.NBT.B, 5.NBT.B.5, 5.NF.B.4, 5.OA.A.2, 5.NBT.B.6, 5.NF.B.3	Multiply multi-digit whole numbers using the standard algorithm. Divide multi-digit whole numbers using strategies based on place value, properties of operations, and the relationship between multiplication and division. Multiply and divide to solve real-world and mathematical problems involving area and volume.
Place Value Patterns and Decimal Operations	26-28 days	5.NBT.A, 5.NBT.A.1, 5.NBT.A.3, 5.NBT.A.3.a, 5.NBT.A.3.b, 5.NBT.A.4, 5.OA.A, 5.NBT.B.7, 5.NF.B.4, 5.OA.A.1, 5.OA.A.2	Find whole number quotients of whole numbers with up to four-digit dividends and two-digit divisors, using strategies based on place value, the properties of operations, and/or the relationship between multiplication and division. Explain patterns in the number of zeros of the product when multiplying a number by powers of 10, and explain patterns in the placement of the decimal point when a decimal is divided or multiplied by a power of 10. Interpret multiplication as scaling.
More Decimal and Fraction Operations	21-23 days	5.MD.A.1, 5.NBT.A, 5.NBT.A.1, 5.NBT.A.2, 5.MD.B.2, 5.NF.A.1, 5.NF.A.2, 5.NF.B.4, 5.NF.B.5, 5.NF.B.5.a, 5.NF.B.5.b, 5.OA.A	Explain patterns when multiplying and dividing by powers of 10. Solve multi-step problems involving measurement conversions. Add and subtract fractions with unlike denominators. Create line plots to display fractional measurement data, and use the information to solve problems. Solve problems involving addition and subtraction of fractions. Interpret multiplication as scaling (resizing). Make generalizations about multiplying a whole number by a fraction greater than, less than and equal to 1.
Shapes on the Coordinate Plane	15 days	5.G.A.1, 5.G.B, 5.G.B.3, 5.G.B.4, 5.G.A.2, 5.NBT.B.7, 5.OA.A.2, 5.OA.B.3	Locate points on a coordinate grid.Classify triangles and quadrilaterals in a hierarchy based on angle measurements and side lengths. Generate, identify, and graph relationships between corresponding terms in two patterns, given a rule. Represent and interpret real world and mathematical problems on a coordinate grid.
Putting it all together	19-20 days	5.G.B.3, 5.G.B.4, 5.NBT.B.5, 5.NBT.B.6, 5.MD.C, 5.MD.C.5, 5.NBT.B.7, 5.NF.A.1, 5.NF.B.4, 5.G, 5.MD, 5.MD.C.3, 5.NBT, 5.NF, 5.NF.B.3, 5.OA	Divide multi-digit whole numbers using place value strategies and the properties of operations. Fluently multiply multi-digit whole numbers using the standard algorithm. Solve multi-step problems involving volume. Operate with fractions and decimals. Review the major work of the grade by creating and designing instructional routines.

Unit 1: **Finding Volume**	**Length:** 13-14 days
Standards: 5.OA.A.1, 5.OA.A.2, 5.MD.C.3, 5.MD.C.4, 5.MD.C.5	**Outcomes:** Describe volume as the space taken up by a solid object. Measure the volume of a rectangular prism by finding the number of unit cubes needed to fill it. Use the layered structure in a rectangular prism to find volume. Describe the calculations from the previous section as length×width×height or area of the base×height. Find volume using length×width×height or area of the base×height. Find the volume of a figure composed of rectangular prisms.
Essential Questions: What is volume? How do you determine volume using unit cubes? What are layers of rectangular prisms and how can they help determine volume? How is multiplication used in determining volume? How do you find the volume of an irregular prism? What expressions are useful in determining volume? How do you label an answer when determining volume?	**Learning Targets:** Students will be able to understand concepts of volume and relate volume to multiplication and to addition. Students will be able to write and interpret numerical expressions involving volume.
Topic 1: **Unit Cubes & Volume**	**Length:** 4 days
Standard(s): 5.MD.C.3, 5.MD.C.3.b, 5.MD.C.4	**Academic Vocabulary:** area, volume, unit cubes, rectangular prism
Lesson Frame: What is Volume?	I can describe volume as the space taken up by a solid object.
Lesson Frame: Measure Volume	I can use cubic units to find volume.
Lesson Frame: Volumes of Prism Drawings	I can find the volume of a rectangular prism using its layered structure.
Lesson Frame: Use Layers to Determine Volume	I can apply understandings to find volume when not all cubes are visible.
Performance Tasks: Cool Down Assessment (per lesson) Centers (when applicable) 5.1.A Checkpoint	Notes: -Use Section A Student Summary as a study guide. -Use Section A Practice Problems to review for checkpoint (in workbook or online) -Materials needed: connecting cubes -Blackline Masters (for copies): cm dot paper, card sort rectangular prism cards
Topic 2: **Expressions for Finding Volume**	**Length:** 3 days
Standard(s): 5.MD.C.4, 5.MD.C.5.a, 5.MD.C.5.b, 5.OA.A.1, 5.OA.A.2	**Academic Vocabulary:** cubic unit
Lesson Frame: Side Lengths of Rectangular Prisms	We will formalize the language used to describe side lengths of a rectangular prism.
Lesson Frame: Expressions for Volume	I can use my understanding of the structure of rectangular prisms to find volume and write numerical expressions to represent volume.
Lesson Frame: Cubic Units of Measure	I can find the volume of rectangular prisms in cubic centimeters, cubic inches, and cubic feet..

Performance Tasks: Cool Down Assessment (per lesson) Centers (when applicable) 5.1.B Checkpoint	Notes: -Use Section B Student Summary as a study guide. -Use Section B Practice Problems to review for checkpoint (in workbook or online) -Materials needed: connecting cubes, rulers, yardsticks -Blackline Masters (for copies): matching prisms and expressions, info gap volume cards
Topic 3: **Volume of Solid Figures**	**Length:** 5 days
Standard(s): 5.MD.C, 5.MD.C.5, 5.MD.C.5.c, 5.OA.A.1, 5.OA.A.2	**Academic Vocabulary:** n/a
Lesson Frame: Figures Made of Prisms	I can recognize the structure of a solid figure made up of two non-overlapping right rectangular prisms and understand that its volume is the sum of the volumes of the two rectangular prisms.
Lesson Frame: Measure Figures Made From Prisms	I can find the volume of figures composed of two non-overlapping right rectangular prisms by adding the volumes of the non-overlapping parts.
Lesson Frame: Represent Volume with Expressions	I can write, interpret, and evaluate numerical expressions that represent the volume of solid figures composed of two right rectangular prisms.
Lesson Frame: All Kinds of Prisms	I can apply what they have learned about finding the volumes of right rectangular prisms and figures composed of right rectangular prisms to solve real-world problems.
Lesson Frame: (OPTIONAL) Lots and Lots of Garbage	I can use my understanding of volume of rectangular prisms to solve a real world problem.
Performance Tasks: Cool Down Assessment (per lesson) Centers (when applicable) 5.1.C Checkpoint 5.1 End-of-Unit Assessment	Notes: -Use Section C Student Summary as a study guide. -Use Section C Practice Problems to review for checkpoint (in workbook or online) -Materials needed: connecting cubes, patty paper -Blackline Masters (for copies): isometric dot paper

Unit 2: **Fractions as Quotients and Fraction Multiplication**	**Length:** 17-19 days
Standards: 5.NF.B.3, 5.NF.B.4, 5.OA.A.1, 5.OA.A.2	**Outcomes:** Represent and explain the relationship between division and fractions. Solve problems involving division of whole numbers leading to answers that are fractions. Connect division to multiplication of a whole number by a non-unit fraction. Connect division to multiplication of a whole number by a unit fraction. Explore the relationship between multiplication and division. Find the area of a rectangle when one side length is a whole number and the other side length is a fraction or mixed number. Represent and solve problems involving the multiplication of a whole number by a fraction or mixed number. Write, interpret and evaluate numerical expressions that represent multiplication of a whole number by a fraction or mixed number.
Essential Questions: How do numerator and denominator fit with equal shares dividing? How can visual models and equations represent multiplication and division problems? What symbols can help you use and evaluate expressions when multiplying and dividing? What is decomposing area and why is it helpful to solve problems? How is estimation helpful when solving multiplication and division problems?	**Learning Targets:** Students will be able to apply and extend previous understandings of multiplication and division to multiply and divide fractions. Students will be able to write and interpret numerical expressions.
Topic 1: **Fractions as Quotients**	**Length:** 5 days
Standard(s): 5.NF.B.3	**Academic Vocabulary:** division, equal share, fraction, diagram, mixed number, numerator, denominator, pattern
Lesson Frame: Share Sandwiches	I can relate equal shares of objects to division and to fractions.
Lesson Frame: Share More Sandwiches	I can represent the relationship between division and fractions with diagrams and expressions.
Lesson Frame: Interpret Equations	I can write equations to represent division situations and relate each part of the equation to the situation.
Lesson Frame: Division Situations	I can solve division problems when the quotient is a fraction or mixed number.
Lesson Frame: Relate Division and Fractions	I can explain why a÷b=ab and apply my understanding to flexibly interpret division situations and equations where the unknown is the numerator, denominator, or the value of the quotient.
Performance Tasks: Cool Down Assessment (per lesson) Centers (when applicable) 5.2.A Checkpoint	Notes: -Use Section A Student Summary as a study guide. -Use Section A Practice Problems to review for checkpoint (in workbook or online) -Blackline Masters (for copies): sandwich match
Topic 2: **Fractions of Whole Numbers**	**Length:** 3 days
Standard(s): 5.NF.B.3, 5.NF.B.4, 5.NF.B.4.a, 5.OA.A.2, 5.NF.B	**Academic Vocabulary:** whole number, unit fraction
Lesson Frame: Relate Division and Multiplication	I can understand that dividing an amount into a whole number of equal parts can be interpreted as multiplying the same amount by a unit fraction.
Lesson Frame: Divide to Multiply Unit Fractions	I can solve problems involving multiplication of whole numbers by unit fractions and represent the problems with equations and diagrams.
Lesson Frame: Divide to Multiply Non-Unit Fractions	I can represent and solve problems involving a non-unit fraction.

Performance Tasks: Cool Down Assessment (per lesson) Centers (when applicable) 5.2.B Checkpoint	Notes: -Use Section B Student Summary as a study guide. -Use Section B Practice Problems to review for checkpoint (in workbook or online) -Blackline Masters (for copies): Match the Situation
Topic 3: **Area and Fractional Side Lengths**	**Length:** 9 days
Standard(s): 5.NF.B.3, 5.NF.B.4, 5.NF.B.4.a, 5.NF.B.4.b, 5.NF.B, 5.OA.A, 5.OA.A.1	**Academic Vocabulary:** decompose, distributive property, associative property, operation, estimate, mixed number
Lesson Frame: Relate Area to Multiplication	I can calculate the area of a rectangle whose side lengths are a unit fraction and a whole number in a way that makes sense.
Lesson Frame: Fractional Side Lengths Less Than 1	I can find the area of a rectangle with one non-unit fractional side length and represent the area of a rectangle with a multiplication expression.
Lesson Frame: Fractional Side Lengths Greater Than 1	I can find the area of a rectangle where one of the side lengths is a fraction greater than 1.
Lesson Frame: Decompose Area	I can decompose a rectangle to find its area.
Lesson Frame: Area and Properties of Operations	I can represent the decomposition of a rectangle with diagrams and expressions .
Lesson Frame: Area Situations	I can apply their understanding of multiplying a whole number by a fraction to solve mathematical and real-world problems.
Lesson Frame: Multiply More Fractions	I can multiply mixed numbers.
Lesson Frame: Estimate Products	I can estimate products of a whole number and a fraction.
Lesson Frame: (OPTIONAL) Mosaic Pictures	I can multiply fractions by whole numbers to find areas of rectangles.
Performance Tasks: Cool Down Assessment (per lesson) Centers (when applicable) 5.2.C Checkpoint 5.2 End of Unit Assessment	Notes: -Use Section C Student Summary as a study guide. -Use Section C Practice Problems to review for checkpoint (in workbook or online) -Blackline Masters (for copies): Grid Paper, Card Sort: Diagrams & Expressions, Info Gap: Area

Unit 3: **Multiplying and Dividing Fractions**	**Length:** 19-22 days
Standards: 5.NF.B.4, 5.NF.B.6, 5.NF.B.7	**Outcomes:** Recognize that ab×cd=a × cb × d and use this generalization to multiply fractions numerically. Represent and describe multiplication of a fraction by a fraction using area concepts. Divide a unit fraction by a whole number using whole-number division concepts. Divide a whole number by a unit fraction using whole-number division concepts. Solve problems involving fraction multiplication and division.
Essential Questions: How do you use previous understandings of multiplication and division to multiply or divide fractions? How does multiplication and division of fractions help to solve real world problems? How do you multiply fractions with whole numbers, other fractions, and mixed numbers? How do you divide fractions? Why are diagrams helpful when solving multiplication and division problems? Why is assessing reasonableness of an answer important when solving expressions or equations?	**Learning Targets:** Students will be able to apply and extend previous understandings of multiplication and division to multiply and divide fractions.
Topic 1: **Fraction Multiplication**	**Length:** 9 days
Standard(s): 5.NF.B.4, 5.NF.B.4.a, 5.NF.B.4.b, 5.NF.B.6	**Academic Vocabulary:** generalization
Lesson Frame: One Piece of One Part	I can represent and interpret a unit fraction of a unit fraction in ways that make sense.
Lesson Frame: Represent Unit Fraction Multiplication	I can write expressions to represent multiplication of unit fractions.
Lesson Frame: Multiply Unit Fractions	I can represent products of unit fractions using diagrams and equations.
Lesson Frame: Situations about Multiplying Fractions	I can represent and solve problems involving multiplication of a unit fraction and a non-unit fraction.
Lesson Frame: Multiplying a Unit Fraction by a Non-Unit Fraction	I can use diagrams and expressions to calculate the product of a unit fraction and a non-unit fraction.
Lesson Frame: Multiply Fractions	I can calculate areas of rectangles where both side lengths are non-unit fractions.
Lesson Frame: Generalize Fraction Multiplication	I can generalize strategies for calculating products of fractions.
Lesson Frame: Apply Fraction Multiplication	I can solve problems involving multiplication of fractions.
Lesson Frame: My Own Flag	I can solve real world problems involving multiplication of fractions.
Performance Tasks: Cool Down Assessment (per lesson) Centers (when applicable) 5.3.A Checkpoint	Notes: -Use Section A Student Summary as a study guide. -Use Section A Practice Problems to review for checkpoint (in workbook or online) -Materials: construction paper/work box for Activity #2 in Lesson 9 (Flag)
Topic 2: **Fraction Division**	**Length:** 7 days
Standard(s): 5.NF.B.7, 5.NF.B.7.a, 5.NF.B.7.b, 5.NF.B.7.c	**Academic Vocabulary:** dividend, divisor, quotient, reasonable

Lesson Frame: Concepts of Division	I can reason about the size of a quotient and consider the relationships between the dividend, divisor, and quotient.
Lesson Frame: Divide Unit Fractions by Whole Numbers	I can divide a unit fraction by a whole number, in context, in a way that makes sense.
Lesson Frame: Represent Division of Unit Fractions by Whole Numbers	I can use diagrams and equations to represent division of a unit fraction by a whole number.
Lesson Frame: Divide Whole Numbers by Unit Fractions	I can divide a whole number by a unit fraction in context, in a way that makes sense.
Lesson Frame: Represent Division of Whole Numbers by Unit Fractions	I can solve problems involving division of a unit fraction by a whole number and write equations to represent them.
Lesson Frame: Fraction Division Situations	I can write division situations and solve problems involving division of whole numbers and unit fractions.
Lesson Frame: Reason About Quotients	I can find quotients involving a whole number and a unit fraction and assess the reasonableness of my answers.
Performance Tasks: Cool Down Assessment (per lesson) Centers (when applicable) 5.3.B Checkpoint	Notes: -Use Section B Student Summary as a study guide. -Use Section B Practice Problems to review for checkpoint (in workbook or online) Blackline Masters: Fraction Division Problem Sort
Topic 3: **Problem Solving with Fractions**	**Length:** 4 days
Standard(s): 5.NF.B, 5.NF.B.4, 5.NF.B.6, 5.NF.B.7, 5.NF.B.7.b, 5.NF.B.7.c	**Academic Vocabulary:** n/a
Lesson Frame: Fraction Multiplication and Division Situations	I can solve problems involving multiplication and division with fractions.
Lesson Frame: Represent Situations with Multiplication and Division	I can apply my understanding of fraction multiplication and division to solve problems in context.
Lesson Frame: Fraction Games	I can use my understanding of fractions and division to make the largest and smallest expressions using given numbers.
Lesson Frame: (OPTIONAL) How Much in the Group?	I can solve fraction division problems that ask: “How many in one group?”
Performance Tasks: Cool Down Assessment (per lesson) Centers (when applicable) 5.3.C Checkpoint 5.3 End of Unit Assessment	Notes: -Use Section C Student Summary as a study guide. -Use Section C Practice Problems to review for checkpoint (in workbook or online) Blackline Masters: Info Gap: Tiles

Unit 4: **Wrapping up Multiplication and Division with Multi-Digit Numbers**	**Length:** 21-23 days
Standards: 5.MD.C.3, 5.MD.C.5, 5.NBT, 5.NBT.B, 5.NBT.B.5, 5.NF.B.4, 5.OA.A.2, 5.NBT.B.6, 5.NF.B.3	**Outcomes:** Multiply multi-digit whole numbers using the standard algorithm.Divide multi-digit whole numbers using strategies based on place value, properties of operations, and the relationship between multiplication and division. Multiply and divide to solve real-world and mathematical problems involving area and volume.
Essential Questions: What is estimation and how is it useful in calculating products and quotients? How are the partial products algorithm, partial quotients algorithm, and the standard algorithm similar and different? What are methods to multiply and divide whole numbers, fractions, and mixed numbers? In what ways is place value knowledge important when multiplying and dividing?	**Learning Targets:** Students will be able to understand concepts of volume and relate volume to multiplication and to addition. Students will be able to understand the place value system. Students will be able to perform operations with multi-digit whole numbers and with decimals to hundredths. Students will be able to apply and extend previous understandings of multiplication and division to multiply and divide fractions. Students will be able to write and interpret numerical expressions.
Topic 1: Multi-Digit Multiplication Using the Standard Algorithm	**Length:** 9 days
Standard(s): 5.MD.C.3, 5.MD.C.5, 5.NBT.B, 5.NBT.B.5, 5.OA.A.2, 5.NBT, 5.NF.B.4	**Academic Vocabulary:** standard algorithm, partial products, digit, composition(compose)
Lesson Frame: Estimate and Find Products	I can make estimates and calculations of products.
Lesson Frame: Partial Products with Diagrams	I can interpret partial products diagrams and multiply a three-digit number and a two-digit number.
Lesson Frame: Partial Products in Algorithms	I can multiply a three-digit number and a two-digit number and represent a partial products algorithm.
Lesson Frame: Standard Algorithm: One-Digit and Multi-Digit Numbers with Composing	I can use the standard algorithm to multiply up to five-digit numbers by one-digit factors, including composing new units.
Lesson Frame: Standard Algorithm: Multi-Digit Numbers without Composing	I can use the standard algorithm to multiply up to three-digit numbers and two-digit numbers, without composing new units.
Lesson Frame: Standard Algorithm: Multi-Digit Numbers with Composing	I can use the standard algorithm to multiply up to three-digit numbers and two-digit numbers, including composing new units.
Lesson Frame: Build Multiplication Fluency	I can use the standard algorithm to find products with any number of newly composed units.
Lesson Frame: Multiplication Fluency	I can play games to continue to develop fluency with multiplying multi-digit numbers with the standard algorithm.
Lesson Frame: The Birds	I can use whole-number multiplication to solve problems.
Performance Tasks: Cool Down Assessment (per lesson) Centers (when applicable) 5.4.A Checkpoint	Notes: -Use Section A Student Summary as a study guide. -Use Section A Practice Problems to review for checkpoint (in workbook or online) Blackline Masters: Partial Product Expressions, Number Cards (0-10), Greatest Product

Topic 2: **Multi-digit Division Using Partial Quotients**	**Length:** 8 days
Standard(s): 5.NBT.B.5, 5.NBT.B.6, 5.NF.B.3, 5.OA.A.2	**Academic Vocabulary:** Partial quotient, multiple, dividend, divisor
Lesson Frame: World's Record Folk Dance	I can estimate and solve multi-digit division problems in a way that makes sense.
Lesson Frame: Different Partial Quotients	I can use the relationship between multiplication and division and place value understanding to divide multi-digit numbers.
Lesson Frame: An Algorithm Using Partial Quotients	I can make sense of an algorithm using partial quotients.
Lesson Frame: Divide Using Partial Quotients	I can divide three-digit and four-digit dividends by two-digit divisors using an algorithm using partial quotients.
Lesson Frame: Practice an Algorithm Using Partial Quotients	I can practice using an algorithm using partial quotients.
Lesson Frame: Find Missing Side Lengths	I can solve problems involving area and volume using the relationship between multiplication and division.
Lesson Frame: World's Record Noodle Soup	I can estimate and solve multi-digit division with mixed number quotients.
Lesson Frame: Fractions as Partial Quotients	I can make sense of partial quotients using fractions.
Performance Tasks: Cool Down Assessment (per lesson) Centers (when applicable) 5.4.B Checkpoint	Notes: -Use Section B Student Summary as a study guide. -Use Section B Practice Problems to review for checkpoint (in workbook or online) Blackline Masters: Partial Quotient Expressions
Topic 3: **Let's Put it to Work**	**Length:** 4 days
Standard(s): 5.MD.C, 5.MD.C.5, 5.NBT.B.5, 5.NBT.B.6, 5.NF.B.7	**Academic Vocabulary:** n/a
Lesson Frame: Lots of Milk	I can estimate products and quotients of whole numbers.
Lesson Frame: Trash Talk	I can find areas by multiplying side lengths in situations where the side lengths are two- or three-digit numbers.
Lesson Frame: Shipping Trash	I can estimate and calculate products and quotients of whole numbers in order to understand the volume of recyclable plastic the United States ships abroad each year.
Lesson Frame: (OPTIONAL) Food Waste Journal	I can estimate and calculate products and quotients of whole numbers.
Performance Tasks: Cool Down Assessment (per lesson) Centers (when applicable) 5.4.C Checkpoint 5.4 End of Unit Assessment	Notes: -Use Section C Student Summary as a study guide. -Use Section C Practice Problems to review for checkpoint (in workbook or online) -Materials: meter sticks

Unit 5: **Place Value Patterns and Decimal Operations**	**Length:** 26-28 days
Standards: 5.NBT.A, 5.NBT.A.1, 5.NBT.A.3, 5.NBT.A.3.a, 5.NBT.A.3.b, 5.NBT.A.4, 5.OA.A, 5.NBT.B.7, 5.NF.B.4, 5.OA.A.1, 5.OA.A.2	**Outcomes:** Find whole number quotients of whole numbers with up to four-digit dividends and two-digit divisors, using strategies based on place value, the properties of operations, and/or the relationship between multiplication and division. Explain patterns in the number of zeros of the product when multiplying a number by powers of 10, and explain patterns in the placement of the decimal point when a decimal is divided or multiplied by a power of 10. Interpret multiplication as scaling.
Essential Questions: Why is knowing place value important when reading, writing, calculating, rounding, and comparing decimals? What symbols are useful to know and use when writing and interpreting expressions? How can you add and subtract decimals? How can you multiply and divide decimals? What patterns can you generalize when using zeros in multiplying? How can analyzing mistakes make you a stronger math student?	**Learning Targets:** Students will be able to understand the place value system. Students will be able to perform operations with multi-digit whole numbers and with decimals to hundredths. Students will be able to write and interpret numerical expressions.
Topic 1: **Numbers to Thousandths**	Length: 10 days
Standard(s): 5.NBT.A, 5.NBT.A.1, 5.NBT.A.3, 5.NBT.A.3.a, 5.NBT.A.3.b, 5.NBT.A.4, 5.OA.A	**Academic Vocabulary:** number line, tenths, hundredths, thousandths, expanded form, rounding, order, inequality
Lesson Frame: What is 1 Thousandth?	I can understand the relationship between one tenth, one hundredth and one thousandth.
Lesson Frame: Thousandths on Grids and in Words	I can read and write decimals to the thousandths place and represent the decimals with diagrams.
Lesson Frame: Thousandths in Expanded Form	I can represent decimals to the thousandths place in expanded form.
Lesson Frame: Explore Place Value Relationships	I can explore place value relationships between tenths, hundredths, and thousandths.
Lesson Frame: Compare Decimals	I can compare decimals to the thousandths place.
Lesson Frame: Compare Decimals on the Number Line	I can compare two decimals based on the value of the digits in each place, using >, =, and < symbols to record the results of comparisons and represent decimals on a number line.
Lesson Frame: Round Doubloons	I can examine situations where decimal quantities are rounded.
Lesson Frame: Round Decimals	I can round decimals to the nearest whole, tenth, and hundredth.
Lesson Frame: Order Decimals	I can order decimals within the thousandths place.
Lesson Frame: Solve Problems with Decimals	I can round decimals to different place values and order them.
Performance Tasks: Cool Down Assessment (per lesson) Centers (when applicable) 5.5.A Checkpoint	Notes: -Use Section A Student Summary as a study guide. -Use Section A Practice Problems to review for checkpoint (in workbook or online) Materials: chart paper, coloring utensils, Blackline Masters: Small Grids
Topic 2: **Add and Subtract Decimals**	**Length:** 6 days

Standard(s): 5.NBT.B.7	**Academic Vocabulary:** n/a
Lesson Frame: Make Sense of Decimal Addition	I can add decimals in a way that makes sense.
Lesson Frame: Estimate and Add	I can add decimals to the hundredths place using strategies based on place value.
Lesson Frame: Analyze Addition Mistakes	I can add decimals and consider common errors in lining up place values when adding with the standard algorithm.
Lesson Frame: Make Sense of Decimal Subtraction	I can subtract decimals to the hundredths in a way that makes sense.
Lesson Frame: Estimate and Subtract	I can estimate and find the value of subtraction expressions with decimals.
Lesson Frame: Addition and Subtraction	I can add and subtract decimals to the hundredths using strategies based on place value.
Performance Tasks: Cool Down Assessment (per lesson) Centers (when applicable) 5.5.B Checkpoint	Notes: -Use Section B Student Summary as a study guide. -Use Section B Practice Problems to review for checkpoint (in workbook or online) -Materials: Chart paper, coloring utensils, number cubes, -Blackline Masters: Target Numbers Stage 8 & 9 Recording Sheets, Small Grids,
Topic 3: **Multiply Decimals**	Length: 5 days
Standard(s): 5.NBT.A.1, 5.NBT.B.7, 5.NF.B.4, 5.OA.A, 5.OA.A.1, 5.OA.A.2	**Academic Vocabulary:** associative property of multiplication, distributive property, compensation
Lesson Frame: Multiply Decimals and Whole Numbers	I can multiply a whole number by tenths and hundredths in a way that makes sense.
Lesson Frame: Use Whole Number Facts	I can multiply a whole number and a decimal using properties of operations and place value understanding.
Lesson Frame: Use Properties to Multiply Decimals	I can use properties of operations to interpret and evaluate multiplication expressions with decimals and whole numbers.
Lesson Frame: Products in the Hundredths Place	I can find products of tenths and tenths.
Lesson Frame: Multiply More Decimals	I can calculate products of decimals using whole number products and place value understanding.
Performance Tasks: Cool Down Assessment (per lesson) Centers (when applicable) 5.5.C Checkpoint	Notes: -Use Section C Student Summary as a study guide. -Use Section C Practice Problems to review for checkpoint (in workbook or online) Materials: Blackline Masters: Small Grids, Decimal Multiplication Expression Card Sort
Topic 4: **Divide Decimals**	**Length:** 5 days
Standard(s): 5.NBT.A.3, 5.NBT.B.7, 5.OA.A.2	**Academic Vocabulary:** n/a
Lesson Frame: Divide Whole Numbers by 0.1 and 0.01	I can divide whole numbers by one tenth and one hundredth.
Lesson Frame: Divide Whole Numbers by Decimals	I can divide whole numbers by decimals to the hundredths using strategies based on place value.
Lesson Frame: Divide Decimals by Whole Numbers	I can divide decimals to the hundredths by whole numbers.
Lesson Frame: Divide Decimals by Decimals	I can divide decimals greater than 1 by decimals less than 1.

Lesson Frame: (OPTIONAL) Book Drive	I can apply my understanding of working with decimal numbers in an applied context.
Performance Tasks: Cool Down Assessment (per lesson) Centers (when applicable) 5.5.D Checkpoint 5.5 End of Unit Assessment	Notes: -Use Section D Student Summary as a study guide. -Use Section D Practice Problems to review for checkpoint (in workbook or online) -Blackline Masters: Small Grids

Unit 6: **More Decimal and Fraction Operations**	**Length:** 21-23 days
Standards: 5.MD.A.1, 5.NBT.A, 5.NBT.A.1, 5.NBT.A.2, 5.MD.B.2, 5.NF.A.1, 5.NF.A.2, 5.NF.B.4, 5.NF.B.5, 5.NF.B.5.a, 5.NF.B.5.b, 5.OA.A	**Outcomes:** Fluently multiply multi-digit whole numbers using the standard algorithm. Write and interpret numerical expressions. Solve real world problems involving addition, subtraction, multiplication, division, fractions, and decimals problems. Use models or drawings and strategies based on place value and properties of operations.
Essential Questions: How is converting measurement units different between the metric system and the customary system? What are exponents and how do they affect your base number? What is a line plot and how might it connect to real life? Why is a common denominator necessary when adding and subtracting fractions? What steps are important when solving all the way through a multi-step problem?	**Learning Targets:** Students will be able to convert like measurement units within a given measurement system. Students will be able to represent and interpret data. Students will be able to understand the place value system. Students will be able to use equivalent fractions as a strategy to add and subtract fractions. Students will be able to apply and extend previous understandings of multiplication and division to multiply and divide fractions. Students will be able to write and interpret numerical expressions.
Topic 1: **Measurement Conversions and Powers of 10**	**Length:** 7 days
Standard(s): 5.MD.A.1, 5.NBT.A, 5.NBT.A.1, 5.NBT.A.2	**Academic Vocabulary:** exponential notation, powers of 10, metric units
Lesson Frame: Place Value Patterns	I can observe place value patterns when multiplying and dividing.
Lesson Frame: Powers of 10	I can use whole-number exponents to denote powers of 10.
Lesson Frame: Metric Conversion and Multiplication by Powers of 10	I can convert from larger units to smaller units within a given system of measurement and explain patterns in the number of zeros of the product when multiplying a number by powers of 10.
Lesson Frame: Metric Conversion and Division by Powers of 10	I can convert metric lengths from a smaller unit to a larger unit and recognize and explain patterns in the placement of the decimal point when a decimal is divided by a power of 10.
Lesson Frame: Multi-Step Conversion Problems: Metric Length	I can solve multi-step problems involving metric length measurement conversions.
Lesson Frame: Multi-Step Conversion Problems: Metric Liquid Volume	I can solve multi-step problems involving metric liquid measurement conversions.
Lesson Frame: Multi-Step Conversion Problems: Customary Length	I can solve multi-step problems involving customary length measurement conversions.
Performance Tasks: Cool Down Assessment (per lesson) Centers (when applicable) 5.6.A Checkpoint	Notes: -Use Section A Student Summary as a study guide. -Use Section A Practice Problems to review for checkpoint (in workbook or online) -Materials: meter sticks Blackline Masters: Customary Measurement Card Sort
Topic 2: **Add and Subtract Fractions with Unlike Denominators**	**Length:** 8 days
Standard(s): 5.MD.B.2, 5.NF.A.1, 5.NF.A.2, 5.NF.B.4	**Academic Vocabulary:** numerator, denominator, common denominator, equivalent fraction, common multiple, line plot
Lesson Frame: Add and Subtract Fractions	I can add fractions with unlike denominators in a way that makes sense.
Lesson Frame: Use Equivalent Fractions	I can add and subtract fractions with unlike denominators by replacing the given expressions with equivalent expressions with common denominators.
Lesson Frame: All Sorts of Denominators	I can recognize that when adding or subtracting fractions with unlike denominators, a common denominator can be found by multiplying the denominators.
Lesson Frame: Different Ways to Subtract	I can subtract fractions with unlike denominators including mixed numbers.

Lesson Frame: Solve Problems	I can solve problems involving addition and subtraction of fractions with unlike denominators.
Lesson Frame: Put It All Together: Add and Subtract Fractions	I can consider different denominators to use to add or subtract fractions.
Lesson Frame: Representing Fractions on a Line Plot	I can make and interpret line plots displaying fractions in eighths.
Lesson Frame: Problem Solving with Line Plots	I can create line plots to display fractional measurement data, and use the information to solve problems.
Performance Tasks: Cool Down Assessment (per lesson) Centers (when applicable) 5.6.B Checkpoint	Notes: -Use Section B Student Summary as a study guide. -Use Section B Practice Problems to review for checkpoint (in workbook or online) Materials: paper clips, pencils Blackline Masters: Fraction Add and Subtract Sort, Info Gap: Picking Fruit
Topic 3: **The Size of Products**	**Length:** 6 days
Standard(s): 5.MD.B.2, 5.NF.A.2, 5.NF.B.4, 5.NF.B.5, 5.NF.B.5.a, 5.NF.B.5.b, 5.OA.A	**Academic Vocabulary:** n/a
Lesson Frame: Compare Products	I can compare the size of a product to the size of one factor using a strategy that makes sense.
Lesson Frame: Interpret Diagrams	I can compare the size of a product to the size of one factor on the basis of the size of the other factor, without performing the indicated multiplication.
Lesson Frame: Compare Without Multiplying	I can recognize that the product of a fraction and a whole number is less than, equal to, or greater than the whole number when the fraction is correspondingly less than, equal to, or greater than 1.
Lesson Frame: Compare to 1	I can explain what happens to a given fraction when multiplied by a fraction greater than or less than 1.
Lesson Frame: (OPTIONAL) Will it Always Work?	I can make generalizations about multiplying a whole number by a fraction greater than, less than, or equal to 1.
Lesson Frame: (OPTIONAL) Weekend Investigation	I can create line plots and use the information to solve problems, and solve problems involving addition and subtraction of fraction with unlike denominators.
Performance Tasks: Cool Down Assessment (per lesson) Centers (when applicable) 5.6.C Checkpoint 5.6 End of Unit Assessment	Notes: -Use Section C Student Summary as a study guide. -Use Section C Practice Problems to review for checkpoint (in workbook or online) Materials: chart paper, coloring utensils

Unit 7: **Shapes on the Coordinate Plane**	**Length:** 15 days
Standards: 5.G.A.1, 5.G.B, 5.G.B.3, 5.G.B.4, 5.G.A.2, 5.NBT.B.7, 5.OA.A.2, 5.OA.B.3	**Outcomes:** Write and interpret numerical expressions. Analyze patterns and relationships. Graph points on the coordinate plane to solve real-world and mathematical problems. There is an order of operations that must be followed in all mathematical expressions. Parentheses, brackets, or braces are used to guide the order of operations when simplifying expressions. An algebraic expression or equation can be represented in a variety of ways that have the same value. On the coordinate plane, a point represents the two facets of information associated with an ordered pair. In a coordinate plane, the first number indicates how far to travel from the origin in the direction of the x-axis and the second number indicates how far to travel in the direction of the y-axis.
Essential Questions: How can patterns help us problem solve? What is the purpose of a coordinate plane? How do you plot a point on a coordinate plane? How can graphing points on a coordinate plane help you predict and interpret a given situation? What is a hierarchy of shapes and how can it help you classify figures?	**Learning Targets:** Students will be able to graph points on the coordinate plane to solve real-world and mathematical problems. Students will be able to classify two-dimensional figures into categories based on their properties. Students will be able to perform operations with multi-digit whole numbers and with decimals to hundredths. Students will be able to write and interpret numerical expressions. Students will be able to analyze patterns and relationships.
Topic 1: **The Coordinate Plane**	**Length:** 3 days
Standard(s): 5.G.A.1	**Academic Vocabulary:** axes, coordinate grid, horizontal axis, vertical axis, ordered pair, coordinates
Lesson Frame: Explore the Coordinate Grid	I can recognize the structure of a coordinate grid and use it to describe the location of two-dimensional shapes.
Lesson Frame: Points on the Coordinate Grid	I can locate and name given points on the coordinate grid by using an ordered pair of numbers, called coordinates.
Lesson Frame: Plot More Points	I can plot points on the coordinate grid and recognize the importance of attending to precision when naming coordinates.
Performance Tasks: Cool Down Assessment (per lesson) Centers (when applicable) 5.7.A Checkpoint	Notes: -Use Section A Student Summary as a study guide. -Use Section A Practice Problems to review for checkpoint (in workbook or online) Blackline Masters: Explore the Coordinate Grid Cards, Can You Draw It Stage 6 Recording Sheet, What's The Point?
Topic 2: **The Hierarchy of Shapes**	**Length:** 5 days
Standard(s): 5.G.B, 5.G.B.3, 5.G.B.4	**Academic Vocabulary:** nangle, perpendicular, parallel, parallelogram, trapezoid, rhombus, right triangle, acute, obtuse
Lesson Frame: Sort Quadrilaterals	I can classify quadrilaterals based on angle measurements and side lengths.
Lesson Frame: Trapezoids	I can compare different definitions for trapezoids, and use them to identify trapezoids.
Lesson Frame: Hierarchy of Quadrilaterals	I can classify parallelograms in a hierarchy based on angle measurements and side lengths, and explain why a square is also a rhombus.

Lesson Frame: Rectangles and Squares	I can explain why a square is also a rectangle.
Lesson Frame: Sort Triangles	I can classify triangles using angle measures and side lengths.
Performance Tasks: Cool Down Assessment (per lesson) Centers (when applicable) 5.7.B Checkpoint	Notes: -Use Section B Student Summary as a study guide. -Use Section B Practice Problems to review for checkpoint (in workbook or online) Materials: straight edges, protractors, dry erase markers, sheet protectors, toothpicks, patty paper Blackline Masters: Guess Which One, Card Sort Quadrilaterals (Grade 5), Quadrilateral Clues, Card Sort Triangles (Grade 5)
Topic 3: **Numerical Patterns**	**Length:** 5 days
Standard(s): 5.G.A.2, 5.NBT.B.7, 5.OA.A.2, 5.OA.B.3	**Academic Vocabulary:** corresponding terms, plotting
Lesson Frame: Generate Patterns	I can, when given two rules, generate two numerical patterns, and identify apparent relationships between corresponding terms in the two patterns.
Lesson Frame: Interpret Relationships	I can generate patterns based on two given rules and then identify and explain more complex relationships.
Lesson Frame: Patterns and Ordered Pairs	I can form ordered pairs consisting of corresponding terms from two patterns and graph the ordered pairs on a coordinate grid.
Lesson Frame: Represent Problems on the Coordinate Grid	I can represent situations by plotting and interpreting points on the coordinate grid.
Lesson Frame: Perimeter and Area of Rectangles	I can examine rectangles with given perimeter or area, plotting their length and width on the coordinate grid.
Performance Tasks: Cool Down Assessment (per lesson) Centers (when applicable) 5.7.C Checkpoint 5.7 End of Unit Assessment	Notes: -Use Section C Student Summary as a study guide. -Use Section C Practice Problems to review for checkpoint (in workbook or online) Materials: coins for flipping

Unit 8: **Putting It All Together**	Length: 19-20 days
Standards: 5.G.B.3, 5.G.B.4, 5.NBT.B.5, 5.NBT.B.6, 5.MD.C, 5.MD.C.5, 5.NBT.B.7, 5.NF.A.1, 5.NF.B.4, 5.G, 5.MD, 5.MD.C.3, 5.NBT, 5.NF, 5.NF.B.3, 5.OA	**Outcomes:** Measurement processes are used in everyday life to describe and quantify the world. Measurement problems can be solved using the appropriate tools. Volume is an attribute of three-dimensional space and is measured in cubic units. Multiple rectangular prisms can have the same volume. Volume can be found by repeatedly adding the area of the base or by multiplying all three dimensions. Data analysis is formulating questions that can be addressed, explored, and synthesized with relevant information. Two-dimensional shapes can be described and classified by their properties. Two-dimensional shapes are composed of various parts that are described with precise vocabulary.
Essential Questions: What is volume and how is it used in real life? Why is it important to be able to fluently multiply using the standard algorithm and where might you use it in real life? How can you add, subtract, multiply, and divide a variety of fractions and when might this be necessary? How can you add, subtract, multiply, and divide decimals and when might this be necessary?	**Learning Targets:** Students will be able to graph points on the coordinate plane to solve real-world and mathematical problems. Students will be able to classify two-dimensional figures into categories based on their properties. Students will be able to perform operations with multi-digit whole numbers and with decimals to hundredths. Students will be able to understand concepts of volume and relate volume to multiplication and to addition. Students will be able to apply and extend previous understandings of multiplication and division to multiply and divide fractions. Students will be able to write and interpret numerical expressions. Students will be able to analyze patterns and relationships.
Topic 1: **Multiply and Divide Whole Numbers**	Length: 5 days
Standard(s): 5.G.B.3, 5.G.B.4, 5.NBT.B.5, 5.NBT.B.6	**Academic Vocabulary:** n/a
Lesson Frame: Find the Largest Product	I can fluently multiply multi-digit whole numbers using the standard algorithm.
Lesson Frame: More Multiplication	I can fluently multiply multi-digit whole numbers using the standard algorithm.
Lesson Frame: Factors as a Factor in our Strategy Choices	I can fluently multiply multi-digit whole numbers using the standard algorithm.
Lesson Frame: Dive Back into Division	I can find whole-number quotients of whole numbers with up to four-digit dividends and two-digit divisors.
Lesson Frame: More Division	I can find whole-number quotients of whole numbers with up to four-digit dividends and two-digit divisors, using strategies based on place value, the properties of operations, and the relationship between multiplication and division.
Performance Tasks: Cool Down Assessment (per lesson) Centers (when applicable)	Notes: -5.8 Section A Student Summary Materials: chart paper, coloring utensils

Topic 2: **Apply Volume Concepts**	**Length:** 4 days
Standard(s): 5.MD.C, 5.MD.C.5, 5.NBT.B.5, 5.NBT.B.6	**Academic Vocabulary:** n/a
Lesson Frame: Revisit Volume	I can solve real world and mathematical problems involving volume.
Lesson Frame: Estimating the Volume of the World's Largest Wagon	I can multiply and divide multi-digit whole numbers, and solve problems involving volume.
Lesson Frame: Filling up the World's Largest Wagon	I can multiply and divide multi-digit whole numbers, and solve problems involving volume.
Lesson Frame: (OPTIONAL) Problem Solving with Volume: Water	I can solve real world and mathematical problems involving volume.
Performance Tasks: Cool Down Assessment (per lesson) Centers (when applicable)	Notes: -5.8 Section B Student Summary Materials: rulers, yardsticks
Topic 3: **Fraction and Decimal Operations**	Length: 4 days
Standard(s): 5.NBT.B.7, 5.NF.A.1, 5.NF.B.4	**Academic Vocabulary:** n/a
Lesson Frame: Here Comes the Sun	I can add fractions with unlike denominators.
Lesson Frame: What's The Difference?	I can subtract fractions and mixed numbers.
Lesson Frame: Decimal Game Day	I can add, subtract, multiply, and divide decimals to hundredths.
Lesson Frame: Multiply Fractions Game Day	I can multiply a fraction or whole number by a fraction.
Performance Tasks: Cool Down Assessment (per lesson) Centers (when applicable)	Notes: -5.8 Section C Student Summary Materials: paper clips, number cubes
Topic 4: **Creation and Design**	**Length:** 5 days
Standard(s): 5.G, 5.MD, 5.MD.C.3, 5.NBT, 5.NBT.B.5, 5.NBT.B.6, 5.NF, 5.NF.A.1, 5.NF.B.3, 5.OA	**Academic Vocabulary:** n/a
Lesson Frame: Notice and Wonder	I can apply my understanding of fractions as division to create a Notice and Wonder activity.
Lesson Frame: Estimation Exploration	I can apply my understanding of multi-digit multiplication and the standard algorithm of multiplication to create an Estimation Exploration activity.
Lesson Frame: Number Talk	I can apply my understanding of dividing multi-digit whole numbers to create a Number Talk activity.
Lesson Frame: True or False?	I can apply my understanding of adding and subtracting fractions with unlike denominators to create a True or False activity.
Lesson Frame: Which One Doesn't Belong?	I can apply my understanding of volume to create a Which One Doesn't Belong activity.

Performance Tasks: Cool Down Assessment (per lesson) Centers (when applicable) 5.8 End of Course Assessment and Resources	Notes: Materials: chart paper, coloring utensils Blackline Masters: Shapes Cards for WODB Design

September	October	November	December	January	February	March	April	May	June
Unit 1	Unit 1/ Unit 2	Unit 2/Unit 3	Unit 4	Unit 4/Unit 5	Unit 5	Unit 6	Unit 6/Unit 7	Unit 7/Unit 8	Unit 8