

Welcome to 8th Grade Mathematics! This year, students will continue studying mathematics from the *Connected Mathematics Program (CMP)* materials. Each unit consists of 3 – 4 *Investigations* (in class) with follow up *ACE* problems (extra practice). The curriculum is problem centered. This means students will investigate mathematical ideas within the context of a “real-life” problem. Students will be expected to work independently, with partners, and/or small groups on a daily basis. Additionally, students will be expected to communicate their mathematical thinking symbolically as well verbally. It is not enough to “know how to do it,” students must explain their thinking! *There are multiple mathematics resources available online if parents/students need to “review” concepts at home.*

I will do my best to update homework assignments on the middle school *Weebly* as well *Google Classroom*. *Powerschool* is updated numerous times throughout the week. Students will be assigned homework Mondays due the following Friday.

Please read through the 8th Grade Mathematics Course Information Sheet and accompanying material and sign below. All eighth graders will have a study hall at the end of the day where they will have the opportunity to meet with any of their core teachers for extra assistance. Parents can expect weekly emails to update the status of their student’s work so please be sure your email address is up-to-date at Lisbon Regional School.

I am available most days, Monday – Thursday, from 2:30-3:15 P.M. for any students seeking extra assistance or parents who would like to meet with me. If you have any questions or concerns, please feel free to contact me by phone or by email (preferred).

Sincerely,
Brianne Boyko

*Please sign and return to Mrs. Boyko. Eighth grade math information sheets will be in the front of

_____ math binder for the school year to refer to as needed.
(student’s name)

Student Signature

Parent/Guardian Signature

Mrs. Boyko

Focus for 8th Grade Math Students:

- (1) Formulating and reasoning about expressions and equations, including modeling an association in bivariate data with a linear equation, solving linear equations and systems of linear equations;
- (2) Grasping the concept of a function and using functions to describe quantitative relationships;
- (3) Analyzing 2- and 3- dimensional space and figures using distance, angle similarity, and congruence, and understanding and applying the Pythagorean Theorem.

Calculators

The ability to effectively use technology, including graphing calculators, is important to your future education and careers. Therefore, the use of graphing utilities and mathematical software is heavily embedded in Lisbon's mathematics curriculum. The ability to use one's mind is of equal importance. Therefore, in this class, you will be expected to use good judgment when deciding which tool to use for calculations. You can expect times when the use of calculators will be encouraged and times when use will be restricted. Students will be introduced to the TI-84 graphing calculator and the purchase of this calculator will be highly recommended for high school, but is not a requirement for middle school. A scientific calculator such as the TI-34 is recommended, as well as sufficient.

Daily Materials – Due to Covid-19 concerns, students must have each of the items below to cut down on sanitizing items after each class.

Required

- * Daily Planner
- * 3 ring mathematics binder with 5 dividers
- * Pencil & eraser (classwork/homework) & pen (corrections)
- * Text book (current *CMP* unit)
- * Masks worn correctly
- * Completed assignments (name & section)
- * Positive Attitude

Strongly Recommended

- pencil sharpener with cover
- ruler (inch and metric)
- calculator
- ruled and/or graph paper

Classroom Grading and Evaluation Policy - Please see LRS Student Handbook.

Formative Assessments (10%)

Formative assessments will consist of, but are not limited to, class work, homework, written responses, exit slips, concept checks, etc. Formative assessments will be based on a 4-point scale: 4 (PD), 3(P), 2 (BP), 1 (I)*, or 0 (N)*. Scores will be averaged. Please see mathematics assessment rubric for specifics.

* REDO ASSIGNMENTS: Per LRS grading policy, late/redo assignments may attain a score no greater than 2.5. All assignments turned in with no name will be scored a 0 and considered “late.”

***I/N**: students *will* be required to redo assignments until completed to a satisfactory level.

Per grading policy, no formative work will be accepted for credit after a summative assessment is administered unless required for retake.

Summative Assessments (90%)

Summative assessments will consist of, but are not limited to, quizzes, tests, projects, journal responses, competency checks, etc. Generally, quizzes will be given at the completion of an investigation and will test 1 - 2 competencies. Tests will be given at the end of each unit and may test multiple competencies. Each competency will be scored as 0, 1, 2, 3, or 4. *Competencies will not be weighted and will be averaged for an overall score.* At the middle school level, the opportunity to retake a summative assessment is at the discretion of the teacher and students will be required to complete competency recovery work and/or attend a “re-teaching” session during/after school prior to retaking a unit test. Competency recovery may also be assigned via *Odysseyware*.

RETAKES: Per LRS grading policy (see LRS Handbook), retake summative assessments may attain a score no greater than 2.5 and may be given at teacher’s discretion.

3.6-4	2.5-3.5	2.0-2.4	1	0
Proficient with Distinction (PD)	Proficient (P)	Basically Proficient (BP)	Incomplete (I)	No Attempt/Progress (N)
The student consistently and independently demonstrates the ability to analyze and synthesize essential content knowledge and skills in a new task or an advanced application.	The student consistently and independently demonstrates the ability to apply and transfer essential content, knowledge and skills.	The student demonstrates the ability to comprehend and apply essential content, knowledge and skills in a familiar task.	The student has not yet demonstrated proficiency of the competency, but is making progress (teacher comments included).	The student has not made an attempt to show proficiency of the competency <i>or</i> shows little to no progress.

Additional Information: Students may be assigned competency recovery on an “as needed” basis. Some competencies are retested more than others within the middle school mathematics curriculum so it is important for students to not get behind. For students demonstrating significant gaps in understanding, competency recovery may include lessons on *Odysseyware* to be completed outside of class.

Please see Mathematics Assessment Rubric for scoring guidelines.

*Contact the office if you are not sure how to access your student’s *Powerschool* account.



Mrs. Boyko
Room 114
brboyk@lisbon.k12.nh.us



Classroom Procedures

- Students are expected to come to class everyday prepared and ready to learn with a positive attitude. Students are required to act in behavior conducive to learning and follow rules established at Lisbon Regional School.

BEFORE CLASS:

- ☼ Fill water bottles
- ☼ sanitize hands on entry
- ☼ Be seated in your assigned seat
- ☼ Sharpen pencil
- ☼ Have all daily supplies out
- ☼ Write homework assignment in planner (subject to change)

AS CLASS STARTS:

- ☼ Talking ceases
- ☼ Gather whatever is needed for that day
- ☼ Wait for teacher direction

DURING CLASS PERIOD:

- ☼ Raise hand if you would like my attention
- ☼ Be productive (individually, in pairs or groups)
- ☼ Be respectful to classmates/staff
- ☼ Remain in your seat unless told otherwise

END OF CLASS:

- ☼ Listen to end of class directions
- ☼ Sanitize work area/hands
- ☼ Recheck planner for correct assignment

Miscellaneous

*If you are absent, it is your responsibility to find out what work needs to be completed. Ask a group member, and/or check *Weebly and/or Google Classroom*. If you are still unsure, speak with me before or after class.

*If you are tardy to class, be sure to have a signed note from a teacher. Three unexcused “tardies” will result in a teacher detention.

*Students are expected to follow classroom procedures and enter the classroom with all required daily materials each day. Students not able or unwilling to comply may be assigned a lunch or afterschool detention after multiple infractions.

Middle School Mathematics Assessment Rubric

PD	(4)	<i>Heading Toward Proficient w/ Distinction</i>	<ol style="list-style-type: none">1. All (assigned) problems completed and correct2. Clear and easy to read; responses in complete sentences3. Shows all necessary mathematics using tables, equations, and/or graphs (TEG)4. Written responses demonstrate in-depth knowledge
P	(3)	<i>Proficient</i>	<ol style="list-style-type: none">1. All problems completed and correct; may be a few “silly” arithmetic errors Clear and easy to read; responses in complete sentences3. Shows all necessary mathematics using TEG4. Written responses demonstrate complete knowledge
BP	(2)	<i>Basically Proficient</i>	<ol style="list-style-type: none">1. Honest attempt on all problems2. Clear and easy to read; responses not in complete sentences3. Might have some errors/misunderstandings with mathematics and/or written responses4. May not have supported work with TEG
I*	(1)	<i>Incomplete</i>	<ol style="list-style-type: none">1. Might not attempt all problems2. Might not be clear or easy to read3. Might not show all necessary mathematics4. Written responses demonstrate minimal understanding
N*	(0)	<i>No Attempt/No Progress Shown</i>	<ol style="list-style-type: none">1. Might not attempt any or all problems2. Might be difficult to read3. Might be missing significant work4. Did not complete necessary written responses or did not demonstrate understanding

Formative Assessments: *Students will be required to “redo” an assignment scored lower than a 2. Per LRS grading policy, redo assignments may attain a score no greater than 2.5.

Per grading policy, no formative work will be accepted for credit after a summative assessment is administered unless required as part of corrective action for retaking a summative assessment.

Summative Assessments: Students will be assigned competency recovery on an “as needed” basis. Some competencies are retested more than others within the middle school mathematics curriculum. For students demonstrating significant gaps in understanding, competency recovery may include lessons on *Odysseyware* to be completed outside of class.

Math Competencies

Grades 7 & 8

1. Students will reason abstractly and manipulate symbolic expressions to represent relationships and interpret expressions and equations in terms of a given context for determining an unknown value.
2. Students will expand their understanding of number systems thinking flexibly and attending to precision and reasonableness when solving problems using rational and irrational numbers.
3. Students will expand the use of computational strategies, algorithms, and proportional reasoning to rational and irrational numbers.
4. Students will use reasoning and meta-cognitive skills through making conjectures, justifying, and effectively communicating mathematical solutions and arguments.
5. Students will strategically use tools and apply proportional reasoning and precision to solve measurement problems in pure/theoretical and authentic applied contexts.
6. Students will make use of structure to describe and compare situations that involve proportionality, change, or patterns and use the information to make conjectures and justify conclusions/solutions.
7. Students will solve problems involving reasoning using properties of 2- and 3-dimensional shapes to analyze, represent, and model geometric relationships in pure/theoretical and authentic applied contexts.
8. Students will design investigations and conduct probability experiments involving populations.

NOTE:

Some of the competencies above will have more direct focus in grades 7 or 8 but most overlap.

Depending on the pace of the course, some of the competencies may not be formally assessed in a given year.



Eighth Grade Mathematics Overview

- **The Number System**
 - Know that there are numbers that are not rational and approximate them by rational numbers.
- **Expressions and Equations**
 - Work with radicals and integer exponents
 - Understand the connections between proportional relationships, lines, and linear equations.
 - Analyze and solve linear equations and/or pairs of simultaneous linear equations.
- **Functions**
 - Define, evaluate, and compare functions.
 - Use functions to model relationships between quantities.
- **Geometry**
 - Understand congruence and similarity using physical models, transparencies, or geometry software.
 - Understand and apply the Pythagorean Theorem.
 - Solve real-life and mathematical problems involving angle measure, area and volume.
- **Statistics and Probability**
 - Investigate patterns of association in bivariate data.
- **MATHEMATICAL PRACTICES**
 1. Make sense of problems and persevere in solving them.
 2. Reason abstractly and quantitatively.
 3. Construct viable arguments and critique the reasoning of others.
 4. Model with mathematics.
 5. Use appropriate tools strategically.
 6. Attend to precision.
 7. Look for and make use of structure.
 8. Look for and express regularity in repeated reasoning

