

Math 7th Syllabus

COURSE INFORMATION:

- Grade Level: 7th grade (other grades as approved by district counselor)
- No Prerequisites required.

COURSE DESCRIPTION:

Seventh grade math is an extension of skills learned in 6th grade, which follow the Missouri Learning Standards (MLS). Students will be exposed to mathematical concepts in five domains: Number System, Expressions and Equations, Ratio and Proportional Relationships, Geometry, Statistics and Probability. Students will focus on problems solving and critical thinking to learn these concepts.

COURSE SCOPE AND SEQUENCE:

- Sem 1
 - **Unit 1 Overview:** In this unit, you'll learn how to work with scale drawings, which are small versions of real objects and shapes. You'll gain a greater understanding of how big things are in real life by looking at scaled versions. For example, if you have a drawing of a park, you'll be able to calculate how long the paths are and how much space the whole park takes up. You'll also get to practice changing the size of these drawings, making them bigger or smaller, while keeping everything in the right proportions.
 - **Standards:** 7.GM.A.1: Solve problems involving scale drawings of real objects and geometric figures, including computing actual lengths and areas from a scale drawing and reproducing the drawing at a different scale.
 - **Course Level Objectives:**
 - I can solve problems involving scale drawings of real objects and geometric figures.
 - I can compute actual lengths and areas from a scale drawing.

- I can reproduce a drawing at a different scale.
- **Unit Level Objectives:**
 - I can solve problems involving scale drawings of real objects and geometric figures.
 - I can compute actual lengths and areas from a scale drawing.
 - I can reproduce a drawing at a different scale.
- **Unit 2 Overview:** In this unit, you will delve into the concept of proportional relationships between quantities, aligning with the standards. You'll start by learning how to recognize and represent these relationships, which are fundamental in understanding how different quantities relate to each other in a consistent manner.

You will determine when two quantities are in a proportional relationship. This involves examining situations and data to see if they maintain a constant ratio, indicating proportionality. Next, you'll explore how to identify and compute the constant of proportionality, also known as the unit rate. This key concept helps you understand the consistent rate at which one quantity changes in relation to another.

Further, you'll interpret the meaning of specific points on the graph of a proportional relationship. You'll learn to explain what a point (x, y) signifies in the context of a given situation, reinforcing your understanding of how proportional relationships are visually represented. Finally, you will recognize a fundamental characteristic of these graphs: that they always pass through the origin. This trait is a crucial indicator of a proportional relationship, as it demonstrates that when one quantity is zero, the corresponding quantity is also zero.

Throughout this unit, you'll develop skills to analyze and articulate the nature of proportional relationships, both in numerical data and graphical representations. This knowledge

will be invaluable as you apply these concepts to real-world situations and more advanced mathematical topics.

■ **Standards:**

- 7.RP.A.2: Recognize and represent proportional relationships between quantities.
- 7.RP.A.2a: Determine when two quantities are in a proportional relationship.
- 7.RP.A.2b: Identify and/or compute the constant of proportionality (unit rate).
- 7.RP.A.2c: Explain what a point (x, y) on the graph of a proportional relationship means in terms of the situation.
- 7.RP.A.2d: Recognize that the graph of any proportional relationship will pass through the origin.

■ **Course Level Objectives:**

- I can recognize and represent proportional relationships between quantities.
- I can determine when two quantities are in a proportional relationship.
- I can identify and/or compute the constant of proportionality (unit rate).
- I can explain what a point (x, y) on the graph of a proportional relationship means in terms of the situation.
- I can recognize that the graph of any proportional relationship will pass through the origin.

■ **Unit Level Objectives:**

- I can recognize and represent proportional relationships between quantities.
- I can determine when two quantities are in a proportional relationship.
- I can identify and/or compute the constant of proportionality (unit rate).
- I can explain what a point (x, y) on the graph of a proportional relationship means in terms of the situation.

- I can recognize that the graph of any proportional relationship will pass through the origin.
- **Unit 3 Overview** In this unit, you will dive into the fascinating world of circles and uncover the secrets of their measurements. You'll explore the relationships between the circumference, radius, diameter, and area of a circle, and discover the special role that Pi (π) plays in these connections. Get ready to apply your knowledge as you learn and use formulas for the circumference and area of circles to solve real-world problems. By the end of this unit, you'll have a solid understanding of the mathematical concepts that make circles so unique and important in both math and everyday life.
 - **Standards:**
 - 7.GM.A.4a: Analyze the relationships among the circumference, the radius, the diameter, and the area and Pi in a circle.
 - 7.GM.A.4b: Know and apply the formulas for circumference and area of circles to solve problems.
 - **Course Level Objectives:**
 - **Unit Level Objectives:**
- **Unit 4 Overview:** In this unit, you'll explore the essential concepts of ratios, rates, percentages, and proportional relationships. You'll learn how to solve problems that involve comparing quantities, calculating rates, and finding equivalent ratios. Whether you're determining the best deal at the store, converting measurements, or analyzing data, you'll see how these mathematical tools are used in everyday situations. By the end of this unit, you'll be able to confidently solve a variety of problems using ratios, rates, percentages, and proportions. Get ready to enhance your problem-solving skills and see math in action!
 - **Standards:**
 - 7.RP.A.3: Solve problems involving ratios, rates, percentages and proportional relationships.
 - **Course Level Objectives:**
 - **Unit Level Objectives:**

- **Unit 5 Overview:** You will analyze the many ways in which humans use signed numbers to accomplish a variety of tasks, including measuring temperature, managing a bank account, and communicating with friends in different time zones. You will also learn mathematical strategies and rules for adding, subtracting, multiplying, and dividing signed numbers.
 - **Standards:**
 - **Course Level Objectives:**
 - Add and subtract signed numbers
 - Multiply and divide signed numbers
 - Solve real-life problems using signed numbers
 - **Unit Level Objectives:**
 - Discuss with your peers about how to use signed numbers in the real world.
 - Use absolute value and additive inverse to add and subtract integers to achieve a sum/difference of zero.
 - Use absolute value and additive inverses to arrive at zero on the number line.
 - Practice the concepts of additive inverse, absolute value, and integers on the number line.
 - Use signed numbers to represent transactions and calculate net gain/loss.
 - Play Dice Golf Game to practice adding integers.
 - Discuss with peers how you used signed numbers to play a game.
 - Solve problems by adding and subtracting signed numbers.
 - Practice solving problems by adding and subtracting signed numbers.
 - Use multiplication of signed numbers to solve a real life problem.
 - Solve problems by multiplying and dividing integers.
 - Practice multiplying and dividing signed numbers.
 - Describe how to add, subtract, multiply and divide signed numbers.
 - Use signed numbers to solve real world problems.

- Review what was learned in this unit before taking the unit assessment.
 - Demonstrate knowledge of the topics in this unit by completing unit assessment.
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- Sem 2
 - **Unit 6: Populations and Samples** (7.DSP.A Use Random sampling to draw inferences about a population & 7.DSP.B Draw informal comparative inferences about two populations)
 - **Unit 7: Probability of Random Events** (7.DSP.C.5-7 Develop, use, and evaluate probability models)
 - **Unit 8: Probability of Multiple Events** (7.DSP.C.5 & .8 Develop, use and evaluate probability models)
 - **Unit 9: Angles, Triangles, Polygons, and Circles** (7.GM.A Draw and describe geometrical figures and describe the relationship between them. & 7.GM.B Apply and extend previous understanding of angle measure, area, and volume.)
 - **Unit 10: Solid Figures** (7.GM.A.3 Draw and describe geometrical figures and describe the relationship between them. & 7.GM.B.6 Apply and extend previous understanding of angle measure, area, and volume.)

GRADING:

At the end of this course, you will receive a grade percentage. This grade percentage will be transferred to your school district, and your school district will determine your letter grade.

ACADEMIC HONESTY:

Using someone else's work and claiming it as your own, even if it is unintentional, is considered being academically dishonest. Examples of academic dishonesty include, but are not limited to, using Artificial Intelligence programs or apps on assignments, online translators for world language courses, plagiarism, parents completing work for a child, and cheating. It is important that students cite sources and use quotation marks appropriately to avoid violating the Launch Academic Honesty policy.

Students who are suspected of violating the Launch Academic Honesty policy will receive reduced points on the assignment, and are expected to conference with the teacher and/or guardian before the grade can be modified.

If a student violates the guidelines, they will face the following consequences:

1st offense: Following teacher conference, student will be allowed to redo assignment for full credit and a formal warning will be issued.

2nd offense: Following teacher conference, student will be allowed to redo the assignment for a maximum grade of 50% and a second formal warning will be issued.

3rd offense: Following teacher, parent, student, and administrator conference, student will receive a zero for the assignment.

Students and parents should be aware that a teacher will reach out regarding a student's coursework if there is a question of academic integrity. These conversations are not meant to be an accusation, but rather an opportunity for students to discuss the process of completing the assignment and demonstrate mastery of the concept. If a teacher requests a meeting with a student and/or parent, a grade will not be finalized on the assignment until the conversation occurs.

ADDITIONAL IMPORTANT INFORMATION:

We encourage all students to speak to the instructor if they have problems or questions concerning the course. Do not wait to seek assistance – we are very willing to help each student in any way to perform to the very best of his or her abilities. Do not hesitate to ask questions throughout the class about projects, assignments, tests, etc.

Discussion shall be in an open and honest academic environment where all thoughts and ideas can be equally shared in a respectful manner. **Respect** all others, even when their opinions differ. Appreciate the diversity around you and be courteous to everyone.

This course is like any other course in your schedule. You will receive a grade that will be on your permanent transcript.

Proctored Finals: Many high school Launch courses require a proctored final. Students must have access to video conference technology to take a proctored final. Please check with your instructor if you have any questions about this requirement.

IEPs and 504s will be honored.

COURSE RESOURCES:

All students are required to view all items in the Start Here: Course Resources module in order to begin the course. If you do not view the pages in this module, you will not be able to see the assignments in your course.

ACCESS FOR ALL:

If students need a hotspot, please contact the librarian at your home site. If you have questions, or need support with your SPS-issued laptop, please call the IT Help Desk at 417-523-0417.

Out-of-district Launch students can contact their Launch Liaison for technology needs.

DISTRICT TECHNOLOGY RESOURCES - ACCEPTABLE USE:

The purpose of the Springfield Public School's network, including access to the Canvas Learning Management System, is to support and enhance communication, learning and teaching. All students enrolled in an online course must follow the policies and procedures outlined in the District's Acceptable Use Policy. See pg. 75-76 of the [School Handbook](#) for more information.

CYBERBULLYING:

Cyberbullying is sending or posting harmful and cruel text or images using the Internet or other digital communication devices. Cyber threats are online materials that threaten or raise concerns about violence against others, suicide or self-harm. Discipline for such actions will follow the guidelines found in the [School Handbook](#).

Online courses will follow the same rules, policies and procedures established in the Springfield Public School Handbook, regardless of time of day or where students access Canvas.