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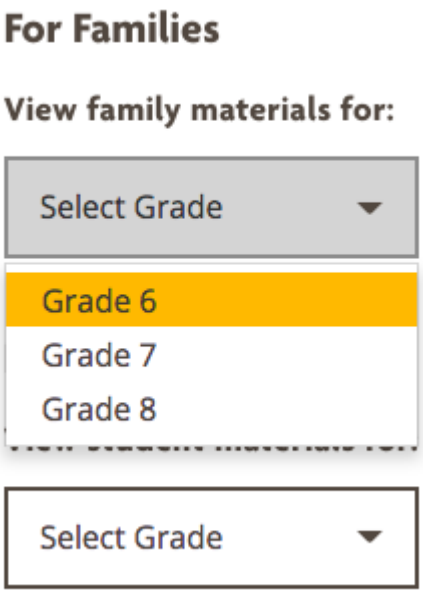
Accessing Illustrative Math Online

Go to: www.openupresources.org

Click on pull-down tab under the “For Families” or “For Students” to select the appropriate grade level



In the top bar, select the unit your student is working in:

Sixth Grade Unit Overview

Critical Areas:

1. connecting ratio and rate to whole number multiplication and division, and using concepts of ratio and rate to solve problems;
2. completing understanding of division of fractions and extending the notion of number to the system of rational numbers, which includes negative numbers;
3. writing, interpreting, and using expressions and equations; and
4. developing understanding of statistical thinking.

Unit 1	Area and Surface Area
Unit 2	Introducing Ratios
Unit 3	Unit Rates and Percentages
Unit 4	Dividing Fractions
Unit 5	Arithmetic in Base Ten
Unit 6	Expressions and Equations
Unit 7	Rational Numbers
Unit 8	Data Sets and Distributions

Seventh Grade Unit Overview

Critical Areas:

1. developing understanding of and applying proportional relationships;
2. developing understanding of operations with rational numbers and working with expressions and linear equations;
3. solving problems involving scale drawings and informal geometric constructions, and working with two- and three-dimensional shapes to solve problems involving area, surface area, and volume; and
4. drawing inferences about populations based on samples.

Unit 1	Scale Drawings & Proportional Relationships
Unit 2	Measuring Circles
Unit 3	Proportional Relationships
Unit 4	Rational Number Arithmetic
Unit 5	Expressions, Equations and Inequalities
Unit 6	Angles, Triangles and Prisms
Unit 7	Probability and Sampling
Unit 8	Rigid Transformations and Congruence
Unit 9	Dilations and Similarity

Unit 10	Linear Relationships
Unit 11	Exponents and Scientific Notation

Eighth Grade Unit Overview

Critical Areas:

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

Unit 1	Rigid Transformations and Congruence
Unit 2	Dilations and Similarity
Unit 3	Linear Relationships
Unit 4	Linear Equations and Linear Systems
Unit 5	Functions and Volume

Unit 6	Associations in Data
Unit 7	Exponents and Scientific Notation
Unit 8	Pythagorean Theorem and Irrational Numbers

CSV Upper School Math Tutor Prompts

- The goal is middle-school math tutoring is not (necessarily) to “finish the HW” or even “get it right.”
- The goal is to facilitate mathematical reasoning and *student* sense-making (verbal and/or on the page).

If you and/or the student aren’t sure how to **start a problem**:

- “What is this problem asking you to do?”
- “What math strategy or operations could you use to solve this?”
- “What do you already know that you could use?”
- “What resources do you have that could help?” (Notes, handouts, textbook, etc.)

If a student is moving quickly and seems to be **skipping steps** or making mistakes:

- “Can you show your steps on the page so that I can understand them better?”

If you think a student’s **written work** might be incorrect or on the wrong track:

- “Can you explain your first step to me?”
- “How can you move from this step to the next step?”

If a student’s **verbal explanation** is unclear or seems incorrect:

- Repeat or paraphrase what the student said. Ask: “Is that what you mean?”
- “I’m not sure I understand. Can you say that in a different way?”
- “How do you know?”
- “Can you show me on the page?”

After all those questions, if you or the student **still don’t fully understand** a problem:

- “What is a specific question that you could ask your teacher tomorrow about this problem?”
- Prompt the student to write that question on their HW and put a star next to the problem.

Three-Reads Graphic Organizer

Problem:

1st Read 	This problem is about:
2nd Read 	The question this problem is asking is (In your own words):
3rd Read 	The facts in the problem that are important for solving the problem are:

Three-Reads Graphic Organizer

Problem:

1st Read 	This problem is about:
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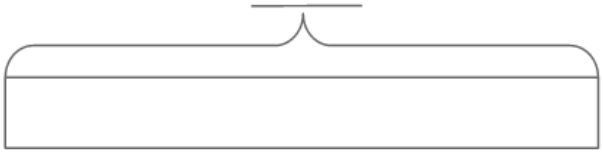
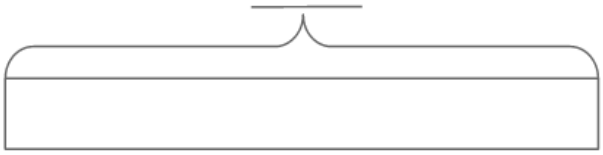
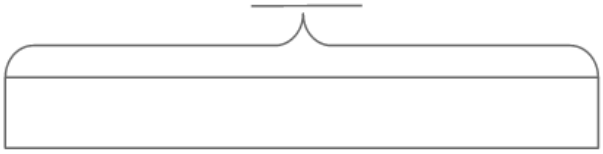
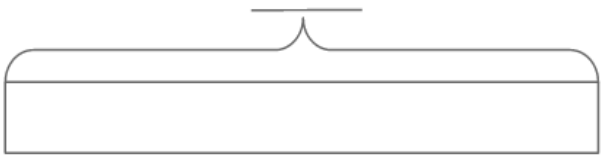
Tape Diagrams

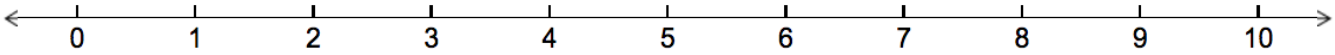


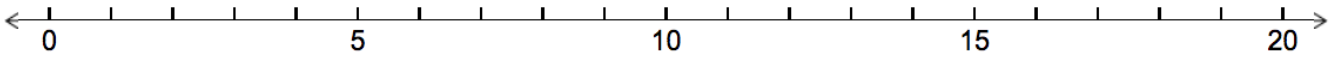


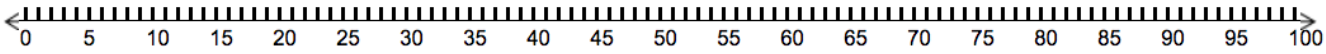


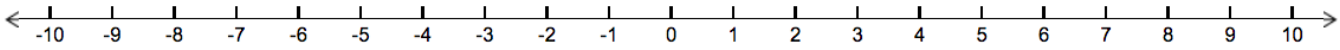


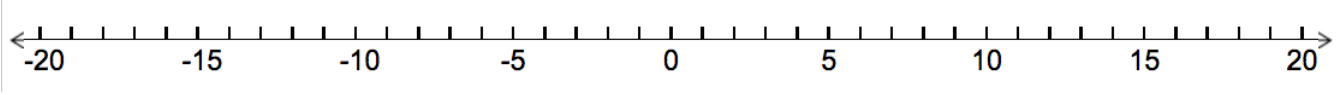
Number Lines

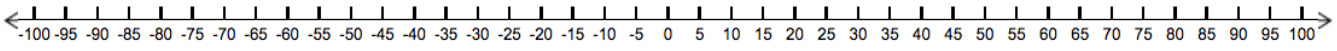




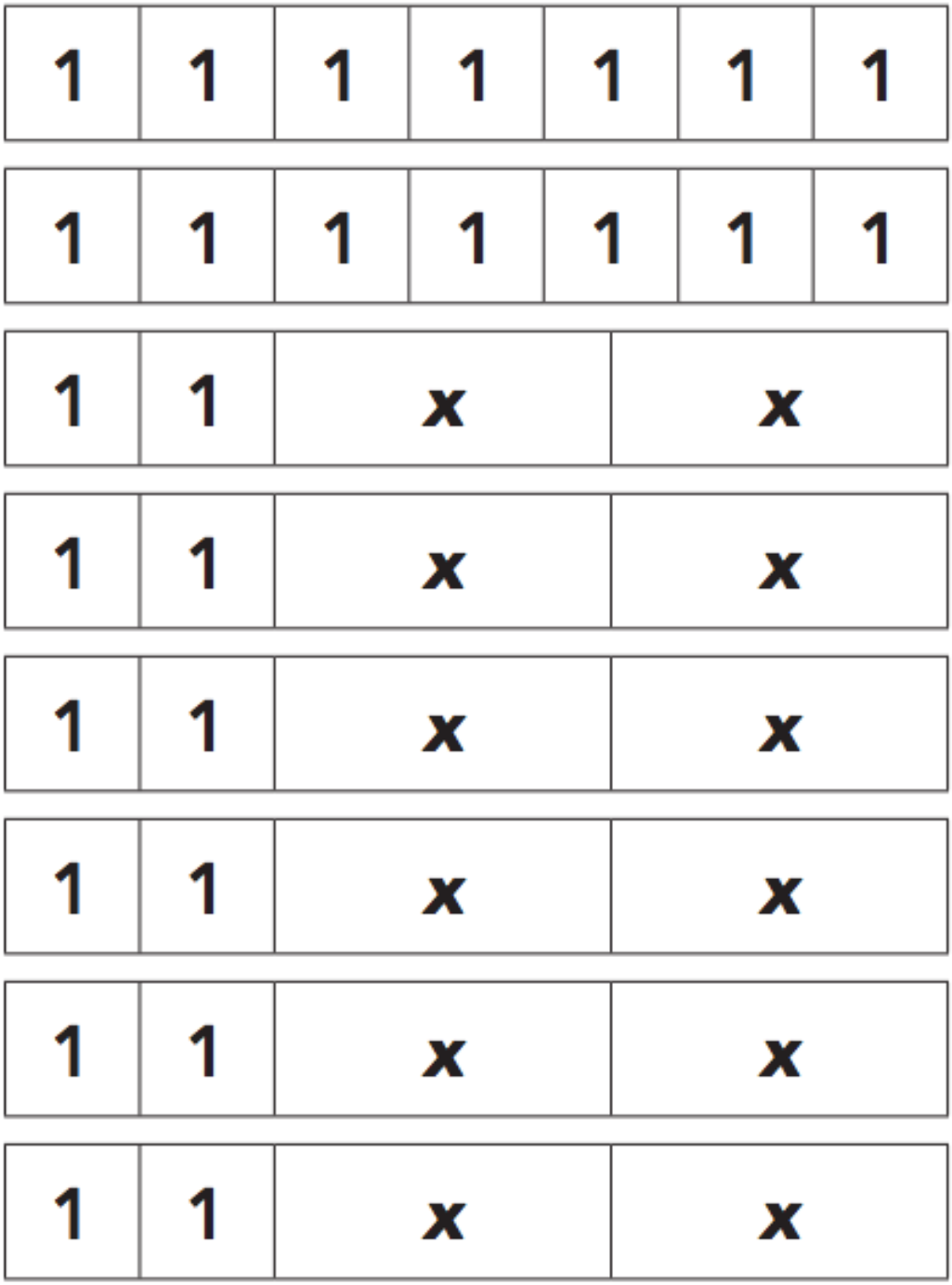








Algebra Tiles



Link Sheet

Words:

Table:
Must Dos:

- Label your variables in the first row

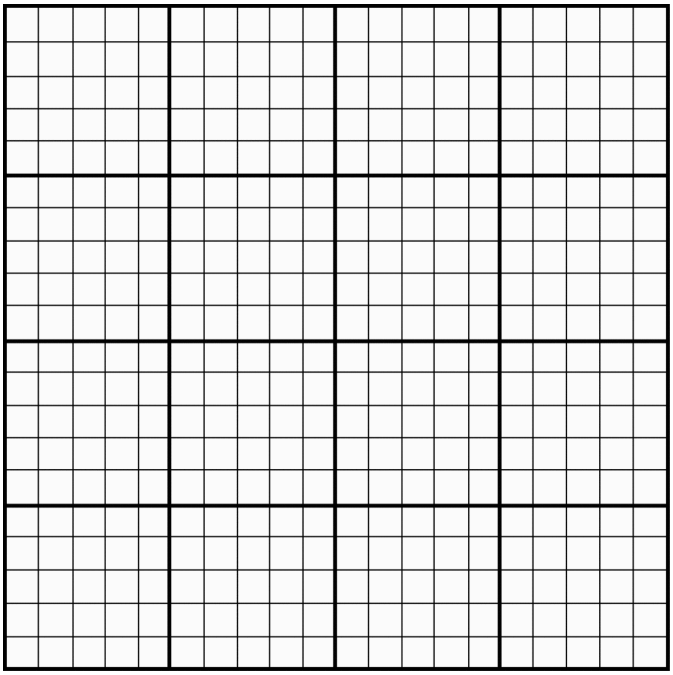
Graph
Must Dos:

- **Title, Axis Labeled, Plot Points, Same Scale**

My Scale:

x-axis: ___ squares = _____

y-axis: ___ squares =_____



Equation(s)