

Family Resources for Math 8 Unit 2: Introducing Slopes and Linear Relationships

Unit 2 is the Project Based Learning (PBL) unit for Math 8!

Mathematical learning through project-based learning is designed to help students see math as meaningful, useful, and connected to the real world. Instead of learning isolated lessons, students engage in a project that requires them to apply mathematical ideas in purposeful ways. In this approach, math becomes a tool for exploring situations, making decisions, and explaining thinking. As students work through an appropriate project of their choice, they collect data, look for patterns, develop plans, and revise their work—all while using mathematics to make sense of complex situations.



Students are **not expected to know everything before they begin**. New math concepts and skills are learned as challenges arise throughout the project.



Learning happens in meaningful contexts, helping students understand how math is useful in everyday life.



Students investigate examples, ask questions, practice strategies, and receive guidance as they work toward solutions.



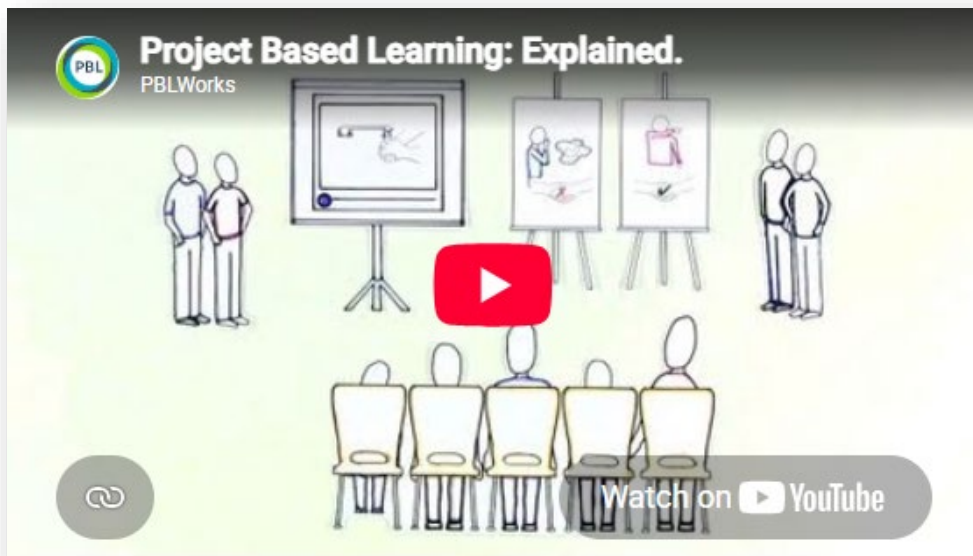
Students work with others, share ideas, and explain their reasoning, strengthening both understanding and confidence.



Students demonstrate their understanding through presentations and sharing their work with classmates, teachers, and other audiences.



Through perseverance, presentations, and reflection, students grow into capable problem-solvers who see themselves as successful math learners.



For additional information and resources to support at home, please visit the [Office of Mathematics website](#)

Big Ideas in Unit 2

Within this unit, students will learn these big ideas:

- Slope
- Proportional Relationships
- Representing Linear Relationships
- Finding Slopes

For more details about this unit, see [Unit 2 Family Resources Part 1](#) and [Unit 2 Family Resources Part 2](#).

Note: Print and digital resources for Math 8 Unit 2 are from Illustrative Mathematics Grade 8 Unit 2 and Unit 3 in alignment with revised Maryland Math standards.

Lesson Specific Resources

Use the links below to learn about the learning from each lesson.

Lesson Link
2.6 Similarity
2.9 Side Length Quotients in Similar Triangles
2.10 Meet Slope
2.11 Writing Equations for Lines
2.12 Using Equations for Lines
2.13 The Shadow Knows
3.1 Understanding Proportional Relationships
3.2 Graphs of Proportional Relationships
3.3 Representing Proportional Relationships
3.4 Comparing Proportional Relationships
3.5 Introduction to Linear Relationships
3.6 More Linear Relationships
3.7 Representations of Linear Relationships
3.8 Translating to $y=mx+b$
3.9 Slopes Don't Have to Be Positive

<u>3.10 Calculating Slope</u>
<u>3.11 Line Designs</u>
<u>3.12 Equations of All Kinds of Lines</u>
<u>3.13 Solutions to Linear Equations</u>
<u>3.14 More Solutions to Linear Equations</u>
<u>3.15 Using Linear Relations to Solve Problems</u>