



Slope and Intercept Lesson Plan: Grade Eight

Grade Level: **Eighth Grade** | Duration: **Two days, 30 minutes per lesson**

Objective

In this lesson, eighth graders use BrainPOP resources to learn how to use slope and intercept formulas for straight lines.

Students will:

- 1. Build Background Knowledge:**
 - Watch the BrainPOP Slope and Intercept movie.
- 2. Think and Do:**
 - Vocabulary: Define vocabulary and use in a sentence.
 - Related Reading: Read the comic and describe how slope is illustrated.
- 3. Assess:**
 - Take the Slope and Intercept quiz.

Preparation


- Preview the BrainPOP movie [Slope and Intercept](#) to plan for any adaptations.
- Create and schedule Day 1 assignment: [Slope and Intercept Movie](#) and [Vocabulary](#).
- Create and schedule Day 2 assignment: [Related Reading](#) and [Quiz](#).

Before the Lesson

Background knowledge helps students make sense of new ideas and experiences. To activate prior knowledge, ask these questions:

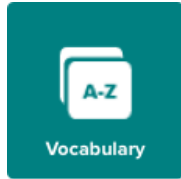
- *How might you describe how steep something is?*
- *What are some examples of slopes in everyday life?*

DAY 1: Build Background (10 minutes)

Lesson Steps	Offline Modifications	Modifications for Diverse Learners	ELL/Language Development
<div style="text-align: center;">  </div> <p>1. Watch the Slope and Intercept movie.</p> <p>Click pause at noted time codes to discuss key ideas:</p> <p>Timecode 2:01: Why does the phrase “rise over run” describe slope?</p> <p>Timecode 2:27: How could you change the coordinate (5, 6) to make the line steeper? What would the new slope equation look like?</p> <p>Timecode 2:48: What does intercept mean? What’s an example where this word could be used outside of math?</p>	<ul style="list-style-type: none"> Print the movie transcript and highlight evidence that answers each of the discussion questions. Two students act out the transcript, one as Tim and the other as Moby. 	<ul style="list-style-type: none"> Set a specific viewing purpose for individual students or small groups based on lesson objectives and student readiness. For example, have students focus on what causes a line to be more steep or less steep. Pause at two key points and prompt students to summarize. Support recall by having students draw one or two key ideas from the movie. 	<ul style="list-style-type: none"> Pause for new vocabulary. Use the word in a sentence. Prompt students to say the word and repeat the sentence. Invite them to draw a picture of the word. Create a word wall with vocabulary and the drawing. Pause at key points and ask the discussion questions in the student’s home language or English.

DAY 1: Think & Do (20 minutes)

Lesson Steps	Offline Modifications	Modifications for Diverse Learners	ELL/Language Development



- Students open their Vocabulary assignment. Or, if not using Assignment Builder, model how to open [Vocabulary](#).

Students click Flip All or each term individually. To hear a term read aloud, click the speaker icon.



Students type a definition and sentence for each term.

When they finish, students click **Save**, then **Submit To Teacher** button and/or print out.

- Print Vocabulary.



- Students write a definition and sentence for each term.

- Assign **appropriately challenging words** to individual students.
- Assign a few of the six terms to individual students to **define** and **use in a sentence**.
- As a challenge, students can **add two additional terms**, writing a definition and sentence for each.

- Say the term(s) in students' **home language**. Then say the words in English. Have the student repeat in English.
- Use the **term in a sentence**. Prompt students to say the word and repeat the sentence.
- Click the speaker icon to hear the term read aloud.



DAY 2: Build Background (5 minutes)

Lesson Steps

Offline Modifications

Modifications for Diverse Learners

ELL/Language Development



- Watch the [Slope and Intercept](#) movie again.

- Students return to their drawings of **key concepts from the first viewing** and add new details.
- As a challenge, invite students to identify more than one new fact.

Prompt students to find a fact or something new that they didn't notice the first time.

DAY 2: Think & Do (20 minutes)

Lesson Steps	Offline Modifications	Modifications for Diverse Learners	ELL/Language Development
<div data-bbox="419 496 599 673" data-label="Image"> <p>Related Reading</p> </div> <p>4. Students open their Related Reading assignment. Or, if not using Assignment Builder, model how to open the Related Reading.</p> <p>Students examine the comic and discuss the concept of slope. Prompt them to describe how slope affects the children on each side of the comic.</p>	<ul style="list-style-type: none"> • Print the Related Reading. • Describe how slope affects the children on each side of the comic. 	<ul style="list-style-type: none"> • Set a specific reading purpose for individual students or small groups based on lesson objectives and student readiness. • Limit the amount of content students have to comprehend. Choose one side of the comic for students to connect to the concept of slope. 	<ul style="list-style-type: none"> • Define challenging vocabulary words, content-specific or otherwise. • Included guided questions for annotation. Choose one side of the comic for students to connect to the concept of slope.

DAY 2: Assess (5 minutes)

Lesson Steps	Offline Modifications	Modifications for Diverse Learners	ELL/Language Development
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5. Students open their Quiz assignment. Or, if not using Assignment Builder, model how to open the [quiz](#).

If you assigned the quiz, you will see students' results in your Dashboard. If not assigned, students click **Submit to Teacher**.

- Print the [quiz](#) for students to complete.

- **Read aloud** the questions and answers.
- **Reduce the number** of questions and/or possible answers (using the Quiz Mixer).
- **Support recall** by revisiting movie drawings.

- **Read aloud the quiz** in students' home language.
- **Highlight the key vocabulary** in a printable version of the quiz.
- **Support recall** by having students review drawings they made during the movie.