MATH 8

Lesson Date: **09/19/22** **09/20/22** **Unit/Topic:** **Module 3.1 – Representing Proportional Relationships** **Prepared By:** **Alvina Lin**

Overview & Purpose	**Education Standards Addressed**
The purpose of this lesson is for students to develop an understanding of how to represent proportional relationships in different ways. Students will work on a variety of practice problems.	8.EE.6 – Use similar triangles to explain why the slope m is the same between any two distinct points on a non-vertical line in the coordinate plane; derive the equation y = mx for a line through the origin and the equation y = mx + b for a line intercepting the vertical axis at b.

	Teacher Guide	**Approx. Time**	
Opener (What type of opener, and what questions do you ask?)	• Display instructions for the class on the board. • Students find a spot in the caddy to place their cell phones and gather supplies. • *Opener:* Students complete Module 3 Pre-Assessment and turn in.	10-15 min	**Materials Needed** • Pencil • Highlighter • Calculator • Math Notebook • Go Math Book • Pre-Assessment Paper
Objective (What is the objective statement/essential question you give to your students?)	• SWBAT use tables, graphs, and equations to represent proportional situations. (call on student to read objective aloud)	1 min	
Lesson (What topics are you going to cover, and how will you cover them? Guided notes, lecture, Powerpoint, guided reading, etc.)	Lesson Format: Guided instruction, guided practice, independent/group practice Lesson Content: • Walk through Explore Activity on p. 71 as a class. • Discuss definitions of proportional relationship and constant of proportionality. • Walk through Example 1 on p. 72 and have students work on Your Turn problem #3. Discuss solution. • Walk through Example 2 on p. 73 and have students work on Your Turn problems #4-5. Discuss solutions.	15-20 min	
Activity (Describe the activity to reinforce this lesson)	• As a class, complete all guided practice problems on p. 74, periodically checking for understanding and questioning students on problem-solving steps. • Work on independent practice problems on p. 75-76, alternating between solving as a class and having students work on their own or with partners, then discussing the problems as a class. • Ensure students have all problems completed by end of class.	30-35 min	**Other Resources** (e.g. Web, books, etc.)
Formative Assessment (Steps to check for student understanding)	• Teacher circulates the room to check that students are solving problems correctly. • Ask for "3, 2, 1" displayed on fingers to check for level of understanding. • Pre-Assessment to determine what students already know about the unit's topics.	Included in activity time	
Summary/Closure (How do you wrap up the day so it will lead into tomorrow?)	• Ask students to think-pair-share the three types of representations we learned. • Remind students that their homework is to study for the quiz next class. • Students clean up materials and the area around them. • Students pick up cellphones from the caddy and pack up.	5-6 min	**Additional Notes** *Homework*: Study for quiz. *Accommodations*: EL students may use their phones for translation.

MATH 8

Lesson Date: **09/21/22** **09/22/22** **Unit/Topic:** **Module 3.2 – Rate of Change and Slope** **Prepared By:** **Alvina Lin**

Overview & Purpose	**Education Standards Addressed**
The purpose of this lesson is for students to develop an understanding of how to find a rate of change. Students will work on a variety of practice problems.	8.F.4 – Construct a function to model a linear relationship between two quantities. Determine the rate of change and initial value of the function from a description of a relationship or from two (x, y) values, including reading these from a table or from a graph. Interpret the rate of change and initial value of a linear function in terms of the situation it models, and in terms of its graph or a table of values.

	Teacher Guide	**Approx. Time**	
Opener (What type of opener, and what questions do you ask?)	• Display instructions for the class and quiz questions on the board. • Students find a spot in the caddy to place their cell phones and gather supplies. • *Opener:* Students complete 3.1 Lesson Quiz on blank handout and turn in.	10-15 min	**Materials Needed** • Pencil • Highlighter • Calculator • Math Notebook • Go Math Book • Blank Quiz Handout
Objective (What is the objective statement/essential question you give to your students?)	• SWBAT find a rate of change or a slope. (call on student to read objective aloud)	1 min	
Lesson (What topics are you going to cover, and how will you cover them? Guided notes, lecture, Powerpoint, guided reading, etc.)	Lesson Format: Guided instruction, guided practice, independent/group practice Lesson Content: • Discuss definition of a rate of change. • Walk through Example 1 on p. 77 and have students work on Your Turn problem #1. Discuss solution. • Walk through Explore Activity on p. 78. • Discuss the definition and formula of slope. • Walk through Example 2 on p. 79 and have students work on Your Turn problem #4. Discuss solution.	15-20 min	
Activity (Describe the activity to reinforce this lesson)	• As a class, complete all guided practice problems on p. 80, periodically checking for understanding and questioning students on problem-solving steps. • Work on independent practice problems on p. 81-82, alternating between solving as a class and having students work on their own or with partners, then discussing the problems as a class. • Ensure students have all problems completed by end of class.	30-35 min	**Other Resources** (e.g. Web, books, etc.)
Formative Assessment (Steps to check for student understanding)	• Teacher circulates the room to check that students are solving problems correctly. • Ask for "3, 2, 1" displayed on fingers to check for level of understanding. • Lesson Quiz to determine what students retained from previous class.	Included in activity time	
Summary/Closure (How do you wrap up the day so it will lead into tomorrow?)	• Ask students to think-pair-share what is rate of change and what is slope. • Remind students that their homework is to study for the quiz next class. • Students clean up materials and the area around them. • Students pick up cellphones from the caddy and pack up.	5-6 min	**Additional Notes** *Homework*: Study for quiz. *Accommodations*: EL students may use their phones for translation.

MATH 8

Lesson Date: **09/23/22** **09/26/22** **Unit/Topic: Module 3.3 – Interpreting the Unit Rate as Slope** **Prepared By: Alvina Lin**

Overview & Purpose	**Education Standards Addressed**
The purpose of this lesson is for students to develop an understanding of the unit rate. Students will work on a variety of practice problems.	8.EE.5 – Graph proportional relationships, interpreting the unit rate as the slope of the graph. Compare two different proportional relationships represented in different ways. 8.F.4 from previous lesson.

	Teacher Guide		**Approx. Time**	
Opener (What type of opener, and what questions do you ask?)	• Display instructions for the class and quiz questions on the board. • Students find a spot in the caddy to place their cell phones and gather supplies. • *Opener:* Students complete 3.2 Lesson Quiz on blank handout and turn in.		10-15 min	**Materials Needed** • Pencil • Highlighter • Calculator • Math Notebook • Go Math Book • Blank Quiz Handout
Objective (What is the objective statement/essential question you give to your students?)	• SWBAT interpret the unit rate as slope. (call on student to read objective aloud)		1 min	
Lesson (What topics are you going to cover, and how will you cover them? Guided notes, lecture, Powerpoint, guided reading, etc.)	<u>Lesson Format:</u> Guided instruction, guided practice, independent/group practice	<u>Lesson Content:</u> • Discuss definition of a unit rate. • Walk through Explore Activity on p. 83 as a class. • Walk through Example 1 on p. 84 and have students work on Your Turn problem #2. Discuss solution. • Walk through Example 2 on p. 85 and have students work on Your Turn problem #4. Discuss solution.	15-20 min	
Activity (Describe the activity to reinforce this lesson)	• As a class, complete all guided practice problems on p. 86, periodically checking for understanding and questioning students on problem-solving steps. • Work on independent practice problems on p. 87-88, alternating between solving as a class and having students work on their own or with partners, then discussing the problems as a class. • Ensure students have all problems completed by end of class.		30-35 min	**Other Resources** (e.g. Web, books, etc.)
Formative Assessment (Steps to check for student understanding)	• Teacher circulates the room to check that students are solving problems correctly. • Ask for "3, 2, 1" displayed on fingers to check for level of understanding. • Lesson Quiz to determine what students retained from previous class.		Included in activity time	
Summary/Closure (How do you wrap up the day so it will lead into tomorrow?)	• Ask students to think-pair-share real-world examples of a unit rate. • Remind students that their homework is to study for the quiz next class. • Students clean up materials and the area around them. • Students pick up cellphones from the caddy and pack up.		5-6 min	**Additional Notes** *Homework*: Study for quiz. *Accommodations*: EL students may use their phones for translation.