Plan for Grade 8 Unit 3: Linear Relationships

Relevant Unit(s) to review: Grade 7 Unit 2: Introducing Proportional Relationships

Essential prior concepts to engage with this unit	This unit builds heavily on the work of Grade 7 Unit 2 and Grade 8 Unit 2. In Grade 7 Unit 2, students dive deep into different representations of proportional relationships and understanding the constant of proportionality. At the end of Grade 8 Unit 2, students learned the terms "slope" and "slope triangle," used the similarity of slope triangles on the same line to understand that any two distinct points on a line determine the same slope, and found an equation for a line with a positive slope and vertical intercept.
Brief narrative of approach	This unit includes major work of the grade and should remain intact as much as possible. The first few lessons build directly from Grade 7 Unit 2 and do not need to be adapted. Eventually students transition from working exclusively with proportional relationships to linear relationships. They begin only working with linear relationships involving a positive rate of change. When they transition to working with linear relationships involving a negative rate of change, monitor students for understanding of rational number arithmetic. Although this unit includes some review, Grade 7 Unit 5 can provide additional resources for increasing familiarity.

Lessons to Add	Lessons to Remove or Modify
Students should be able to engage with this unit without any additional review given that it primarily builds from the study of proportional relationships in Grade 7 Unit 2 and the study of geometry in Grade 8 Units 1 and 2. If needed, these two lessons from Grade 7 would be appropriate just in time review.	1. Combine Lessons 2 and 3. 2. Combine Lessons 6 and 7. 3. Optional: Remove Lesson 14 if needed.

➢ Grade 7 Unit 2 Lesson 10: Activities 1 and 2 can be completed digitally. This lesson launches the introduction to graphing proportional relationships. ➢ Grade 7 Unit 2 Lesson 11 Activity 3: This activity can be completed digitally. This is essential prior knowledge for this unit.	
Lessons added: 0	Lessons removed: 2

Modified Plan for Grade 8 Unit 3

Day	IM lesson	Notes
	assessment	8.3 Check Your Readiness assessment Note that the Check Your Readiness assessment includes item-by-item guidance to inform just-in-time adjustments to instruction within the lessons in 8.3.
1	8.3.1	
2	8.3.2 8.3.3	8.3.2 and 8.3.3 both focus on ensuring students know how to label axes and choose a reasonable scale given the data. The card sort could be removed from 8.3.2 and the Info Gap could be removed from 8.3.3 to combine these to a one day lesson.
3	8.3.4	
4	8.3.5	
5	8.3.6 8.3.7	8.3.6 and 8.3.7 can be combined. The card sort could be removed from 8.3.6. The shorter version of the graduated cylinder task could be used from 8.3.7.
6	8.3.8	
7	8.3.9	
8	8.3.10	Activity 10.3 is an Info Gap that can be skipped if needed.

9	8.3.11	
10	8.3.12	
11	8.3.13	
12	8.3.14	
13	8.3 End Assessment	

Priority and Category List for Lessons

High priority (+), Medium priority (0), Low priority (-)

E: Explore, Play, and Discuss, D: Deep Dive, A: Synthesize and Apply

Lesson	Priority (+, 0, -)	Category (E, D, A)	Notes
8.3.1	0	E	The purpose of this lesson is to get students thinking about what makes a "good" graph by first considering what are the components of a graph (for example, labels and scale) and then adding scale to graphs of the pace of two bugs. Students also graph a line based on a verbal description of a relationship and compare the newly graphed line to already graphed proportional relationships.
8.3.2	0	D	The purpose of this lesson is for students to understand that there are many successful ways to set up and scale axes in order to graph a proportional relationship.
8.3.3	0	D	The term "rate of change" is introduced.
8.3.4	0	A	In this fourth lesson on proportional relationships, students expand on the work of the previous lesson by comparing two situations that are represented in different ways. Students move flexibly between representations and consider how to find the information

			they need from each type. They respond to context-related questions that compare the two situations and solve problems with the information they've garnered from each representation.
8.3.5	+	E	In this lesson, students use the context of stacked cups to transition from working with proportional relationships to linear relationships. The term "linear relationship" is introduced.
8.3.6	0	D	The term "vertical intercept" is introduced.
8.3.7	0	D	
8.3.8	+	A	
8.3.9	+	E	In this lesson, students explore negative slopes. The introductory activity involves a subway card and has a digital applet to allow students to graph the relationship.
8.3.10	0	D	
8.3.11	0	D	
8.3.12	0	D	The term "solution to an equation with two variables" is introduced.
8.3.13	0	A	
8.3.14	-	A	