NAME   DATE   PERIOD
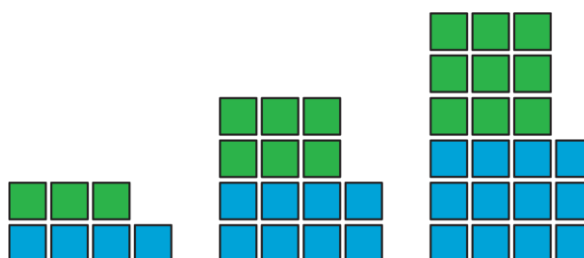
Student Task Statements

Lesson 11: Representing Ratios with Tables

11.1: How Is It Growing?

Look for a pattern in the figures.

1. How many total tiles will be in:

    a. the 4th figure?

    b. the 5th figure?

    c. the 10th figure?

2. How do you see it growing?

11.2: A Huge Amount of Sparkling Orange Juice

Noah's recipe for one batch of sparkling orange juice uses 4 liters of orange juice and 5 liters of soda water.

1. Use the double number line to show how many liters of each ingredient to use for different-sized batches of sparkling orange juice.

   orange juice (liters) $\longmapsto\!\!+\!\!+\!\!+\!\!+\!\!+\!\!+\!\!+\!\!+\!\!+\!\!+\!\!\longrightarrow$

   soda water (liters) $\longmapsto\!\!+\!\!+\!\!+\!\!+\!\!+\!\!+\!\!+\!\!+\!\!+\!\!+\!\!\longrightarrow$

2. If someone mixes 36 liters of orange juice and 45 liters of soda water, how many batches would they make?

3. If someone uses 400 liters of orange juice, how much soda water would they need?

4. If someone uses 455 liters of soda water, how much orange juice would they need?

5. Explain the trouble with using a double number line diagram to answer the last two questions.

11.3: Batches of Trail Mix

A recipe for trail mix says: "Mix 7 ounces of almonds with 5 ounces of raisins." Here is a **table** that has been started to show how many ounces of almonds and raisins would be in different-sized batches of this trail mix.

almonds (oz)	raisins (oz)
7	5
28	
	10
3.5	
	250
56	

1. Complete the table so that ratios represented by each row are equivalent.

2. What methods did you use to fill in the table?

3. How do you know that each row shows a ratio that is equivalent
   to $7:5$? Explain your reasoning.

Are you ready for more?

You have created a best-selling recipe for chocolate chip cookies. The ratio of sugar to flour is $2:5$.

Create a table in which each entry represents amounts of sugar and flour that might be used at the same time in your recipe.

- One entry should have amounts where you have fewer than 25 cups of flour.

- One entry should have amounts where you have between 20–30 cups of sugar.

- One entry can have any amounts using more than 500 units of flour.

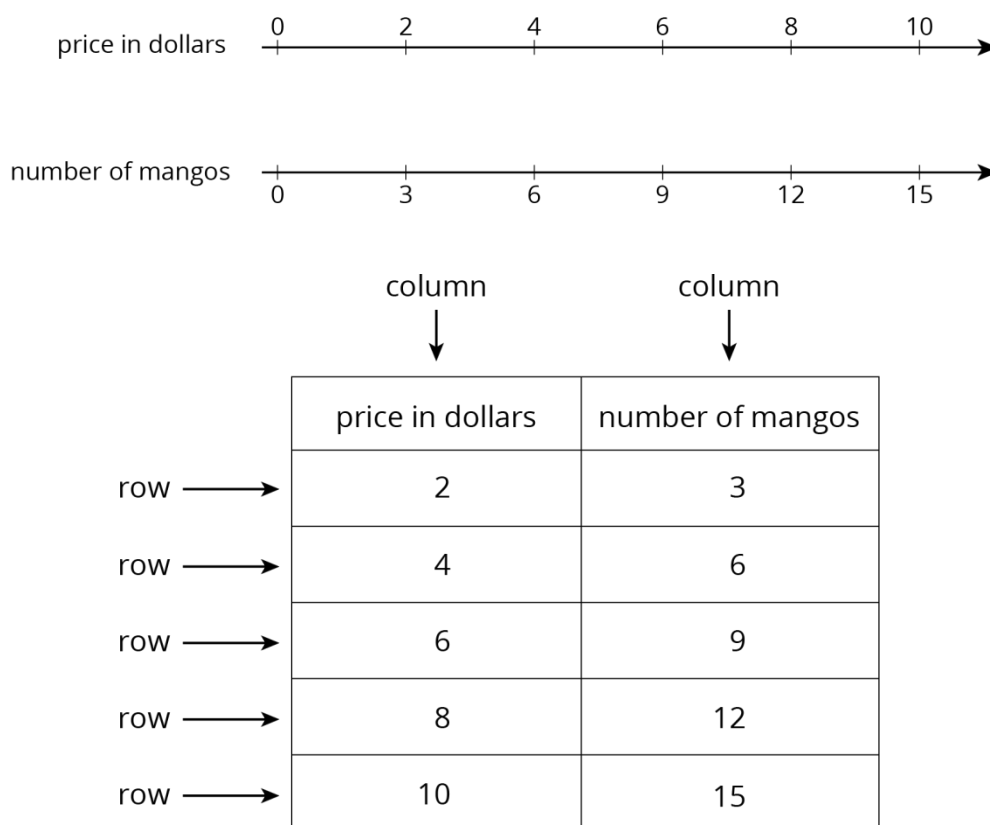## Lesson 11 Summary

A **table** is a way to organize information. Each horizontal set of entries is called a *row*, and each vertical set of entries is called a *column*. (The table shown has 2 columns and 5 rows.) A table can be used to represent a collection of equivalent ratios.

Here is a double number line diagram and a table that both represent the situation: "The price is $2 for every 3 mangos."

price in dollars	number of mangos
2	3
4	6
6	9
8	12
10	15