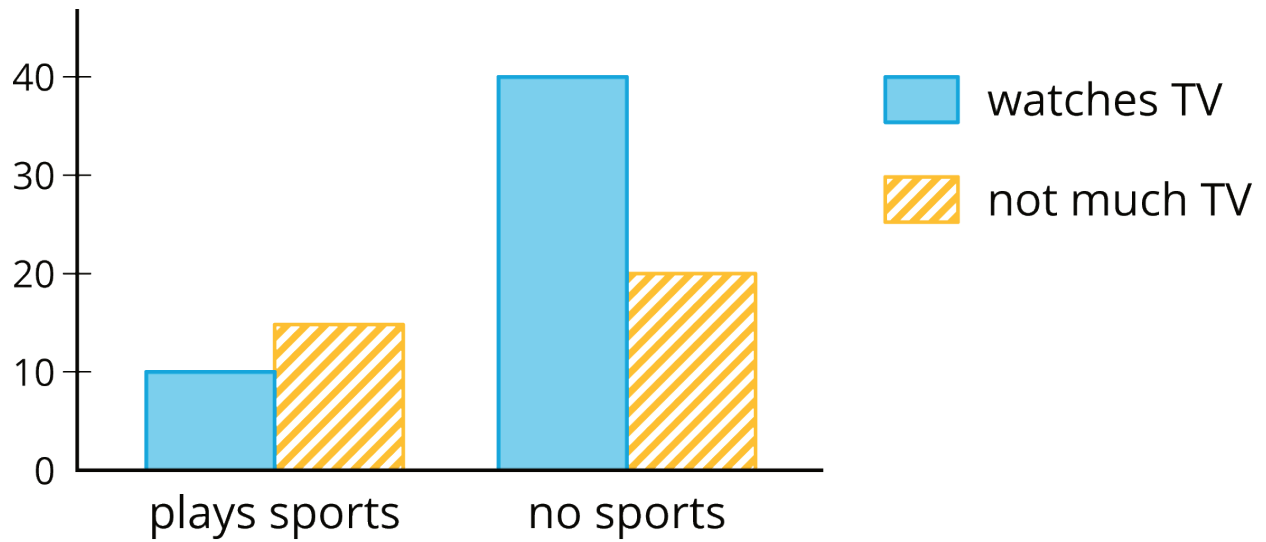


## Unit 5 Lesson 23: Looking for Associations

### 1 Notice and Wonder: Bar Association (Warm up)

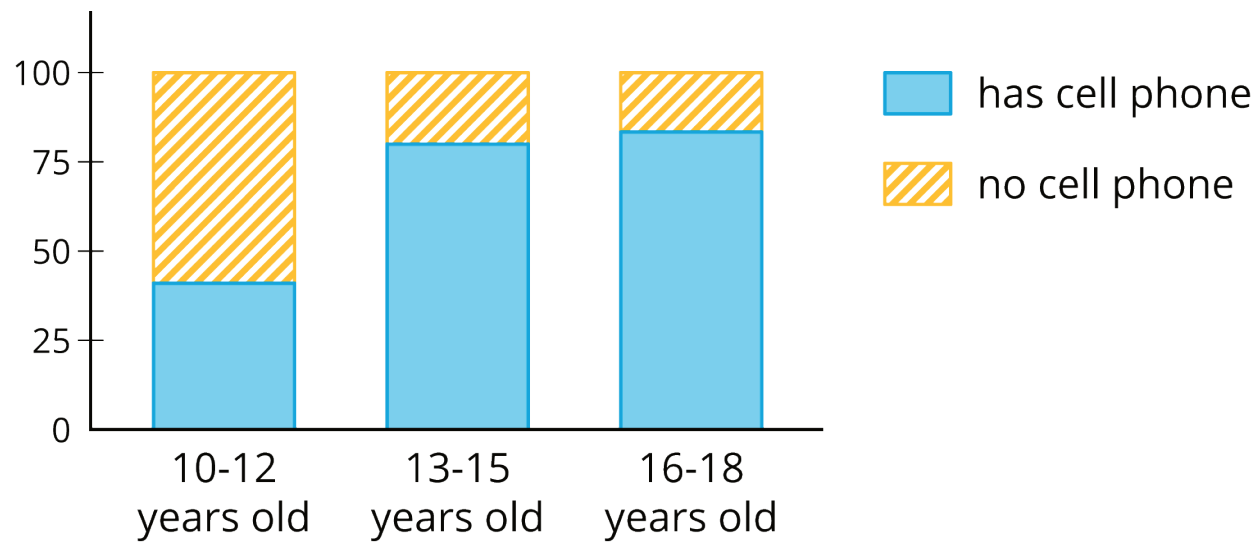
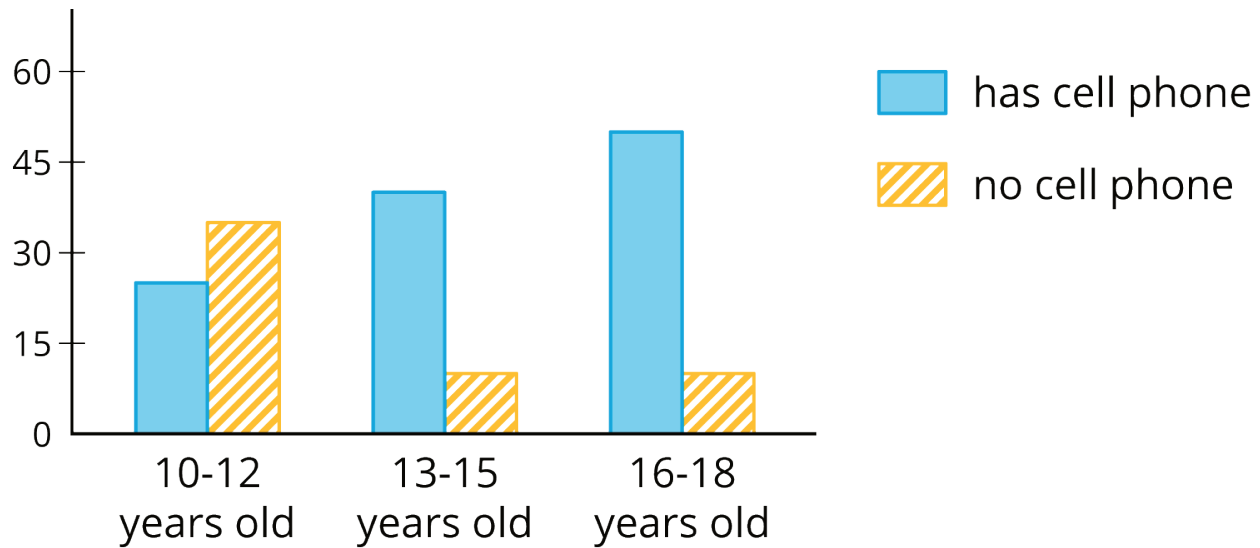
#### Student Task Statement

What do you notice? What do you wonder?



## 2 Card Sort: Matching Representations

### Images for Launch



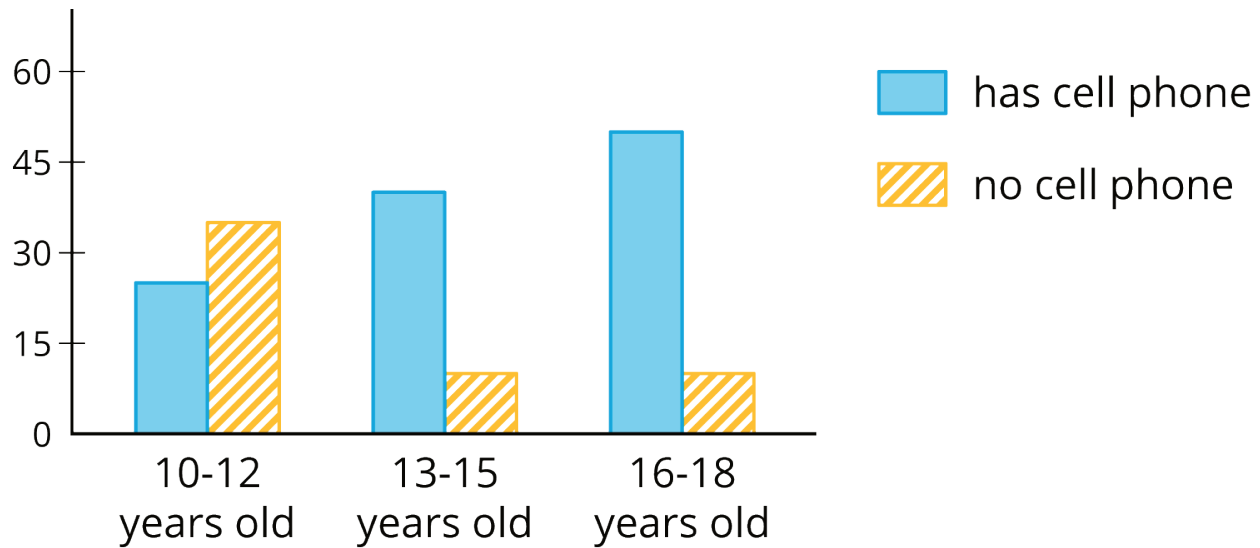
### Student Task Statement

Your teacher will hand out some cards.

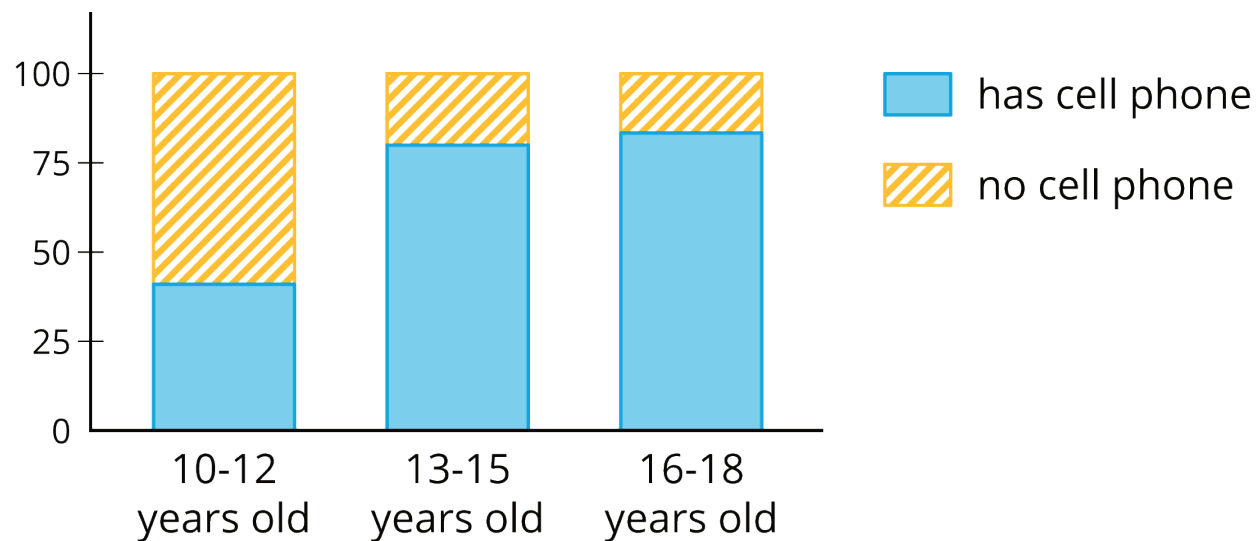
Some cards show **two-way tables** like this:

	has cell phone	does not have cell phone	total
10 to 12 years old	25	35	60
13 to 15 years old	40	10	50
16 to 18 years old	50	10	60
total	115	55	170

Some cards show bar graphs like this:



Some cards show segmented bar graphs like this:



The bar graphs and segmented bar graphs have their labels removed.

1. Put all the cards that describe the same situation in the same group.
2. One of the groups does not have a two-way table. Make a two-way table for the situation described by the graphs in the group.
3. Label the bar graphs and segmented bar graphs so that the categories represented by each bar are indicated.
4. Describe in your own words the kind of information shown by a segmented bar graph.

### 3 Building Another Type of Two-Way Table

#### Student Task Statement

Here is a two-way table that shows data about cell phone usage among children aged 10 to 18.

	has cell phone	does not have cell phone	total
10 to 12 years old	25	35	60
13 to 15 years old	40	10	50
16 to 18 years old	50	10	60
total	115	55	170

1. Complete the table. In each row, the entries for “has cell phone” and “does not have cell phone” should have the total 100%. Round entries to the nearest percentage point.

	has cell phone	does not have cell phone	total
10 to 12 years old	42%		
13 to 15 years old			100%
16 to 18 years old		17%	

This is still a two-way table. Instead of showing *frequency*, this table shows **relative frequency**.

2. Two-way tables that show relative frequencies often don't include a “total” row at the bottom. Why?
3. Is there an association between age and cell phone use? How does the two-way table of relative frequencies help to illustrate this?

### Images for Activity Synthesis

