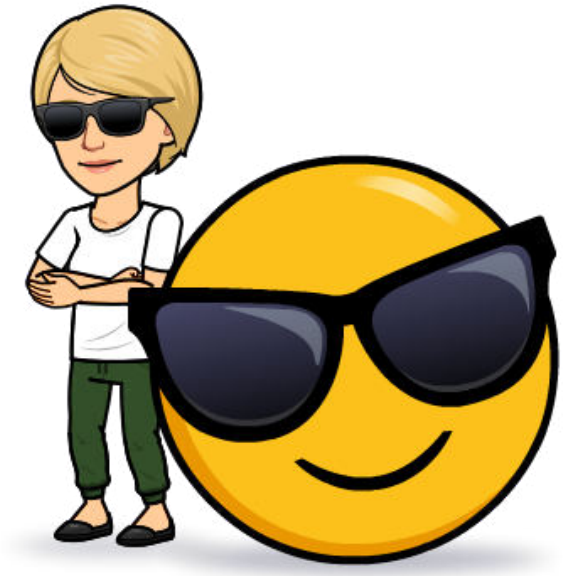
Today's Materials



- pencil
- calculator
- ruler
- notebook
- glue

Scale Drawings

Lesson 7

CCSS Standards: Addressing	• 7.G.A.1

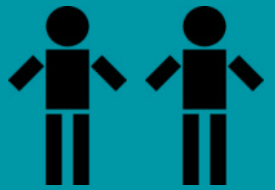
Let's explore scale drawings!

Today's Goals

- I can explain what a scale drawing is, and I can explain what its scale means.
- I can use a scale drawing and its scale to find actual distances.
- I can use actual distances and a scale to find scaled distances.

What is a Scale Drawing?

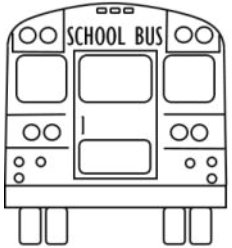
Warm Up

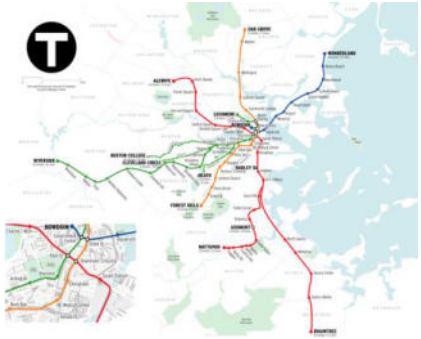


Who has seen scale drawings?

Can you give me an example of a scale drawing you have seen?

These are scale drawings of a bus, a quarter, and the subway lines around Boston, MA.

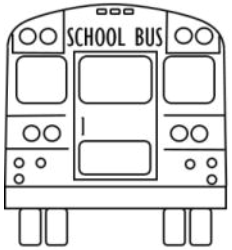


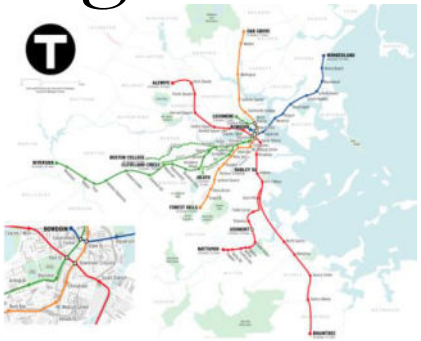


These three drawings are *not* scale drawings of the objects.

Discuss with your partner what a scale drawing is.

scale drawings



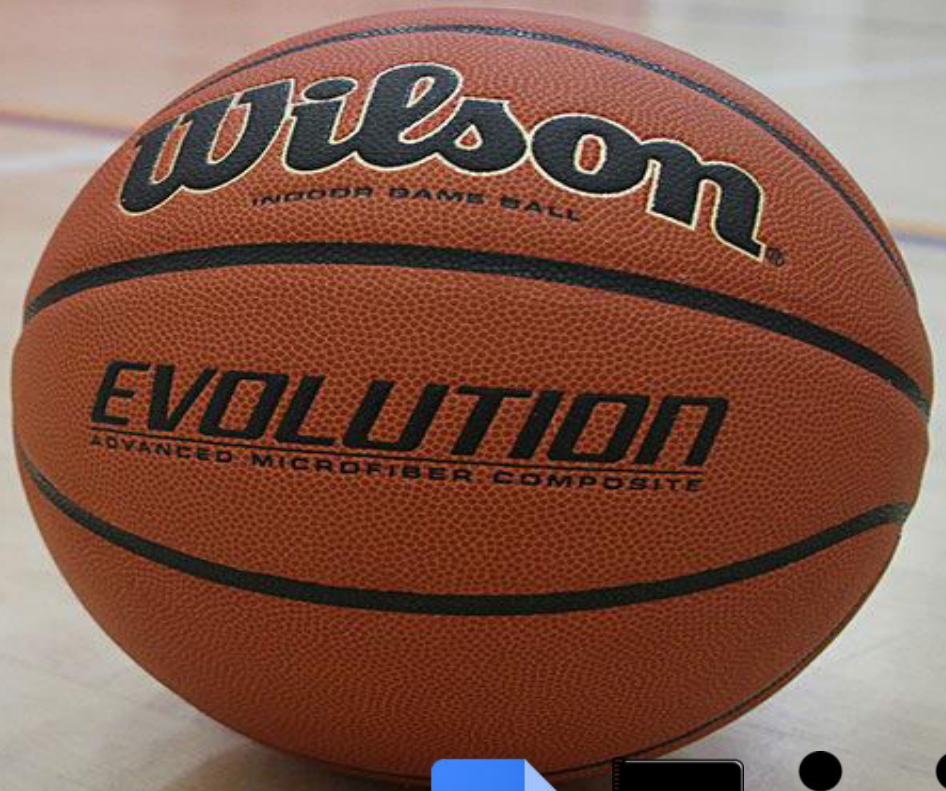


not scale drawings

- What did you notice about scale drawings vs. scale copies?
- How are scale drawings like scaled copies?
- What aspects of the bus, coin, and map do the scale drawings show? What do they not show?

Sizing Up a Basketball Court

Activity 7.2

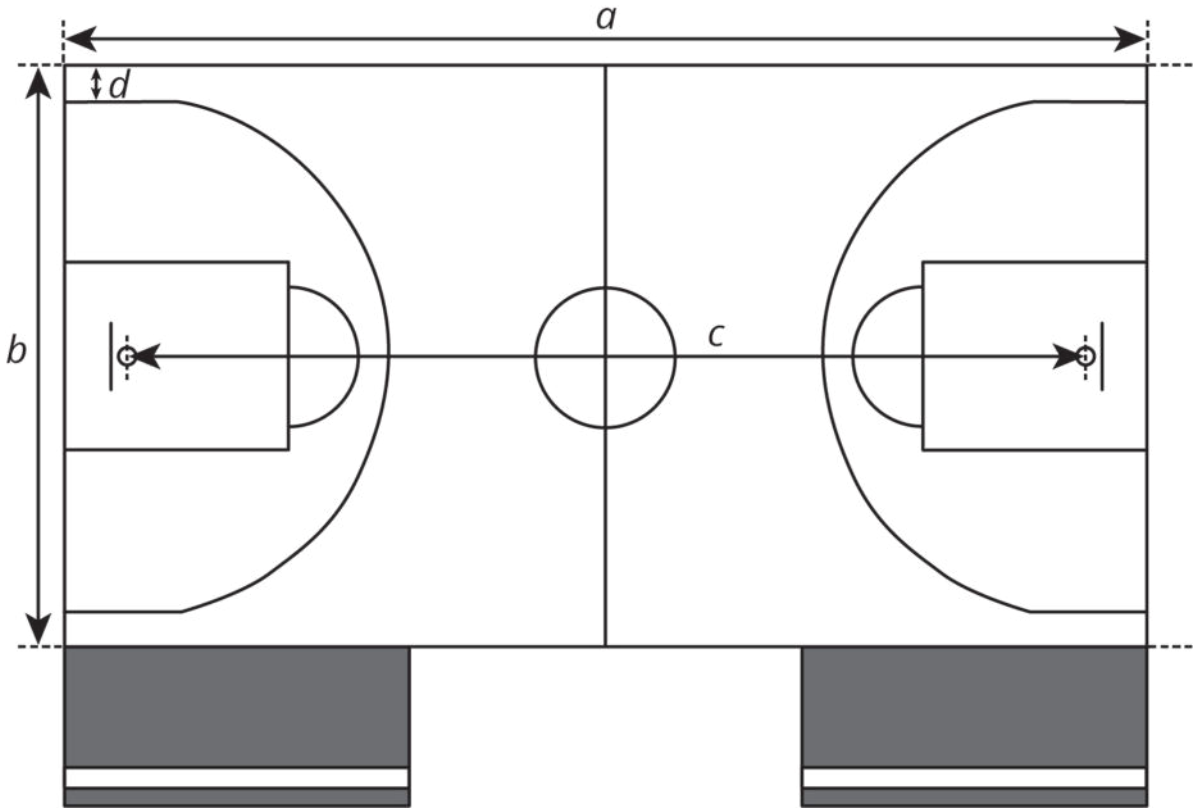


Do you think you could throw a basketball across the width of a basketball court?

Could you throw a basketball across the full length of the court?

Answer Questions #1-3 on your paper using Quiet Work Time. (6-7 min.)

Share your thinking with a partner.
Then, finish the last question together.



	(a) length of court	(b) width of court	(c) hoop to hoop	(d) 3-point line to sideline
scale drawing	16.2 cm	8.9 cm	14.3 cm	0.5 cm
actual court	32.4 m	17.8 m	28.6 m	1 m

1. Does "1 cm for every 2 m" mean that the actual distance is twice that on the drawing? Why or why not?
2. Which parts of the court should be drawn by using the "1 cm for every 2 m" rule?
3. Can we reverse the order in which we list the scaled and actual distances? For example, can we say:
   - "2 m of actual distance to 1 cm on the drawing" or
   - "2 m to 1 cm"?

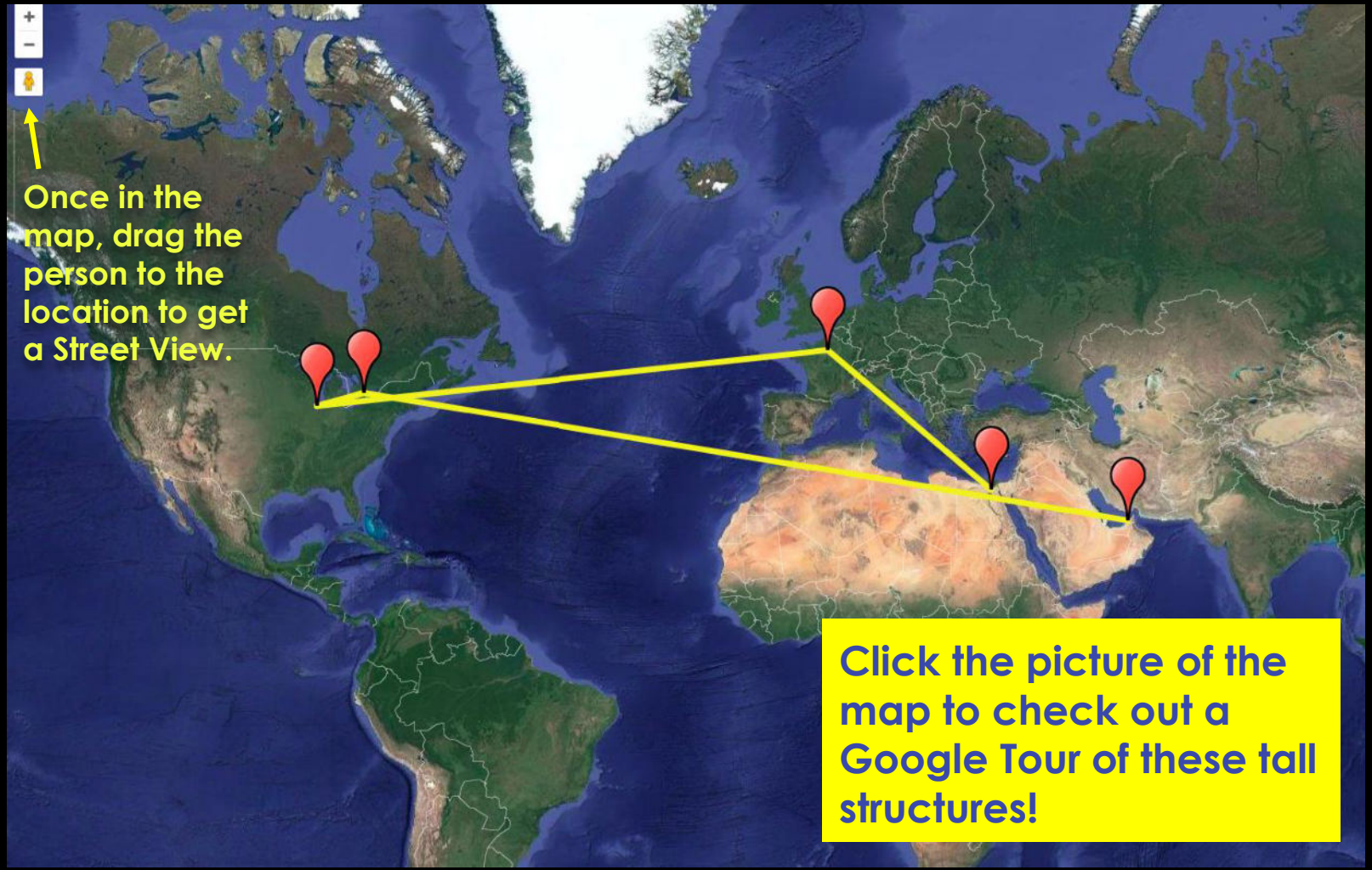
If some of our measurements were different, what might have contributed to the accuracy of measurements?

- not measuring in a straight line
- the lines on the scale drawing have width… Did you measure from the inside or outside of the lines?

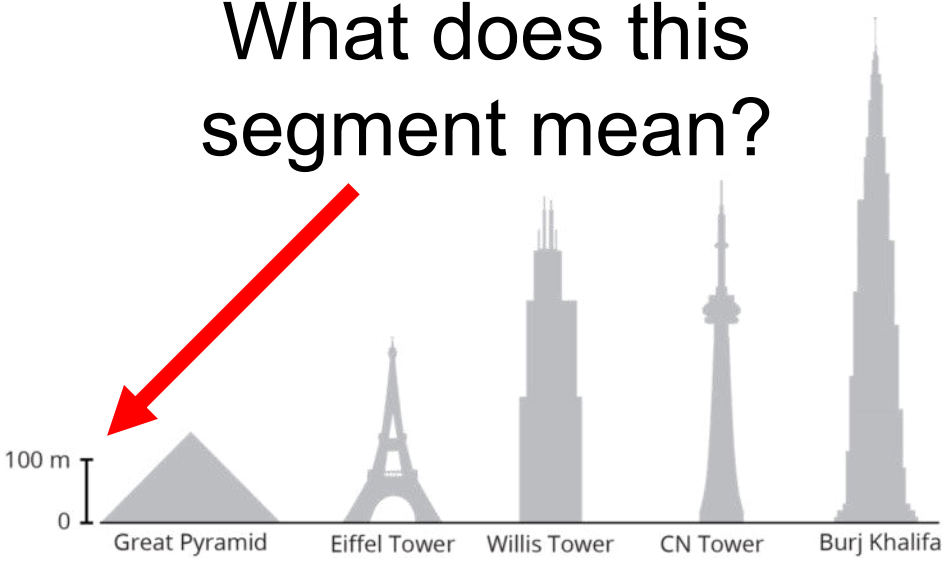
Tall Structures

Activity 7.3

- 5 Practices


Once in the map, drag the person to the location to get a Street View.
Click the picture of the map to check out a Google Tour of these tall structures!

What does this segment mean?

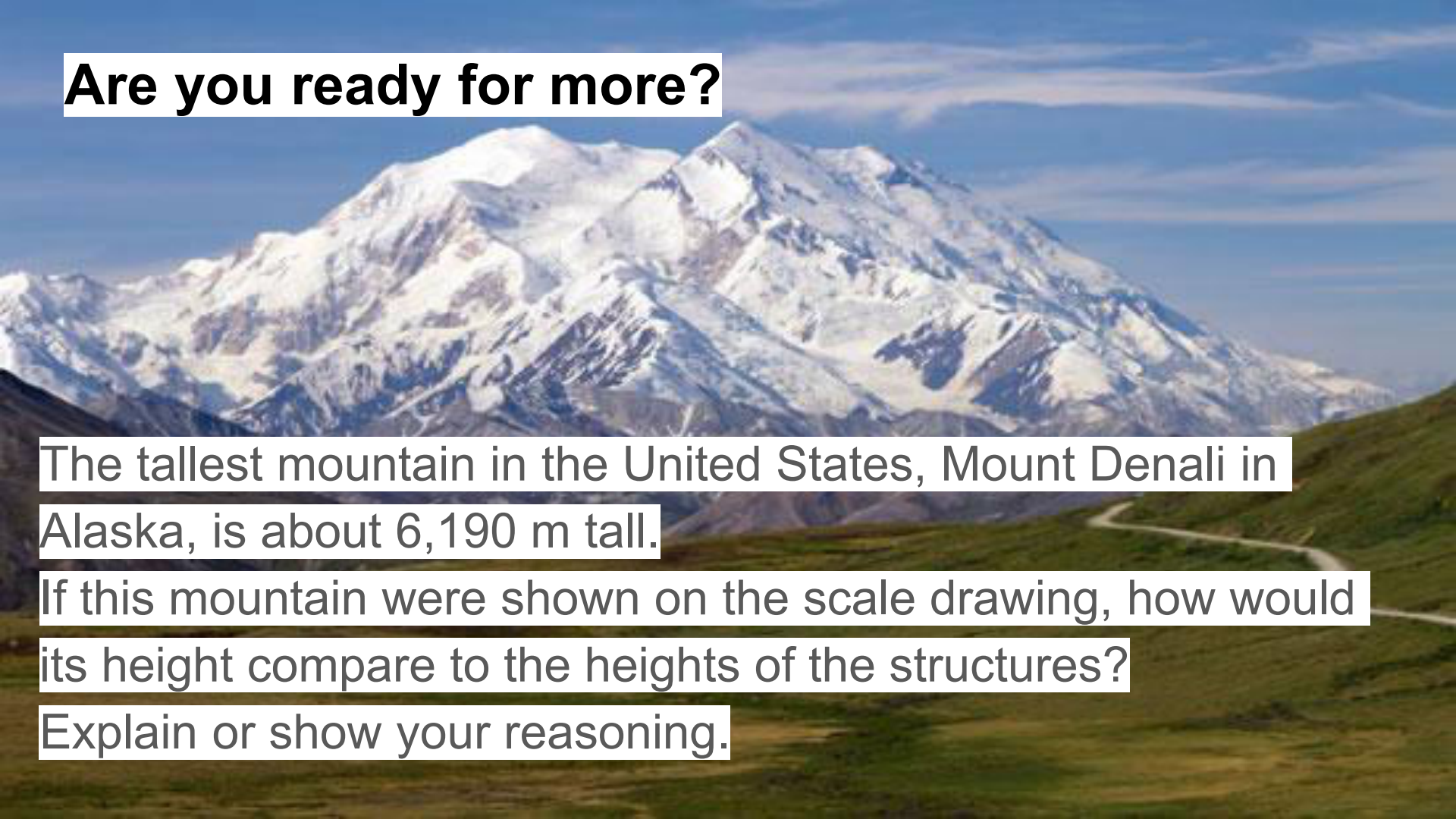


- ➔ As you are working, check your answers to Question #1 with a partner.
- ➔ Discuss your thinking as you go and come to an agreement before working on the rest of the questions.

- ★ About how tall is the actual Willis Tower? About how tall is the actual Great Pyramid?
- ★ About how much taller is the Burj Khalifa than the Eiffel Tower? How did you compare these heights?

- ★ Besides the height information, what other information about the towers does the drawing show?
- ★ What information does it *not* show?
- ★ How is this scale drawing the same as that of the basketball court?

Are you ready for more?



The tallest mountain in the United States, Mount Denali in Alaska, is about 6,190 m tall.

If this mountain were shown on the scale drawing, how would its height compare to the heights of the structures?

Explain or show your reasoning.

What is a scale drawing?

A scale drawing is a scaled representation of an object.

How can we describe the scale for a scale drawing?

The scale tells us how lengths on the drawing relate to the lengths on the actual object.

How do we find distances using a scale drawing?

We can use the scale to find lengths on the actual object by using the scale.

Length of a Bus and Width of a Lake

Cool Down