



Road Trip Map Scale

Mission: A family is planning a road trip through five towns. Measure the roads on the map with a ruler, use the map scale to find real distances, and figure out how long the drive will take.

Big question: How do map scales use ratios to find real distances?

★ Warm-up: Estimation station

Estimate and explain.

If 1 inch = 5 miles, what is 4 inches? ✓ **20 miles.**

At 50 mph, how long to drive 100 miles? ✓ **2 hours.**

Key vocabulary

Scale	A ratio comparing map distance to real distance.
Scale drawing	A drawing that shrinks or enlarges something by the same ratio.
Rate	Like 50 miles per hour.
Proportional	Changing by the same multiplier.

1 Box 1

Real distance

Using the scale (1 cm = 10 miles), how many real miles is it?

Answer: _____ miles ✓ **150**

2 Box 2

Trip table

Measure each road and convert.

Road	Map (cm)	Real (mi)
Maple Falls → Oak Ridge	from simulator	from simulator
Oak Ridge → Pine Lake	from simulator	from simulator
Pine Lake → Cedar Point	from simulator	from simulator

3 Box 3

Drive time

The family drives 50 miles per hour. How many hours from Sunnyside to Maple Falls (150 mi)?

Answer: _____ hours ✓ **3**

4 Box 4

Which route?

To get from Maple Falls to Pine Lake, is it shorter to go through Oak Ridge (80 + 120 mi) or through Cedar Point (≈122 + 100 mi)?

☐ Through Oak Ridge (200 mi vs about 222 mi) ☐ Through Cedar Point ☐ Same

✓ **Through Oak Ridge (200 mi vs about 222 mi)**

5 Box 5

Legend: new scale  **Legend only**

A new map uses 1 cm = 25 miles. How many cm would the 150-mile road be?

Answer: _____ cm ✓ 6

6 Box 6

Trip plan

Explain how you used the map scale and the speed to plan the trip from Sunnyside to Maple Falls.

Look for: Measured in cm; Used the scale; Used the rate; a number from the simulator

Exit ticket: answer the big question in your own words

How do map scales use ratios to find real distances?

Look for: A map scale is a ratio: 1 cm on the map = 10 real miles. Multiply the map distance by the scale to find the real distance. Then a rate (miles per hour) tells how long the trip takes: time = distance ÷ speed.

Completion codes

Students see a code like **ABC-I3** when they finish. The first part must match below. The letter is the level (E = Explorer, I = Investigator, L = Legend), and the number at the end is how many stars they earned.

Level	Code starts with
 Explorer	1VE-E
 Investigator	M7U-I
 Legend	1D3-L

Watch for these misconceptions

- "Ratio order doesn't matter." 3:2 and 2:3 are different comparisons.
- "Add the same number to both parts to make equivalent ratios." You must multiply or divide.
- "Percents can never be more than 100." 150% of something is more than the whole.