

Name _____

Estimation Challenge

Sometimes you will be asked to solve a problem for which it is difficult, or even impossible, to find an **exact** answer. Your job will be to make your best estimate and then defend it. We call this kind of problem an **Estimation Challenge**.

Imagine that you are living in a time when there are no cars, trains, or planes. You do not own a horse, a boat, or any other means of transportation. You plan to travel to a new state, but you will have to walk there.

Information that you will need:

Step size:

Units:

1 mile = 5,280 feet

Map Scale:

1.5 inch = about 500 miles

1 inch = about 330 miles

0.5 inch = about 170 miles

1. With a partner, use a yard stick to find the length of your step. Round to the nearest foot.
 - a. My step is _____ feet.
2. In gym class, you run a mile by going around the school twice. Estimate how many footsteps you take on your mile run. Remember 1 mile = 5,280 ft.
 - a. About _____ footsteps.
 - b. What did you do to estimate the number of footsteps you take?

3. Resource managers should make sure that their pair-group has a map of the United States and an inch ruler. With your partner, choose a location that you would like to travel to.

a. Our destination _____

b. About how many miles is it from your school to your destination? Remember to measure on a path that you could walk on.

About _____ miles

c. Estimate how many footsteps will you have to take to get from your school to your destination?

About _____ footsteps

d. What did you do to estimate the number of footsteps you would take?

e. Do you think it is reasonable to measure in steps to California? Why or why not?

f. What other measurements could you use that might be more reasonable?

4. Reflection:

- a. What did you learn in today's estimation challenge? Any new words, strategies, etc?

- b. Is there anything confusing about the activity? Is there anything that you would like to know more about?

5. Challenge Problem Work Space

- a. If you finish early, raise your hand and have a teacher check over your work. Then you can try the challenge problems on the board.