

name:

date:

#:



# How Far Can You Jump?

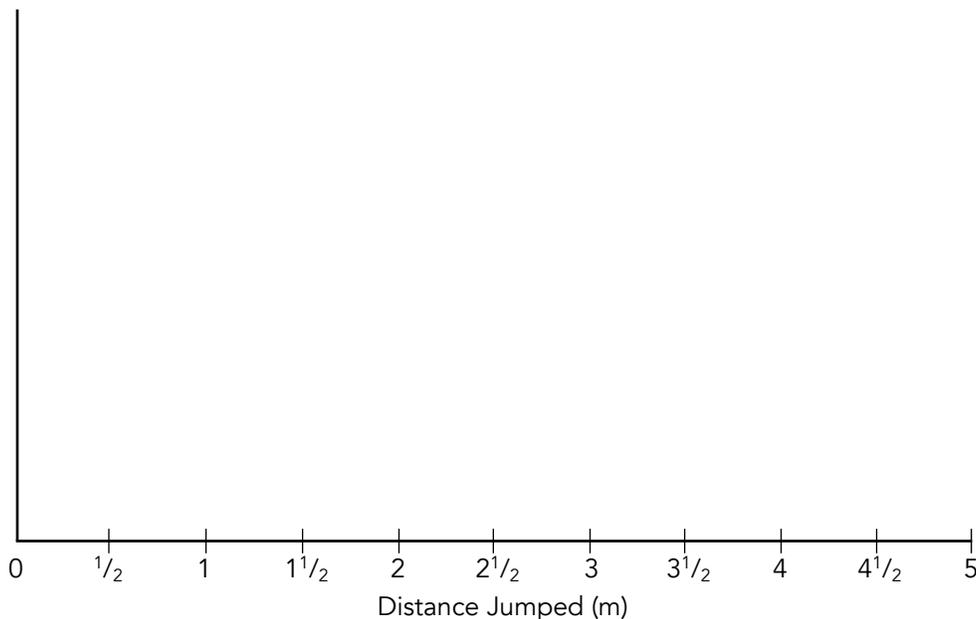
**Directions:** Each student will do a running jump forward as far as possible. Each student can begin as far back from the starting line as he/she wishes, but the toe can not cross the line (or it is a fault and that person must try again). Mark the spot where each student's toe landed with a piece of chalk. When all group members have jumped, measure the distance each student jumped in meters (and fractions of a meter). Record the data in the table below.

**Data Table: Jump Distances**

Student Name	Distance Jumped (in meters and fractions of a meter)

Make a Line Plot to represent the distance each person in your group jumped.

**Line Plot: Jump Distances**



name: \_\_\_\_\_

date: \_\_\_\_\_

#: \_\_\_\_\_

**Data Analysis Questions:**

- 1) Who jumped the farthest? \_\_\_\_\_ Distance: \_\_\_\_\_
- 2) Who jumped the shortest? \_\_\_\_\_ Distance: \_\_\_\_\_
- 3) How many times farther was the distance of the person who jumped the longest jump than the person who jumped the shortest distance? Show your math.
- 4) Marco joins your group. He jumps half the distance you jumped. How far does Marco jump? Explain your thinking using a math equation.
- 5) Jessica joins your group. She jumps twice the distance you jumped. How far does Jessica jump? Explain your thinking using a math equation.
- 6) Your little sister joins the competition, but can only jump one-fourth of the distance you jumped. How far can she jump? Explain your thinking using a math equation.
- 7) How many jumps will it take your little sister to land where you landed (assuming she jumps the same distance each time)? Explain your thinking using a math equation.
- 8) Find the average distance your group jumped. Show the math you used to calculate this.



# Teacher Directions: How Far Can You Jump?

## Materials:

- Place for students to run and jump
- Starting Line for each group
- Tool to mark landing distance for each group
- Meter Sticks (1 per group)

## Objective:

Students will measure the distance (in fractions of meters) each student can jump and represent this data on a line plot. Students will answer questions comparing distances with multiplicative comparisons, representing each question with a math sentence and solution applying the four operations with fractions.

## Directions:

Ask the class if they have ever seen anyone long jump. Model a long jump for the class or show a short video of a long jumper. Ask the class to predict how far they think they can jump.

Pass out the activity sheet and review the instructions together. Make sure students understand how to measure in fractions of a meter (each group can decide how precise they would like to be). Put students in groups of 5-6 students (to generate a good amount of data). Have the students assume the following roles: materials manager, a recorder, a starting line observer, and landing observer (they can rotate roles). Have the materials manager come get rope or chalk and a meter stick for their group.

Take the class outside (preferably to grass to avoid injury on the blacktop). Allow students (or lead them in) stretching before jumping. Have each group collect their own data. If a student repeatedly faults (goes over the starting line), set a limit of three tries and then they just do a 2-footed jump (no running start). Give the class 5-10 minutes to collect their data and record it in the table. Bring the class back inside.

Have each student copy down their group's data and use this to make a line plot. Once each line plot has been made, have students work on the analysis questions. Allow them to work together, noting that they should have different answers for #'s 4-6 and then 8, as they are only using their data point. Allow the students to struggle some, and ask guiding questions to help. Encourage the use of the number line on the line plot to help the students complete the multiplication and division problems. If the class does not know how to calculate average, you will need to model this first with whole numbers and then let them try. Bring up different students to explain their solutions to each problem.



**SAMPLE LINE PLOT:**

**Line Plot: Jump Distances**

