LESSON MAKER PRO

Length Detective

Estimate, measure, and round lengths.

GRADE 3 · 3.MG.1.b.i

3.MG.1.b.i "Estimate and measure: length of an object to the nearest U.S. Customary unit (1/2 inch, inch, foot, yard) and metric unit (centimeter, meter);"

NAME _____ DATE _____

CHOOSE THE CLOSEST UNIT

Use a small unit, such as inches or centimeters, for short objects. Use a larger unit, such as feet, yards, or meters, for longer objects. When a measurement is between units, choose the unit it is closest to.

WORKED EXAMPLE

A shelf measures 111 1/4 inches. What is its length to the nearest foot?

1. 9 feet = 108 inches.
2. 111 1/4 inches is 3 1/4 inches past 9 feet.
3. Half of a foot is 6 inches. Since 3 1/4 is less than 6, round down.

Answer: 9 feet

PRACTICE 6 problems

1 A ribbon measures 7 5/8 inches. What is its length to the nearest 1/2 inch?

ANSWER _____

2 A plant is 38 centimeters and 4 millimeters tall. What is its height to the nearest centimeter?

ANSWER _____

3 A board measures 27 2/5 inches. What is its length to the nearest inch?

ANSWER _____

4 A banner is 5 feet 8 inches long. What is its length to the nearest foot?

ANSWER _____

5 A hallway is 176 centimeters long. What is its length to the nearest meter?

ANSWER _____

6 A garden hose is 7 yards 2 feet long. What is its length to the nearest yard?

ANSWER _____

APPLY IT Show your work

1 Jada estimates that her jump rope is 2 meters long. When she measures it, it is 184 centimeters long. Is Jada's estimate reasonable? Write the measured length to the nearest meter.

WORK SPACE

ANSWER _____

2 Kai estimates that a school garden path is about 3 yards long. The path measures 9 feet 7 inches. Is Kai's estimate reasonable? Write the path length to the nearest yard.

WORK SPACE

ANSWER _____

3 Measure a real object. Your teacher will give you a short safe object and a centimeter ruler. Name the object and estimate its length in centimeters BEFORE measuring. Align one end with the ruler's zero mark, read the other end, and record its length to the nearest whole centimeter. Compare your estimate with your measurement: was it higher, lower, or the same? Explain.

WORK SPACE

ANSWER _____

CHALLENGE One step up

A bench measures 62 inches long. Omar says the length rounds to 5 feet. Rina says it rounds to 6 feet. Who is correct? Explain by telling how far 62 inches is from 5 feet and from 6 feet.

WORK SPACE AND ANSWER

ANSWER KEY # Length Detective

GRADE 3 · 3.MG.1.b.i

PART 1 · PRACTICE

#	PROBLEM	ANSWER
1	A ribbon measures 7 5/8 inches. What is its length to the nearest 1/2 inch?	**7 1/2 inches**
2	A plant is 38 centimeters and 4 millimeters tall. What is its height to the nearest centimeter?	**38 centimeters**
3	A board measures 27 2/5 inches. What is its length to the nearest inch?	**27 inches**
4	A banner is 5 feet 8 inches long. What is its length to the nearest foot?	**6 feet**
5	A hallway is 176 centimeters long. What is its length to the nearest meter?	**2 meters**
6	A garden hose is 7 yards 2 feet long. What is its length to the nearest yard?	**8 yards**

PART 2 · APPLY IT

1. **Yes. The measured length is 2 meters.** 184 centimeters is closer to 200 centimeters than to 100 centimeters. Since 200 centimeters equals 2 meters, Jada's estimate is reasonable.
2. **Yes. The path is 3 yards long to the nearest yard.** 9 feet is 3 yards, and 7 more inches is less than half of a yard. The path rounds to 3 yards.
3. **Object, estimate and measured length vary. Both numbers need cm; the comparison must match the recorded values.** Observe actual zero alignment and endpoint reading. Round to the closest whole centimeter. For example only, an estimate of 12 cm and a measured rounded length of 11 cm means the estimate was 1 cm higher.

CHALLENGE

Omar is correct. 5 feet is 60 inches, so 62 inches is 2 inches away. 6 feet is 72 inches, so 62 inches is 10 inches away. The bench rounds to 5 feet.

Accept standard abbreviations, such as in., ft, yd, cm, and m. For the challenge, accept any clear explanation that compares 62 inches to 60 inches and 72 inches. For Apply 3, provide a marked centimeter ruler and a safe object shorter than the ruler. Choose an endpoint away from an exact halfway mark. The learner records the estimate first, then actually aligns and reads the ruler. An adult may help read markings or scribe without replacing the learner's measurement.