

Estimate Detectives

Compare each close guess with the real measurement.

GRADE 3 • 3.MG.1.c

3.MG.1.c "Compare estimates of length, weight/mass, or liquid volume with the actual measurements."

NAME _____

DATE _____

CHECK THE DIFFERENCE

An estimate is a close guess. Compare the estimate with the actual measurement by subtracting the smaller number from the larger number. If the estimate is smaller, it is an underestimate. If it is larger, it is an overestimate.

WORKED EXAMPLE

Jalen estimates that a ribbon is 14 cm long. Its actual length is 17 cm. Is his estimate too low or too high? How much?

1. Actual length: 17 cm
2. Estimate: 14 cm
3. $17 - 14 = 3$ cm
4. 14 cm is less than 17 cm, so the estimate is too low.

Answer: Jalen underestimated by 3 cm.

PRACTICE 6 problems

- 1** Nia estimates that a pencil is 9 cm long. Its actual length is 12 cm. Is her estimate too low or too high? How much?

ANSWER _____

- 2** A bag of apples is estimated to weigh 25 kg. Its actual weight is 21 kg. Is the estimate too low or too high? How much?

ANSWER _____

- 3** A pitcher is estimated to hold 3 L of juice. It actually holds 4 L. Is the estimate too low or too high? How much?

ANSWER _____

- 4** A toy truck is estimated to weigh 600 g. Its actual weight is 550 g. Is the estimate too low or too high? How much?

ANSWER _____

- 5** Luis estimates that a shelf is 32 cm wide. Its actual width is 32 cm. How does his estimate compare with the actual measurement?

ANSWER _____

- 6** A jump rope is estimated to be 45 cm long. Its actual length is 50 cm. Is the estimate too low or too high? How much?

ANSWER _____

APPLY IT Show your work

- 1** For a science project, Zoe estimates that her rock collection weighs 750 g. When she weighs it, the collection weighs 800 g. Is Zoe's estimate too low or too high? How much?

WORK SPACE

ANSWER _____

- 2** At a lemonade stand, Mateo estimates that a cooler holds 6 L of lemonade. The cooler actually holds 8 L. Is Mateo's estimate too low or too high? How much?

WORK SPACE

ANSWER _____

CHALLENGE One step up

CHALLENGE

A toy racetrack is actually 70 cm long. Ava estimates 66 cm, Ben estimates 74 cm, and Cora estimates 69 cm. Whose estimate is closest? Explain how you know.

PART 1 • PRACTICE

#	PROBLEM	ANSWER
1	Nia estimates that a pencil is 9 cm long. Its actual length is 12 cm. Is her estimate too low or too high? How much?	Too low by 3 cm.
2	A bag of apples is estimated to weigh 25 kg. Its actual weight is 21 kg. Is the estimate too low or too high? How much?	Too high by 4 kg.
3	A pitcher is estimated to hold 3 L of juice. It actually holds 4 L. Is the estimate too low or too high? How much?	Too low by 1 L.
4	A toy truck is estimated to weigh 600 g. Its actual weight is 550 g. Is the estimate too low or too high? How much?	Too high by 50 g.
5	Luis estimates that a shelf is 32 cm wide. Its actual width is 32 cm. How does his estimate compare with the actual measurement?	The estimate is exactly correct.
6	A jump rope is estimated to be 45 cm long. Its actual length is 50 cm. Is the estimate too low or too high? How much?	Too low by 5 cm.

PART 2 • APPLY IT

- Too low by 50 g.** Subtract 750 g from 800 g to get 50 g. Zoe's estimate is less than the actual weight.
- Too low by 2 L.** Subtract 6 L from 8 L to get 2 L. Mateo's estimate is less than the actual volume.

CHALLENGE

Cora's estimate is closest. It is 1 cm away from 70 cm. Ava's and Ben's estimates are each 4 cm away.

Accept "underestimated" or "too low," and "overestimated" or "too high." For the challenge, accept any clear explanation that compares each difference from 70 cm.