LESSON MAKER PRO

Ruler Mark Detectives

Find lengths using inch, half-inch, and quarter-inch marks.

GRADE 3 · 3.MDR.5.4

3.MDR.5.4 "Use rulers to measure lengths in halves and fourths (quarters) of an inch and a whole inch."

NAME _____ DATE _____

MEASURE BETWEEN MARKS

To find a length, look at the ruler mark where an object starts and where it ends. If the object does not start at 0, subtract the start mark from the end mark.

WORKED EXAMPLE

A craft stick starts at the 1 1/2-inch mark and ends at the 4 3/4-inch mark. How long is it?

1. End mark: 4 3/4 inches.
2. Start mark: 1 1/2 inches.
3. Subtract: 4 3/4 - 1 1/2 = 3 1/4.

Answer: 3 1/4 inches

PRACTICE 6 problems

1 A crayon starts at 0 and ends at the 2-inch mark. How long is the crayon?

ANSWER _____

2 A toy train starts at 0 and ends at the 3 1/2-inch mark. How long is the toy train?

ANSWER _____

3 A leaf starts at 0 and ends at the 4 1/4-inch mark. How long is the leaf?

ANSWER _____

4 A paper strip starts at the 1/4-inch mark and ends at the 2 1/2-inch mark. How long is the strip?

ANSWER _____

5 A paintbrush starts at the 3/4-inch mark and ends at the 3 3/4-inch mark. How long is the paintbrush?

ANSWER _____

6 A key starts at the 2 1/2-inch mark and ends at the 5-inch mark. How long is the key?

ANSWER _____

APPLY IT Show your work

1 Jada is measuring a sticker for her skateboard. The sticker starts at the 1/2-inch mark on a ruler and ends at the 3 1/2-inch mark. How long is the sticker?

WORK SPACE

ANSWER _____

2 Noah is cutting a cord for a friendship bracelet. The cord starts at the 1 1/4-inch mark and ends at the 5 1/2-inch mark on a ruler. How long is the cord?

WORK SPACE

ANSWER _____

3 Use an inch ruler with quarter-inch marks to measure three paper strips A, B and C provided by your teacher. Their lengths are not labeled. Align one end of each strip with zero, read its other endpoint, and record A = __ inches, B = __ inches and C = __ inches. Name which length ends at a whole-inch, half-inch or quarter-inch mark. Ask for supported ruler positioning if needed; record your own readings.

WORK SPACE

ANSWER _____

CHALLENGE One step up

A paper airplane wing is 2 3/4 inches long. Its left end is lined up with the 1/2-inch mark on a ruler. Which ruler mark will its right end reach? Explain how you know.

WORK SPACE AND ANSWER

ANSWER KEY # Ruler Mark Detectives

GRADE 3 · 3.MDR.5.4

PART 1 · PRACTICE

#	PROBLEM	ANSWER
1	A crayon starts at 0 and ends at the 2-inch mark. How long is the crayon?	**2 inches**
2	A toy train starts at 0 and ends at the 3 1/2-inch mark. How long is the toy train?	**3 1/2 inches**
3	A leaf starts at 0 and ends at the 4 1/4-inch mark. How long is the leaf?	**4 1/4 inches**
4	A paper strip starts at the 1/4-inch mark and ends at the 2 1/2-inch mark. How long is the strip?	**2 1/4 inches**
5	A paintbrush starts at the 3/4-inch mark and ends at the 3 3/4-inch mark. How long is the paintbrush?	**3 inches**
6	A key starts at the 2 1/2-inch mark and ends at the 5-inch mark. How long is the key?	**2 1/2 inches**

PART 2 · APPLY IT

1. **3 inches** Subtract the start mark from the end mark. 3 1/2 - 1/2 = 3.
2. **4 1/4 inches** Subtract 1 1/4 from 5 1/2. The difference is 4 1/4.
3. **Measurements depend on the supplied strips; record all three actual lengths with inches and correctly identify the whole-, half- and quarter-inch endpoints.** Before class, prepare three strips with different exact lengths: one whole inch, one ending at a half-inch mark and one at a quarter-inch mark, all within the ruler range. Verify with the ruler and label only A/B/C. Observe zero alignment and actual endpoint readings. Example lengths 2, 3 1/2 and 4 1/4 inches are teacher checks after measurement, not values to copy.

CHALLENGE

The right end reaches the 3 1/4-inch mark. 1/2 + 2 3/4 = 3 1/4.

Accept equivalent fraction forms, such as 2 2/4 for 2 1/2, when the measurement is correct. Whole-inch answers may be written with or without the word inches. For Apply3, supply a ruler with clearly readable quarter-inch divisions and three verified strips, withholding lengths. Check the recorded readings against the actual strips and observe ruler use; calculation on supplied values alone does not complete this task. Provide accessible supported ruler placement or an equivalent usable inch-ruler display with independently read endpoints.