

# Reasoning and Problem Solving

## Step 2: Measure Length 1

### National Curriculum Objectives:

Mathematics Year 1: (1M2) [Measure and begin to record: lengths and heights](#)

### Differentiation:

Questions 1, 4 and 7 (Reasoning)

**Developing** Identify and explain whether a statement is correct. Uses the exact number of non-standard units with objects placed in line with the start of the non-standard units.

**Expected** Identify and explain whether a statement is correct. All objects placed in line with the start of the non-standard units.

**Greater Depth** Identify and explain whether a statement is correct. Objects placed at different starting points along the non-standard units.

Questions 2, 5 and 8 (Problem Solving)

**Developing** Give the possible measurement of an object which fits a set of given criteria. Uses the exact number of non-standard units with objects placed in line with the start of the non-standard units.

**Expected** Give 2 possible measurements of an object which fits a set of given criteria. All objects placed in line with the start of the non-standard units.

**Greater Depth** Give 3 possible measurements of an object which fits a set of given criteria. Objects placed at different starting points along the non-standard units.

Questions 3, 6 and 9 (Reasoning)

**Developing** Identify the mistake made when measuring. Uses different types of non-standard units.

**Expected** Identify the mistake made when measuring. Uses different types of non-standard units with objects placed in line with the start of the non-standard units.

**Greater Depth** Identify the mistake made when measuring. Uses different types of non-standard units with objects placed at different starting points along the non-standard units.

More [Year 1 Length and Height](#) resources.

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# Measure Length 1

1a. Zain has been measuring crayons.



The pencil crayons are different lengths.



Is Zain correct? Explain your answer.



R

# Measure Length 1

1b. Millie has been measuring pencils.



The pencils are not the same length.

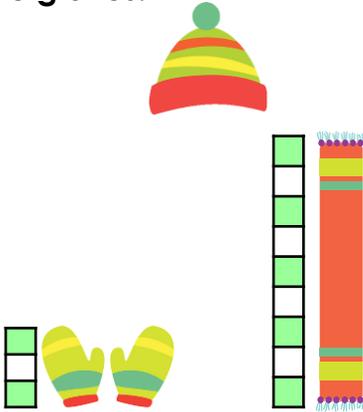


Is Millie correct? Explain your answer.



R

2a. A hat is shorter than the scarf but taller than the gloves.

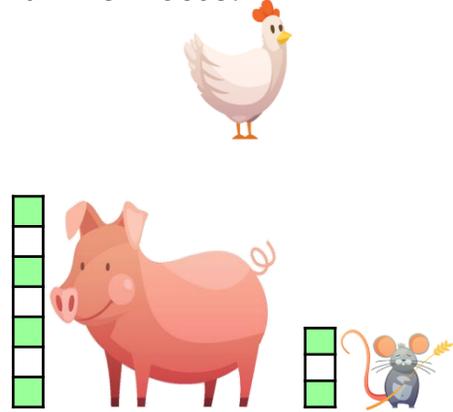


How many cubes could the hat measure?



PS

2b. A hen is shorter than the piglet but taller than the mouse.



How many cubes could the hen measure?



PS

3a. Milo has been measuring a leaf.



I think it is 2 straws long.



Explain the mistake he has made.



R

3b. Ruby has been measuring the flower.



I think it is 1 lolly stick long.



Explain the mistake she has made.



R

# Measure Length 1

# Measure Length 1

4a. Tom has been measuring crayons.



Both crayons are 3 blocks long.

A. 



B. 



Is Tom correct? Explain your answer.



R

4b. Bella has been measuring pens.



The pens are the same length.

A. 



B. 

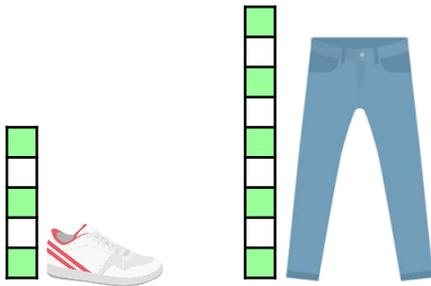


Is Bella correct? Explain your answer.



R

5a. A sock is taller than the shoes but shorter than the trousers.

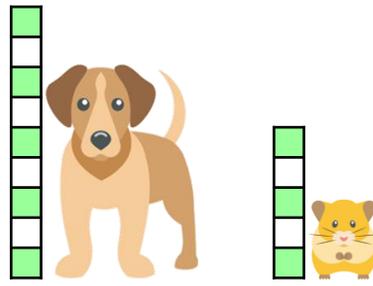


How many cubes could the sock measure? Find two possibilities.



PS

5b. A rabbit is shorter than the dog but taller than the hamster.



How many cubes could the rabbit measure? Find two possibilities.



PS

6a. Tim has been measuring the spade.



I think it is 5 straws long.



Explain the mistake he has made.



R

6b. Ann has been measuring the book.



I think it is 4 lolly sticks long.



Explain the mistake she has made.



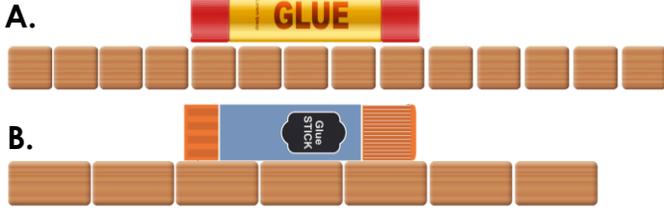
R

# Measure Length 1

7a. Sam has been measuring glue sticks.



Both glue sticks are 5 blocks long.



Is Sam correct? Explain your answer.



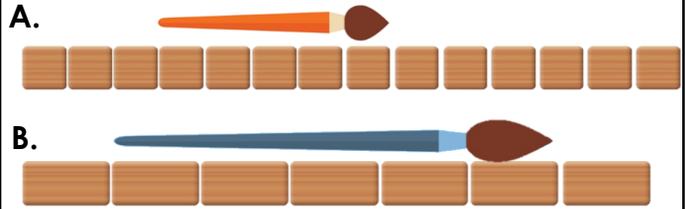
R

# Measure Length 1

7b. Zara has been measuring paintbrushes.



The paintbrushes are not the same length.

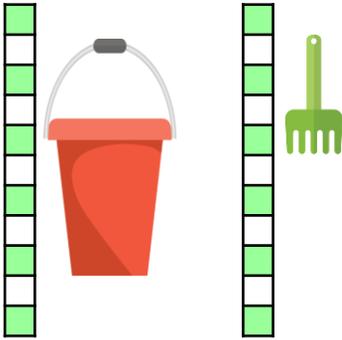


Is Zara correct? Explain your answer.



R

8a. A spade is shorter than the bucket but taller than the rake.

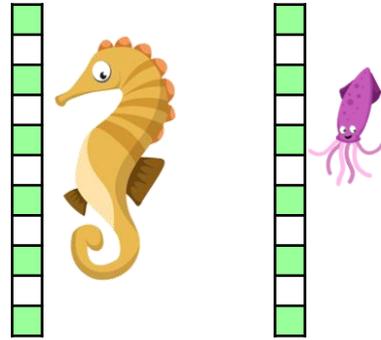


How many cubes could the spade measure? Find three possibilities.



PS

8b. A crab is shorter than the seahorse but taller than the squid.



How many cubes could the crab measure? Find three possibilities.



PS

9a. Oscar has been measuring the snake.



I think it is 3 straws long.



Explain the mistake he has made.



R

9b. Aisha has been measuring the cake.



I think it is 2 lolly sticks long.



Explain the mistake she has made.



R

## Reasoning and Problem Solving Measure Length 1

### Developing

- 1a. Zain is correct because pencil B measures 5 blocks, which is more than pencil A.
- 2a. Various answers, for example: 6, 7, 8
- 3a. Milo has not placed the straws so the ends are touching, so the leaf is longer than 2 straws.

### Expected

- 4a. Tom is correct. The crayons are both 3 blocks long but A is shorter than B, as A's blocks are shorter in size.
- 5a. Various answers, for example: 3, 4, 5
- 6a. Tim has not placed the straws so the ends are touching. The spade will be longer than 5 straws.

### Greater Depth

- 7a. Sam is correct but needs to say that both glue sticks are 5 small blocks long. The glue sticks are the same length.
- 8a. 5, 6 and 7 cubes.
- 9a. Oscar has measured the current object accurately, but if the snake was lying straight, it would be longer than 3 straws.

## Reasoning and Problem Solving Measure Length 1

### Developing

- 1b. Millie is correct because although both pencils measure 6 blocks, B pencil's blocks are longer in size.
- 2b. Various answers, for example: 4, 5, 6
- 3b. Ruby has placed only 1 lolly stick by the flower. She needed to place lolly sticks the full length of the flower with their ends touching.

### Expected

- 4b. Bella is incorrect. Although both pens measure 6 blocks, B is longer because the blocks used are longer in size.
- 5b. Various answers, for example: 4, 5, 6
- 6b. Ann has counted past the end of the book. The length of the book is 2 lolly sticks.

### Greater Depth

- 7b. Zara is correct because although both paintbrushes measure 5 blocks, B is longer than A because B's blocks are longer in size.
- 8b. Various answers, for example: 4, 5, 6
- 9b. Aisha hasn't correctly aligned the cake at the start of the lolly sticks.