

Reasoning and Problem Solving

Step 3: Compare Lengths

National Curriculum Objectives:

Mathematics Year 2: (2M1) [Compare and order lengths, mass, volume/capacity and record the results using >, < and =](#)

Mathematics Year 2: (2M2) [Choose and use appropriate standard units to estimate and measure length/height in any direction \(m/cm\); mass \(kg/g\); temperature \(\$^{\circ}\$ C\); capacity \(litres/ml\) to the nearest appropriate unit using rulers, scales, thermometers and measuring vessels](#)

Differentiation:

Questions 1, 4 and 7 (Problem Solving)

Developing Choose the correct measurement when comparing two lengths, using the same measures (cm to cm or m to m) and numerals only.

Expected Choose the correct measurement when comparing three lengths, using mixed measures (cm and m), numerals and words.

Greater Depth Choose the correct measurement when comparing three lengths, using mixed measures (m and cm and >100cm), numerals and words.

Questions 2, 5 and 8 (Problem Solving)

Developing Create statements using inequality symbols to compare two lengths, using the same measures (cm to cm or m to m) and numerals only.

Expected Create statements using inequality symbols to compare two lengths, using mixed measures (cm and m), numerals and words.

Greater Depth Create statements using inequality symbols to compare three lengths, using mixed measures (m and cm and >100cm), numerals and words.

Questions 3, 6 and 9 (Reasoning)

Developing Explain whether a statement comparing two lengths is true or false, using the same measures (cm to cm or m to m), numerals only.

Expected Explain whether a statement comparing two lengths is true or false, using mixed measures (cm and m), numerals and words.

Greater Depth Explain whether a statement comparing three lengths is true or false as part of a two-step problem, using mixed measures (m and cm and >100cm), numerals and words.

More [Year 2 Length and Height](#) resources.

Did you like this resource? Don't forget to [review](#) it on our website.

Compare Lengths

1a. Michaela's flower grows to be 12cm. Suzy's flower is shorter.

16cm

9cm

Choose which measurement describes Suzy's flower.



PS

Compare Lengths

1b. Marley has a longer garden than Luca. It measures 10m.

12m

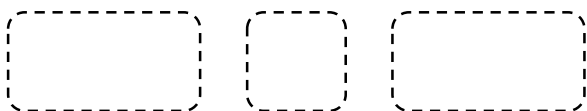
3m

Choose which measurement describes Luca's garden.



PS

2a. Arrange the cards below in the following template to create two true statements.



>

15cm

<

8cm

24cm



PS

2b. Arrange the cards below in the following template to create two true statements.



>

16m

<

21m

30m



PS

3a. Samantha uses a tape measure to find the length of two planks of wood.

Plank A is 2m long and Plank B is 10m long.

Samantha says,



Plank A is shorter than Plank B.

Is she correct? Explain how you know.



R

3b. Chris uses a ruler to find the length of two pencils.

Pencil A is 16cm long and Pencil B is 12cm long.

Chris says,



Pencil B is longer than Pencil A.

Is he correct? Explain how you know.



R

Compare Lengths

4a. Jordan's piece of string is the longest and measures 3m. Matt's string is smaller than Lucy's and measures 100cm.

12m

45m

2m

Choose which measurement describes Lucy's piece of string.



PS

Compare Lengths

4b. Rosie's kitten measures 24cm and is longer than Wilf's kitten. Noreen's kitten is the smallest and measures 12cm.

5cm

17cm

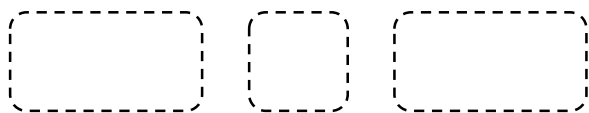
117cm

Choose which measurement describes Wilf's kitten.



PS

5a. Arrange the cards below in the following template to create three true statements.



>

40cm

<

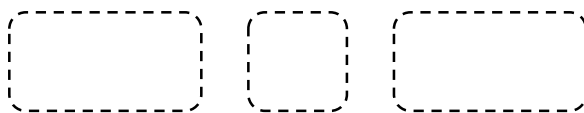
35cm

40m



PS

5b. Arrange the cards below in the following template to create three true statements.



>

12cm

<

1cm

1m



PS

6a. Nathan uses a tape measure to find the length of two boxes.

Box A is four metres long and Box B is 4cm long.

Nathan says,



Box B is the longest box.

Is he correct? Explain how you know.



R

6b. Dylan uses a tape measure to find the length of two ropes.

Rope A is 6 centimetres long and Rope B is 6m long.

Dylan says,



Rope A is the longest rope.

Is he correct? Explain how you know.



R

Compare Lengths

7a. Jaimie's bag is the smallest and measures 60cm. Ella's bag measures 120cm and is longer than Jack's.

130cm

4m

1m

Choose which measurement describes Jack's bag.



PS

Compare Lengths

7b. Nadia has the shortest sunflower which measures 108cm. Jess's sunflower measures 2m, and Claudia's sunflower is the same height as Jess's.

2cm

200cm

117cm

Choose which measurement describes Claudia's sunflower.



PS

8a. Arrange the cards below in the following template to create three true statements.



>

34cm

<

34m

134m



PS

8b. Arrange the cards below in the following template to create three true statements.



>

72cm

<

172m

72m



PS

9a. Hannah uses a metre stick to find the length of three walls.

Wall A is 1m long, Wall B is ten metres long and Wall C is 100cm long.

Hannah says,



Wall A is shorter than Wall B, but longer than Wall C.

Is she correct? Explain how you know.



R

9b. Eden uses a ruler to find the length of three picture frames.

Frame A is forty centimetres long, Frame B is 120cm long and Frame C is 29cm long.

Eden says,



Frame C is shorter than Frame A, but longer than Frame B.

Is she correct? Explain how you know.



R

Reasoning and Problem Solving Compare Lengths

Developing

1a. 9cm

2a. Various answers, for example:

8cm < 15cm and 24cm > 8cm

3a. Yes, 2m < 10m so B is the longest.

Expected

4a. 2m

5a. Various answers, for example:

40cm > 35cm; 40cm < 40m; 40m > 40cm

6a. No, 4m is longer than 4cm, so Box A is the longest.

Greater Depth

7a. 1m

8a. Various answers, for example:

34m > 34cm < 134m; 134m > 34cm < 34m;
34cm < 134m > 34m

9a. No, 100cm and 1m are the same, so Wall A and Wall C are the same length.

Reasoning and Problem Solving Compare Lengths

Developing

1b. 3m

2b. Various answers, for example:

16m < 21m and 30m > 21m

3b. No, 12cm < 16cm so A is longer.

Expected

4b. 17cm

5b. Various answers, for example:

1cm < 12cm; 1cm < 1m; 1m > 1cm

6b. No, 6m is longer than 6cm, so Rope B is the longest.

Greater Depth

7b. 200cm

8b. Various answers, for example:

72m > 72cm < 172m; 172m > 72cm < 72m;
72cm < 172m > 72m;

9b. No, 120cm > 29cm so B is the longest frame.