# 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 (°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.

D

PS

## Compare Lengths

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

12m

3m

Choose which measurement describes Luca's garden.

D

PS

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

> 15cm <

8cm 24cm

D

PS

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

> 16m <

21m 30m

D

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.

D

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.

D

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.

E 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.

E PS

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

> | 40cm | <

35cm | 40m

E PS

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

> | 12cm | <

1cm | 1m

E 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.

E 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.

E 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.

GD 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.

GD PS

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

[ ] [ ] [ ] [ ] [ ]

> | 34cm | <

34m | 134m

GD PS

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

[ ] [ ] [ ] [ ] [ ]

> | 72cm | <

172m | 72m

GD 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.

GD 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.

GD 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.