

Reasoning and Problem Solving

Step 1: Measure Length

Teaching note: Please note that precise measurements are dependent upon printer settings. One of the questions requires children to measure objects around the classroom, therefore children must be provided with a ruler.

National Curriculum Objectives:

Mathematics Year 3: (3M2a) [Measure lengths \(m/cm/mm\)](#)

Differentiation:

Questions 1, 4 and 7 (Problem Solving)

Developing Find and measure items in the classroom shorter or longer than a given length in only millimetres (mm) or centimetres (cm). Round to the nearest whole cm.

Expected Find and measure items in the classroom shorter or longer than a given length in millimetres (mm), centimetres (cm) or metres (m). Includes use of some mixed units, using increments of 1cm and 1mm. Round to the nearest 5mm.

Greater Depth Find and measure items in the classroom shorter or longer than a given length in millimetres (mm), centimetres (cm) and metres (m). Includes use of mixed units, using increments of 1cm and 1mm. Round to the nearest 1mm or 1cm.

Questions 2, 5 and 8 (Reasoning)

Developing Explain which measurement is the most suitable for the object stated. Measurements include millimetres (mm) or centimetres (cm) only.

Expected Explain which measurement is the most suitable for the object stated. Measurements include some mixed units.

Greater Depth Explain which measurement is the most suitable for the object stated. Measurements include use of mixed units, using increments of 1cm and 1mm.

Questions 3, 6 and 9 (Reasoning)

Developing Explain if a total measurement is correct or not. Includes measurements of centimetres (cm) only.

Expected Explain if a total measurement is correct or not. Includes some mixed measurements with objects placed at different positions on the ruler.

Greater Depth Explain if a total measurement is correct or not. Includes use of mixed units using increments of 1cm and 1mm. Objects placed at different positions on the ruler and some increments not shown.

More [Year 3 Length and Perimeter](#) resources.

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

Measure Length

1a. This pen is 15cm long.

Find 3 objects in your classroom that are shorter than the pen.



Write the measurements of the objects accurately to the nearest cm.



Not drawn to scale

PS

Measure Length

1b. This lollipop is 80mm long.

Find 3 objects in your classroom that are longer than the lollipop.



Write the measurements of the objects accurately to the nearest 10mm.



Not drawn to scale

PS

2a. Ben and Ciara are discussing the measurement of a plant seed.



Ben

I think a plant seed would measure 6mm.



Ciara

I think a plant seed would measure 70mm.

Who do you agree with? Explain why.



R

2b. Tia and Seth are discussing the measurement of a book.



Tia

I think a book would measure 25cm.



Seth

I think a book would measure 4cm.

Who do you agree with? Explain why.

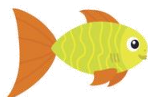


R

3a. Sid has measured the fish.



I think the fish is 20cm long.



Not drawn to scale

Is he correct? Convince me.



R

3b. Jen has measured the paper clip.



I think the paper clip is 30cm long.



Not drawn to scale

Is she correct? Convince me.

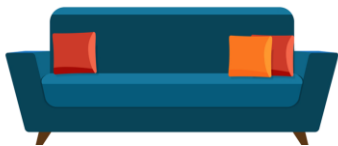


R

Measure Length

4a. This sofa is 3m and 50cm long.

Find 3 objects in your classroom that are shorter than the sofa.



Write the measurements of the objects carefully in cm and the nearest 5mm.



Not drawn to scale

PS

Measure Length

4b. This toy rocket is 20cm and 4mm long.

Find 3 objects in your classroom that are longer than the toy rocket.



Write the measurements of the objects carefully in cm and the nearest 5mm.



Not drawn to scale

PS

5a. Lily and Azra are discussing the measurement of a table in the classroom.



Lily

I think a table would measure 20cm.



Azra

I think a table would measure 2m.

Who do you agree with? Explain why.



R

5b. Joe and Brian are discussing the measurement of a candle.



Joe

I think a candle would measure 12cm.



Brian

I think a candle would be 7mm.

Who do you agree with? Explain why.



R

6a. Karl has measured the matchstick.



I think the matchstick is 7cm and 6mm long.



Not drawn to scale

Is he correct? Convince me.



R

6b. Sara has measured the paintbrush.



I think the paintbrush is 16cm and 8mm long.



Not drawn to scale

Is she correct? Convince me.



R

Measure Length

7a. This needle is 6cm and 2mm long.

Find 3 objects in your classroom that are longer than the needle.



Write the measurements of the objects carefully in cm and the closest 1mm.



Not drawn to scale

PS

Measure Length

7b. This man is 1m and 76cm tall.

Find 3 objects in your classroom that are shorter than the man.



Write the measurements of the objects carefully in m and the closest 1cm.



Not drawn to scale

PS

8a. Freya and Zain are discussing the measurement of a book shelf.



Freya

I think a book shelf would measure 2m and 15cm.



Zain

I think a book shelf would measure 12cm and 4mm.

Who do you agree with? Explain why.



R

8b. Scarlett and Mateo are discussing the measurement of a phone.



Scarlett

I think a phone would measure 1m and 5cm.



Mateo

I think a phone would measure 12cm and 3mm.

Who do you agree with? Explain why.



R

9a. Mia has measured the chocolate bar.



I think the chocolate bar is 5cm and 8mm long.



Not drawn to scale

Is she correct? Convince me.



R

9b. Khalid has measured the key.



I think the key is 3cm and 9mm long.



Not drawn to scale

Is he correct? Convince me.



R

Reasoning and Problem Solving Measure Length

Developing

- 1a. Various answers, for example: rubber; sharpener; glue stick. Ensure measurements are recorded accurately.
- 2a. I would agree with Ben because a seed would most likely measure 6mm not 70mm.
- 3a. No, Sid is incorrect because the fish measures approximately 2cm. He has used the incorrect unit of measure.

Expected

- 4a. Various answers, for example: pencil; table; chair. Ensure measurements are recorded accurately.
- 5a. I would agree with Azra because a table in the classroom would most likely measure 2m not 20cm.
- 6a. No, Karl is incorrect because the matchstick measures approximately 7cm and 2mm or 72mm.

Greater Depth

- 7a. Various answers, for example: window; display board; door. Ensure measurements are recorded accurately.
- 8a. I would agree with Freya because a bookshelf would most likely measure 2m and 15cm not 12cm and 4mm.
- 9a. No, Mia is incorrect because the chocolate bar measures approximately 3cm and 9mm or 39mm.

Reasoning and Problem Solving Measure Length

Developing

- 1b. Various answers, for example: ruler; book; bead string. Ensure measurements are recorded accurately.
- 2b. I would agree with Tia because a book would most likely measure 25cm not 4cm.
- 3b. No, Jen is incorrect because the paper clip measures approximately 3cm. She has used the incorrect unit of measure.

Expected

- 4b. Various answers, for example: shelf; teacher; whiteboard. Ensure measurements are recorded accurately.
- 5b. I would agree with Joe because a candle would most likely measure 12cm not 7mm.
- 6b. No, Sara is incorrect because the paintbrush measures approximately 6cm and 5mm or 65mm.

Greater Depth

- 7b. Various answers, for example: Base 10; scissors; paint tubs. Ensure measurements are recorded accurately.
- 8b. I would agree with Mateo because a phone would most likely measure 12cm and 3mm not 1m and 5cm.
- 9b. No, Khalid is incorrect because the key measures approximately 4cm and 7mm or 47mm.