

# Year Two Maths Knowledge Organiser: *Length and Height*

· National Curriculum Objectives

· Ready to Progress Criteria: National Curriculum core concepts



## 1. Measuring Length in cm

· choose and use appropriate standard units to estimate and measure length/height in any direction (m/cm); to the nearest appropriate unit using rulers

### Fluency:

- Choose some objects and measure them using a centimetre ruler. Remember to start at the 0!



- How tall is the glass? What other objects can you find to measure the height of?



- Draw a line that is:
  - 5 cm long
  - 8 cm long
  - Longer than 4 cm but shorter than 7 cm.

### Problem solving:

How long is this piece of string?  
How could you find out?



Does the length change if you change the orientation?

### Reasoning:

Mo has used the ruler to measure the length of the car.



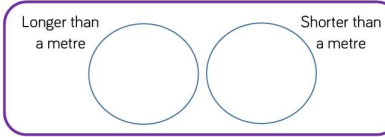
Mo says the car is 8 centimetres long. Do you agree? Explain your answer.

## 2. Measuring Length in m

· choose and use appropriate standard units to estimate and measure length/height in any direction (m/cm); to the nearest appropriate unit using rulers

### Fluency:

- Use a metre stick to measure objects in the classroom. Place them into groups:



- Measure the length of the school hall. Record the length in metres and cm.



### Problem solving:

Circle the objects that you would measure in metres. Tick the objects that you would measure in centimetres.



### Reasoning:

Amir has a metre stick.

He wants to measure the length of his classroom.

I can't measure the length of the classroom because my metre stick isn't long enough.



Explain to Amir how he could measure the length of his classroom.

## 3. Comparing Lengths

· compare and order lengths and record the results using >, < and =

### Fluency:

- Compare the lengths using: longer than, shorter than or the same as.

|                 |                      |       |
|-----------------|----------------------|-------|
| 15 cm is        | <input type="text"/> | 60 cm |
| Sixty metres is | <input type="text"/> | 60 m  |
| 96 m is         | <input type="text"/> | 69 m  |
| 80 cm is        | <input type="text"/> | 80 m  |

- Use <, > or = to complete the statements:

|          |                      |                |
|----------|----------------------|----------------|
| 7 metres | <input type="text"/> | 17 metres      |
| 18 cm    | <input type="text"/> | 18 m           |
| 32 cm    | <input type="text"/> | 32 centimetres |

- Choose 2 objects from the classroom. Estimate the length then measure each one. Compare the lengths using <, > or =. Try doing this for your friends' heights.

### Problem solving:

A green pencil is twice as long as a blue pencil.



Using this, complete the statements using longer than, shorter than or equal to.

3 green pencils are \_\_\_\_\_ 2 blue pencils

2 green pencils are \_\_\_\_\_ 5 blue pencils

4 green pencils are \_\_\_\_\_ 8 blue pencils

### Reasoning:

Compare the measurements using <, > or =

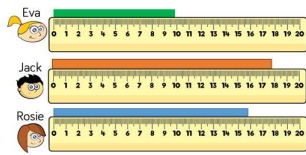
|               |                      |               |
|---------------|----------------------|---------------|
| 55 cm + 10 cm | <input type="text"/> | 55 cm - 10 cm |
| 42 m + 6 m    | <input type="text"/> | 42 m + 7 m    |
| 6 cm - 5 cm   | <input type="text"/> | 6 m - 5 m     |
| 80 m - 5 m    | <input type="text"/> | 70 m + 5 m    |

## 4. Ordering Lengths

· compare and order lengths and record the results using >, < and =

### Fluency:

- Eva, Jack and Rosie compare the lengths of ribbons. Complete the sentences.



\_\_\_\_\_ has the longest ribbon.  
\_\_\_\_\_ has the shortest ribbon.  
\_\_\_\_\_ 's ribbon is shorter than \_\_\_\_\_ 's.  
\_\_\_\_\_ 's ribbon is longer than \_\_\_\_\_ 's.

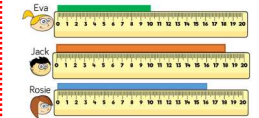
- Choose 5 objects in the classroom. Measure them using a ruler. Order them from longest to shortest. Write sentences using the words longer, longest, shorter and shortest.

## 5. Length and Height Problems

· solve addition and subtraction problems using concrete objects and pictorial representations, involving measures

### Fluency:

- Eva, Jack and Rosie each have a piece of ribbon.



- How much longer is Jack's ribbon than Eva's?
- Jack and Rosie put their ribbons together. How long are they altogether?
- Eva cuts three more ribbons of the same length as hers. What is the total length of all four ribbons?
- Eva cuts her ribbon in half. What is the length of each piece?

- Teddy has a toy train and a toy plane. The train is 28cm long. The plane is 16 cm longer. How long is the plane?



- The train is double the length of a toy car. How long is the toy car? Draw bar models to help you.

### Problem solving:



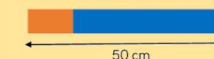
The brown teddy is 15cm taller than the blue teddy.  
The blue teddy is 3 cm shorter than the pink one.  
The pink teddy is 42cm tall.  
How tall are the brown and blue teddies?  
How much taller is the brown teddy than the pink teddy?

### Reasoning:

A blue strip is four times longer than an orange strip.



The strips are joined end to end.



How long is the orange strip?

How long is the blue strip?

## Vocabulary

length

cm

height

centimetre

long

m

longer

metre

longest

measure

short

tall

shorter

taller

shortest

tallest

### Problem solving:

Four children are measuring their heights.

Eva is taller than Rosie, but not as tall as Mo.

Dexter is taller than Mo.

Write down their names in order of their heights, starting with the shortest.

### Reasoning:

The taller you are, the longer your shoes are.



Measure the height of people in your class and measure the length of their shoes.

Is Dora correct?