

## Year 2/3 – Spring Block 4 – Length Height and Perimeter

### About This Resource:

This PowerPoint has been designed to support your teaching of this small step from the Mixed Age planning. It includes a starter activity suitable for each year group and an example of each question from the Varied Fluency and Reasoning and Problem Solving resources also provided in this pack (separate for each year group). Each slide has the year group identified in the bottom right-hand corner. We recommend that you look through this PowerPoint in advance and decide whether to work through all examples provided or a selection of them depending on the needs of your class.

### 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 \( \$^{\circ}\text{C}\$ \); capacity \(litres/ml\) to the nearest appropriate unit using rulers, scales, thermometers and measuring vessels](#)

Mathematics Year 3: (3M9b) [Add and subtract lengths \(m/ cm/ mm\)](#)

More [Year 2 and Year 3 Length Height and Perimeter](#) resources.

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

# Step 6

# Year 2: Four Operations with Length

# Year 3: Add Lengths

## Introduction

$$9 + 5 =$$

12

$$25 - 12 =$$

13

$$3 \times 5 =$$

14

$$24 \div 2 =$$

15

## Introduction

$9 + 5 =$

12

$25 - 12 =$

13

$3 \times 5 =$

14

$24 \div 2 =$

15

## Introduction

Match the equivalent lengths.

35mm
1m 4cm
762cm
8cm 1mm
95mm
2cm 6mm
6m 13cm
9m 63cm

104cm
26mm
3cm 5mm
613cm
7m 62cm
81mm
963cm
9cm 5mm

## Introduction

Match the equivalent lengths.

35mm	104cm
1m 4cm	26mm
762cm	3cm 5mm
8cm 1mm	613cm
95mm	7m 62cm
2cm 6mm	81mm
6m 13cm	963cm
9m 63cm	9cm 5mm

Varied Fluency 1

Eva has a pencil that is 40cm long. Poppy's pencil is 4 times shorter than Eva's.



Circle how long Poppy's pencil is.

14cm

10cm

4cm

*not to scale*

Varied Fluency 1

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Circle how long Poppy's pencil is.

14cm

10cm

4cm

*not to scale*



Varied Fluency 2

**True or false?**

**The tallest tower is 16cm taller than the shortest flower.**



**18cm**



**22cm**



**6cm**

*not to scale*

## Varied Fluency 2

**True or false?**

**The tallest tower is 16cm taller than the shortest flower.**



**18cm**



**22cm**



**6cm**

**True.  $22 - 6 = 16$**   
*not to scale*

Varied Fluency 3

**The cactus is 3m tall.**

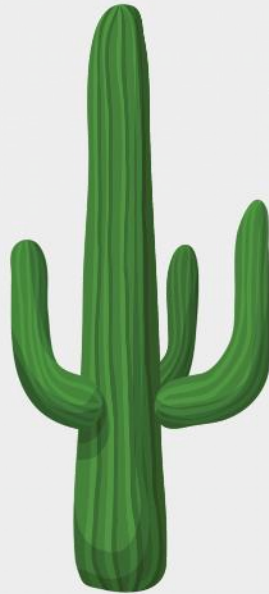


**How tall will the cactus be if it grows double in height?**

*not to scale*

Varied Fluency 3

The cactus is 3m tall.



How tall will the cactus be if it grows double in height?

**6m**

*not to scale*

Varied Fluency 4

Which two objects added together total 80cm?



carrot  
22cm



baguette  
59cm



banana  
21cm

*not to scale*

Varied Fluency 4

Which two objects added together total 80cm?



carrot  
22cm



baguette  
59cm



banana  
21cm

The baguette and the banana.  $59 + 21 = 80$ .

*not to scale*

## Varied Fluency 1

Which 3 pieces of ribbon add together to make 13cm?

Ribbon	Length
Red	6cm
Green	3cm 8mm
Yellow	54mm
Orange	19mm
Blue	5cm 7mm

## Varied Fluency 1

Which 3 pieces of ribbon add together to make 13cm?

Ribbon	Length
Red	6cm
Green	3cm 8mm
<b>Yellow</b>	<b>54mm</b>
<b>Orange</b>	<b>19mm</b>
<b>Blue</b>	<b>5cm 7mm</b>

**Yellow, orange and blue**



## Varied Fluency 2

Complete the bar model.

?		
3m	184cm	3m 45cm

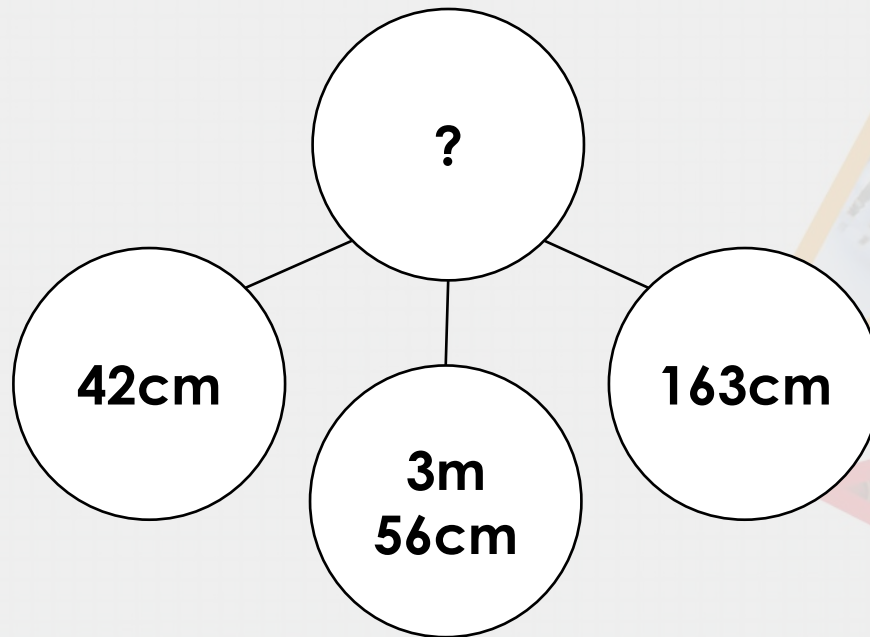
## Varied Fluency 2

Complete the bar model.

<b>829cm or 8m 29cm</b>		
<b>3m</b>	<b>184cm</b>	<b>3m 45cm</b>

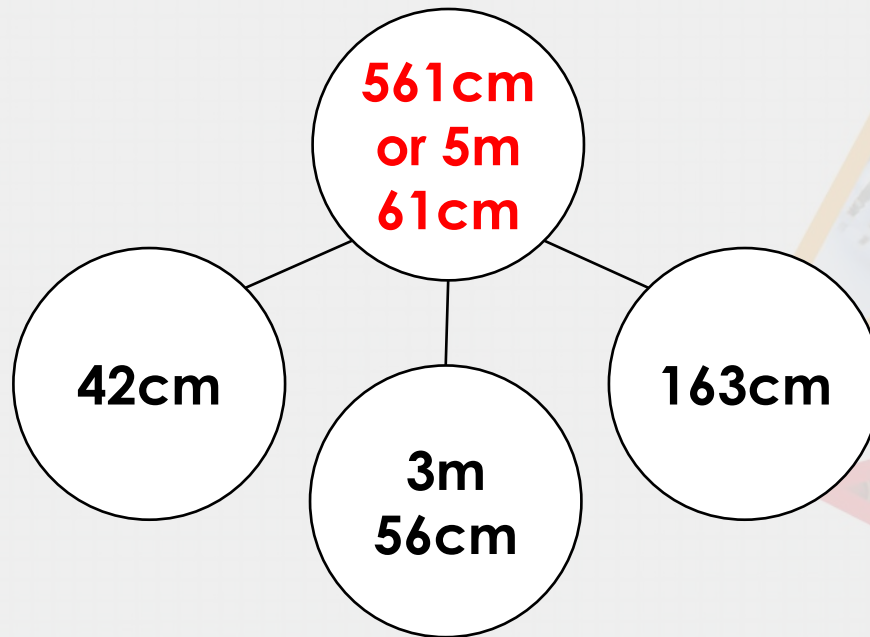
## Varied Fluency 3

Complete the part whole model.



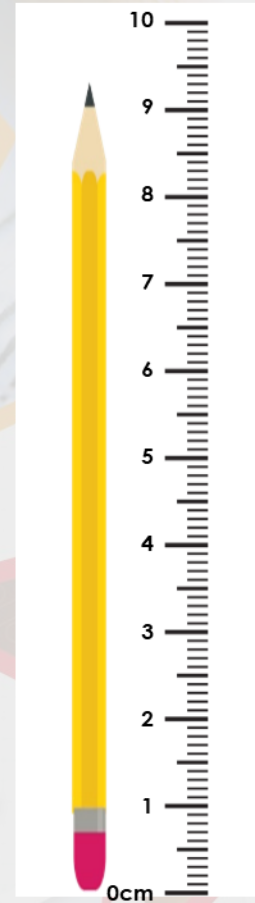
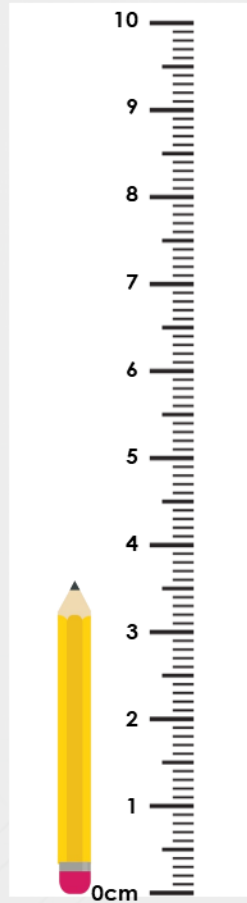
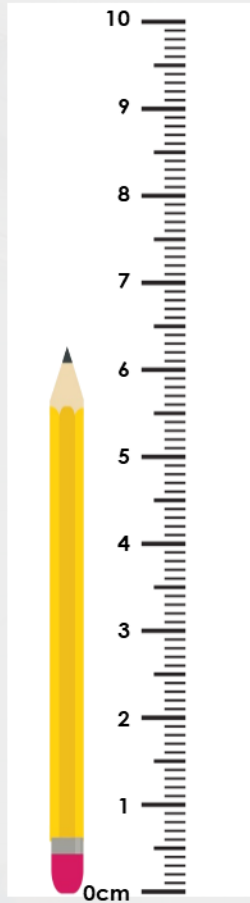
## Varied Fluency 3

Complete the part whole model.



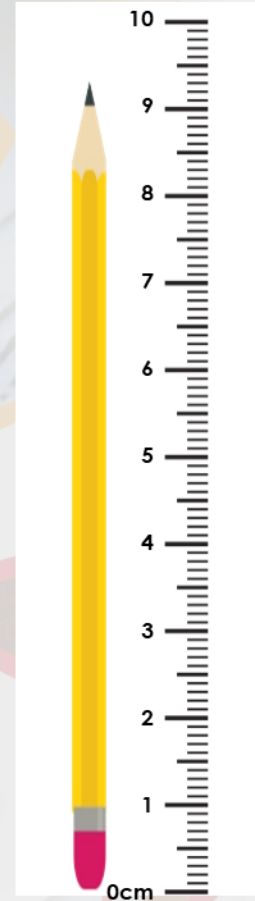
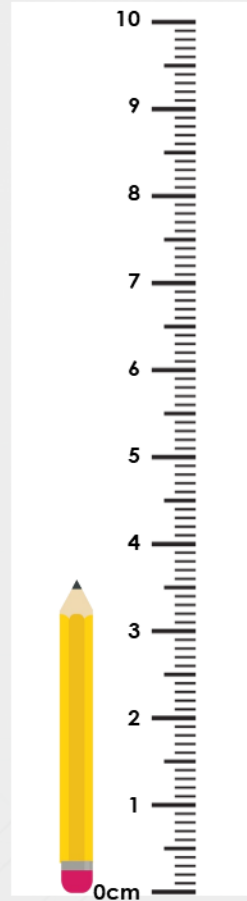
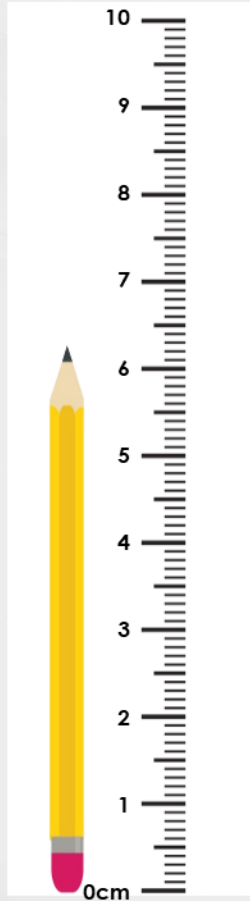
## Varied Fluency 4

Find the total length of the pencils.



## Varied Fluency 4

Find the total length of the pencils.



**6cm 3mm, 3cm 6mm and 9cm 3mm. Total: 19cm 2mm or 192mm.**

## Problem Solving 1

**Rosie and Jim are threading beads onto string.  
Rosie's string is 20cm long.  
Jim's string is longer than Rosie's.**

**When added together, their string measures between 51cm and 54cm long.**

**How long could Jim's string be?**

## Problem Solving 1

**Rosie and Jim are threading beads onto string.  
Rosie's string is 20cm long.  
Jim's string is longer than Rosie's.**

**When added together, their string measures between 51cm and 54cm long.**

**How long could Jim's string be?**

**Various possible answers; 31cm, 32cm, 33cm and 34cm.**



## Reasoning 1

**Is Ella correct? Explain why.**



**I have a piece of rope that is 10cm long. Todd's rope is 5 times longer than mine. Together, our ropes are 55cm long.**

## Reasoning 1

Is Ella correct? Explain why.



I have a piece of rope that is 10cm long. Todd's rope is 5 times longer than mine. Together, our ropes are 55cm long.

Ella is incorrect because...

## Reasoning 1

Is Ella correct? Explain why.



I have a piece of rope that is 10cm long. Todd's rope is 5 times longer than mine. Together, our ropes are 55cm long.

Ella is incorrect because...

$$10 \times 5 = 50$$

$$50 + 10 = 60\text{cm}$$

## Problem Solving 2

**Stan is building towers using forty 1cm cubes.**

**His first tower is 22cm tall.**

**His second tower is half the size of the first tower.**

**How tall is the second tower?**

**How many cubes does he have left?**

## Problem Solving 2

Stan is building towers using forty 1cm cubes.

His first tower is 22cm tall.

His second tower is half the size of the first tower.

How tall is the second tower? **11cm**

How many cubes does he have left? **7 cubes**

## Problem Solving 1

Some children threw three bean bags and measured how far they had travelled.

They recorded the distances in this table.

<b>Molly</b>	<b>1m 45cm</b>	<b>242cm</b>	<b>98cm</b>
<b>Luka</b>	<b>123cm</b>	<b>223cm</b>	<b>34cm 5mm</b>
<b>Francis</b>	<b>154cm</b>	<b>3m 6cm</b>	<b>76cm</b>

Which child had the largest total distance?

## Problem Solving 1

Some children threw three bean bags and measured how far they had travelled.

They recorded the distances in this table.

Molly	1m 45cm	242cm	98cm
Luka	123cm	223cm	34cm 5mm
Francis	154cm	3m 6cm	76cm

Which child had the largest total distance?

**Francis had the largest total at 536cm or 5m 36cm**

## Problem Solving 2

A toy bridge is 1m 40cm long.



Which three vehicles will be able to fit on the bridge at once?



Lorry - 85cm



Bus - 76cm



Green car  
- 39cm



Motorbike - 23cm



Blue car - 35cm

*Not to scale*



## Problem Solving 2

A toy bridge is 1m 40cm long.



Which three vehicles will be able to fit on the bridge at once?



Lorry - 85cm



Bus - 76cm



Green car  
- 39cm



Blue car - 35cm



Motorbike - 23cm

*Not to scale*

**Green car, blue car, motorbike.**

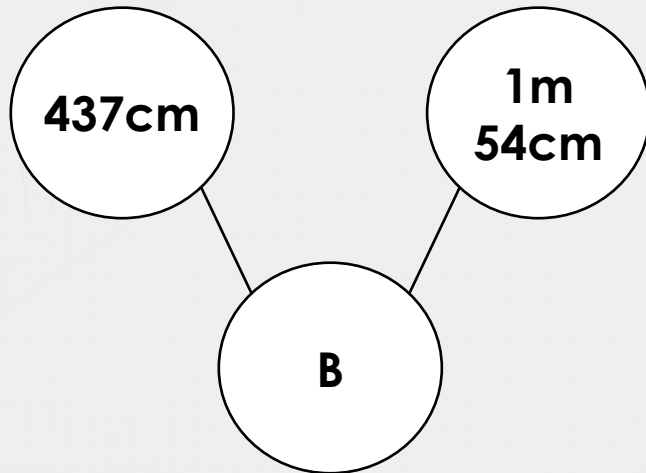
**Bus, green car, motorbike.**

**Bus, blue car, motorbike.**

## Reasoning 1

Which is the odd one out?  
Convince me.

A		
3m 54cm	15cm	2m 32cm

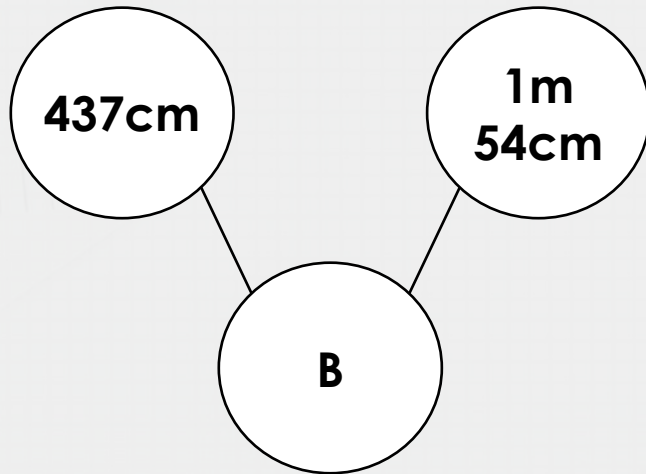


C is the total length of  
451cm, 1m 11cm  
and 39cm.

## Reasoning 1

Which is the odd one out?  
Convince me.

A		
3m 54cm	15cm	2m 32cm



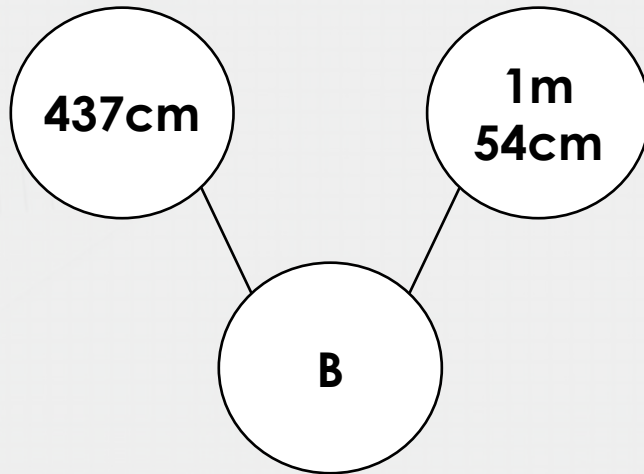
C is the total length of  
451cm, 1m 11cm  
and 39cm.

B is the odd one out because...

## Reasoning 1

Which is the odd one out?  
Convince me.

A		
3m 54cm	15cm	2m 32cm



C is the total length of  
451cm, 1m 11cm  
and 39cm.

**B is the odd one out because it is 591cm whereas A and C are 601cm.**