



Old Town Infant School and Nursery




MATHS MEDIUM TERM PLANNING

Year 2 – Measure: Length and Height (Approximately 2 weeks)

Objectives from Progression Document	<p>choose and use appropriate standard units to estimate and measure length/height in any direction (m/cm)</p> <p>estimate and measure length/height (m/cm), to the nearest appropriate unit, using rulers</p> <p>compare and order lengths and record the results using $>$, $<$ and $=$</p>
Previous Learning	<p>measure and begin to record lengths and heights</p> <p>compare and describe lengths and heights, e.g. long/short, longer/shorter, tall/short, double/half</p> <p>solve practical problems for lengths and heights</p>
Vocabulary	centimetres, metre ruler, metre stick, metres, longer than, shorter than, taller than, shortest, longest, tallest
Key fact(s)	<p>To know that we can measure length using centimetres and metres</p> <p>To know that the abbreviation for centimetres is “cm”</p> <p>To know that the abbreviation for metres is “m”</p> <p>To know that metres are larger than centimetres</p> <p>To know that there are 100cm in 1m</p>
Number facts for fluency	Revisit all multiplication and division facts for 5x
DfE Ready to Progress Guidance Pages https://assets.publishing.service.gov.uk/government/uploads/system/uploads/attachment_data/file/897806/Maths_guidance_KS_1_and_2.pdf	2AS-4 Add and subtract within 100 – part 2 pages 66-67
NCETM Ready to Progress Exemplification https://www.ncetm.org.uk/classroom-resources/exemplification-of-ready-to-progress-criteria/	2AS-4 Add and subtract within 100 – part 2
Problem Solving and Reasoning Skills Objectives	identify the operations needed to solve a two-step word problem, where the two steps are shown in the question
Pre-assessment:	Year 1 measure – measure, compare and order using non-standard units of measure

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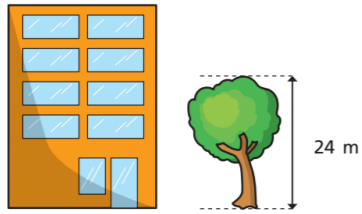
Sequence of Learning						
Scheme of learning and teaching resources available within the spring term of White Rose						
White Rose Small Steps	Learning Intention	Key Questions	Sentence Stems	Problem-solving links	Comments	Extension and Greater Depth Opportunities
Measure in centimetres	To measure length to the nearest centimetre	What do the numbers on the ruler mean? Where do you need to start measuring from? What number does the start/end of the object line up with? How long/tall is the object? What is "cm" short for? Why do you need to start measuring from zero?	The start of the object is lined up with ___cm. The end of the object is lined up with ___cm. The length/height of the object is ___cm. "cm" is short for ___.		Children may try to use a ruler to measure the lengths of lines that are not straight. Children may not line up the object they are measuring with zero on the ruler. Children may not include units with their answer.	<p>The Man is much smaller than you and me. Here is a picture of him standing next to a mug.</p>  <p>Can you estimate how tall he is? Can you think of something that you have at school or home that is approximately twice as tall as the Man? What about something that is about half as tall as the Man?</p> <p>How tall do you think the Man's mug might be? Can you estimate how many "Man mugs" of tea might fill one of our mugs?</p> <p>Have a look at the sets of four quantities below. Can you rank them in order from smallest to largest?</p> <p>To help you decide, you may need to find extra information or carry out some experiments.</p> <p>Can you convince us that your order is right?</p>
Measure in metres	To measure length using metres	What do the numbers on the tape measure mean? How long is a metre stick? Why do you need to start measuring from zero? What number does the end of the object line up with? How long/tall is the object? What is "m" short for? Is a metre longer or shorter than a centimetre?	The object is ___ metre sticks long. The start of the object is lined up with ___m. The end of the object is lined up with ___m. The length/height of the object is ___m. "m" is short for ___.		Children may not line up the object they are measuring with zero, leading to an incorrect measurement. When using metre sticks to measure, children may not line them up correctly.	
Compare lengths and heights	To compare lengths and heights (centimetres and metres)	Which object is longer? How do you know? Which object is taller? How do you know? Which object is shorter? How do you know? Which is longer, 1 cm or 1 m? What does "<, >, =" mean? What is the difference between "longer" and "taller"?	___ is ___cm/m long/tall. ___cm/m is greater/less than ___cm/m. ___ is longer/taller than ___. ___ is shorter than ___.	Making Longer, Making Shorter (maths.org) Activity using cubes to develop ideas of halving and quartering, as well as comparing lengths. Little Man (maths.org) Helps to consider relative size and develops estimation.	Children may think that centimetres are bigger than metres because the word is longer. Children may confuse the words "longer" and "taller". Children may need reminding of the meanings of the inequality symbols.	
Order lengths and heights	To order given lengths, heights and objects (centimetres and metres)	Which object is longest? How do you know? Which object is tallest? How do you know? Which object is shortest? How do you know? Which is longer, 1 cm or 1 m? What is the difference between "longest" and "tallest"?	___cm/m is greater/less than ___cm/m. ___cm/m is longer/taller than ___cm/m. ___cm/m is shorter than ___cm/m. ___ is the shortest. ___ is the longest/tallest.	Order, Order! (maths.org) Enables lots of discussion around relative lengths, times and masses.	Children may use the inequality symbols incorrectly by using two different ones in the same statement, for example writing $14\text{ cm} < 20\text{ cm} > 18\text{ cm}$.	
Four operations with lengths and heights (2AS 4)	To calculate the answers to one-step and two-step problems relating to lengths and heights	What do you need to do first? How do you know? Is the length/height longer/shorter? How do you know? Is taller or shorter than ___? How do you know? Do you need to add or subtract? Do you need to multiply or divide? Are you working with centimetres or metres?	___ is ___cm/m long/tall. ___ lots of ___cm/m is ___cm/m. ___ of ___cm/m is ___cm/m.		Children may add and subtract lengths and heights with different units. Word problems can often be more difficult for children to unpick, and concrete and pictorial representations can be used to support this understanding.	



Distance
 You could jump up in the air
 You can kick a football
 You can run in half a minute
 Length of a bug

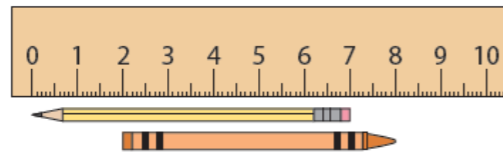
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The tree is 18 m shorter than the building.



What is the total height of the tree and the building?

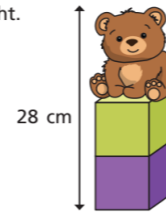
How long is the crayon?



The crayon is _____ cm long.

How much longer is the crayon than the pencil?

A teddy sits on top of two cubes. Each cube is the same height. The teddy is 12 cm tall. How tall is each cube?



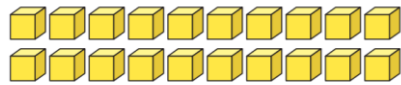
Two strips of paper are put side by side.



The longer strip is 14 cm long.

Do you agree with Rosie? _____
Talk about it with a partner.

Ron has 20 cubes.



He uses all the cubes to make 5 equal towers. Each cube is 3 cm tall. How tall is each tower?

How long is this piece of string?

How could you find out?



Does the length change if you change the orientation?

How did you solve this problem?



The length of the Rectangle A is 5cm.
The length of the Rectangle B is three times as long.
Therefore, the length of Rectangle B is less than 14cm.



True or false?
Explain how you know.

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

Four children are measuring their heights.

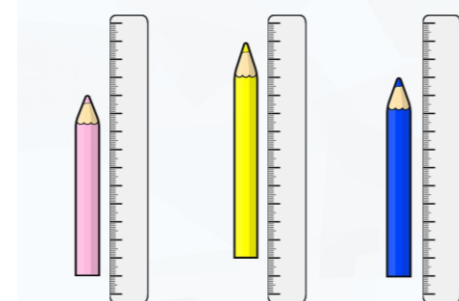
Eva is taller than Rosie, but not as tall as Mo.

Dexter is taller than Mo.

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



Measure and order.



Four lots of 4m >
Quarter of 60m

True or False?

Complete the statements to make them true.

$$9\text{ m} + 13\text{ m} < \square$$

$$\square = 7 \times 12\text{ cm}$$

$$\text{Third of } 15\text{ cm} > \square$$

What could the lengths be?

$$\square\text{ cm} = \square\text{ m}$$

How many different combinations can you think of?

Shortest $6 \times 3\text{ m}$? $\frac{1}{2}$ of 40 m Longest



The missing length could be 18 m.

Is Sue correct? Explain your answer.

Use each digit card once to complete the boxes. Each length is a 2-digit number.



Longest $\square\square$ $\square\square$ $\square\square$ Shortest

How many different ways can you think of?

Use the digit cards to create five 2-digit lengths for a partner.



Your partner must now order the lengths shortest to longest.

Take turns.

Ribbon A is 13 cm.
Ribbon B is 10 cm.
Ribbon C is 4 cm longer than Ribbon A.



What is the total length of the three ribbons combined? Write a calculation to show this.

Challenge: Can you represent this using a bar model & part-whole model?

Compare Lengths

Can you order the animals from the tallest to the shortest?



tallest \square \square \square shortest

Compare the measurements by using the correct symbol: > = <

$$5\text{m} + 7\text{m} \quad \square \quad 18\text{m} - 5\text{m}$$

$$22\text{m} + 7\text{m} \quad \square \quad 23\text{m} + 6\text{m}$$

Write a length to make each comparison true.

$$50\text{cm} + \square > 60\text{cm} + \square$$

$$25\text{m} + \square = 15\text{m} + \square$$

$$46\text{cm} + \square > 41\text{cm} + \square$$

Order Lengths

4 friends are ordering their younger brothers and sisters from shortest to tallest.



Anita is 70cm tall. She is the shortest.
Hari is 5cm taller than Anita.
Sam is the tallest. She is 85cm tall.
James is taller than Hari but shorter than Sam.

Write their names in order of shortest to tallest.

Name

Dora says,

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?

Here is a strip of orange paper.

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


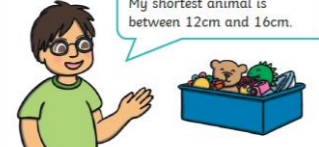
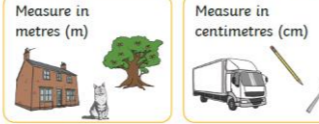

The strips are joined end to end.



How long is the orange strip?

How long is the blue strip?

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<p>Four Operations with Lengths</p>  <p>Mia Kris Beth</p> <p>Kris jumped twice as high as Mia. How high did Mia jump?</p> <p>Beth jumped 3 times higher than Mia. How high did Beth jump?</p> <p>My skipping rope is 2m long. How many metres of rope would make 10 skipping ropes?</p> <p>How many skipping ropes can I make from 10 metres of rope?</p> <p>What about 12 metres?</p>	<p>Measure Length (cm)</p>  <p>My longest animal is between 22cm and 26 cm. My shortest animal is between 12cm and 16cm.</p> <p>What are all the possible lengths of the longest animal?</p> <p>What are all the possible lengths of the shortest animal?</p> <p>What lengths could the other animals be?</p>	<p>Measure Length (m)</p> <p>I have chosen which unit I would use to measure these objects. Do you agree with my work below?</p> <p>Measure in metres (m) Measure in centimetres (cm)</p>  <p>What other objects could you add to each group?</p> <p>I only have 1 metre stick, so I can't measure the length of the classroom.</p> <p>Can you use a metre stick to find the length of the classroom?</p>  <p>Our classroom is _____ metres and _____ centimetres long.</p>	
<p>Post-assessment:</p>	<p>Snip relevant parts from WRH end of unit measure – length and height assessment Previous statistics SATs questions – snip as feel appropriate</p>		