

The following questions have been designed in order to help the children consolidate all recent learning around Length and Measure.

### Reasoning and Problem Solving – Length and Height Consolidation – Year 2

Today is Toby's birthday. He is 7 years old and his mum has organised a birthday party for him. She has invited lots of his friends to help him celebrate. She has also organised a scavenger hunt. The first child to collect everything on the list wins a special prize! The children are excited to get started. The first item on the list says:

**Find a present that has a length of 6cm.**

1. Tiana thinks that she has found the right present. Is she correct? Explain why.



- Sam thinks he has found the right present. Is he correct? Explain why.



The children race out into the garden to continue the hunt. The next item on the list says:

**Find some bunting that is shorter than 1 metre.**

2. The children decide to measure all of the bunting in the garden. They think it's a good idea to share their results.



bunting A measures 1m and 12 cm

bunting B measures 95cm

bunting C measures 110cm

- Tom thinks that bunting C is shorter than 1 metre. Is he correct? Explain why.

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Meghan is having trouble measuring her bunting. She knows that it's bigger than 1m and 30cm but smaller than 1m and 45cm. She decides that her bunting must be 1m and 25cm long. Is Meghan correct? Explain why.

It's time for a quick drink and a cookie before carrying on with the hunt. After a much needed rest, they read the next item on the list. It says:

**Find the longest set of lanterns in the garden.**

3. The children measure each lantern carefully and add the lengths of each set together. To help them compare the length of each set of lanterns, they decide to use the symbols  $<$ ,  $>$  and  $=$ . Can you help the children put the symbols in the correct place?



Set A is  
10cm and 15cm long



Set B is  
20cm and 9cm long



Set C is  
15cm and 18cm long

$$10\text{cm} + 15\text{cm} \quad \square \quad 20\text{cm} + 9\text{cm}$$

$$10\text{cm} + 15\text{cm} \quad \square \quad 15\text{cm} + 18\text{cm}$$

$$15\text{cm} + 18\text{cm} \quad \square \quad 20\text{cm} + 9\text{cm}$$

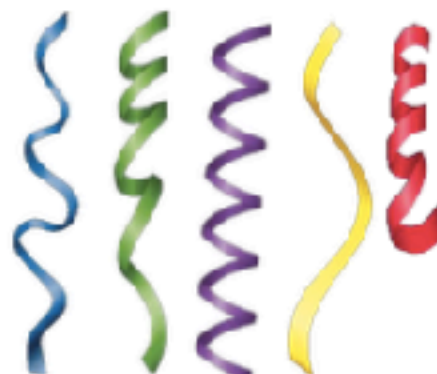
Using this information, Ted decides that Set B must be the longest as it is longer than Set A. Is he correct? Explain why.

Toby and his friends are having a great time on the scavenger hunt. They run around the garden trying to find the tallest trees, the shortest sticks and flowers that are the same length. No one is sure yet who is going to win. They all think that they have collected items of the correct length. Mum decides to set them another tricky challenge!

They all read the tricky challenge together. It says:

**Solve the riddle to find the longest streamer and tie it to the 3<sup>rd</sup> tallest flower.**

4. The children find five streamers hanging from a tree. On one of the branches, there is a riddle. Martha reads the riddle aloud. She says, "The red streamer is longer than the yellow streamer but it's not as long as the blue streamer. The green streamer is longer than the blue streamer but it's not as long as the purple streamer." In order to find the longest streamer, the children will have to order them from shortest to longest.



Help the children solve the riddle and place the streamers in the correct order.

shortest

longest

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Next, the children measure the flowers carefully to help them find out which is the 3<sup>rd</sup> tallest.



59cm



68cm



120cm



1m 10cm



1m 30cm

Charlie says:



This is how I have ordered the flowers from shortest to tallest. This means that the 3<sup>rd</sup> tallest flower is 120cm.

Is Charlie correct? Explain why.

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## Reasoning and Problem Solving – Length and Height Consolidation – Year 2

The children have just one more task to do before they can enjoy the party food and games. Their final task says:

Find the tallest party hat for Toby to wear at the party.



Hat A  
is 4cm tall.



Hat B  
is 6cm tall.



Hat C is  
twice as tall as  
hat B.



Hat D is  
five times taller  
than hat A.

5. The children search the party room and find four different party hats. Help them work out which is the tallest? Explain how you worked out your answer.

Mum says that there will be an extra treat for anyone who can work out the total height of the four hats.

Sally says:



The total height  
of all 4 hats is  
40cm high.

Is Sally correct? Explain why.

The scavenger hunt is finally over. Mum thinks that all of the children should get a prize because they have all worked so hard. Now the party can really begin. Well done everyone!



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## Reasoning and Problem Solving – Multiplication and Division Consolidation – Year 2

1. Tiana hasn't found the right present because she didn't line the present up with the 0 on the ruler. The present is only 5cm long.

Sam is correct, even though he didn't start at 0. The difference between from 4cm and 10cm is 6cm.

2. Tom is wrong because 100cm is the same as 1m, so 110cm would be longer than 1 metre.

Meghan is not correct as she knows the bunting is at least 1m and 30cm long. 1m and 25cm is shorter than 1m and 30cm.

3.  $10\text{cm} + 15\text{cm}$    $20\text{cm} + 9\text{cm}$

$10\text{cm} + 15\text{cm}$    $15\text{cm} + 18\text{cm}$

$15\text{cm} + 18\text{cm}$    $20\text{cm} + 9\text{cm}$

Ted is wrong because although Set B is longer than Set A, Set C is longer than Set B.

4. shortest

longest

yellow	red	blue	green	purple
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Charlie is not correct because 120cm is longer than 1m and 10cm. The 3<sup>rd</sup> tallest flower is 1m and 10cm.

5. Hat C is  $2 \times 6\text{cm} = 12\text{cm}$ . Hat D is  $5 \times 4\text{cm} = 20\text{cm}$ . Hat D is the tallest.

No Sally isn't correct because  $4\text{cm} + 6\text{cm} + 12\text{cm} + 20\text{cm} = 42\text{cm}$ .

