



(These activities have been collated by your teachers from the nrich websites)

Challenge 1



How tall?

"I wonder how tall that tree is?" says Linus.
"I think we could find out," replies Raj.
"It could be difficult as it's very high," says Toby.

How would you work out how tall a large tree is?

Thousands more problems can be found on the NRICH maths website:
<http://nrich.maths.org>

Hints:

Could you use any other objects to help you?

Can you estimate how tall the tree is?

Challenge 2

Order, Order!

Have a look at the sets of quantities below. Can you rank them in order from smallest to largest?

To help you decide, you may need to find extra information or carry out some experiments.

Can you convince us that your order is right?

Time

Taken to travel to school

For mustard and cress to grow from seeds

Taken to eat a biscuit

Between your 6th and 7th birthdays



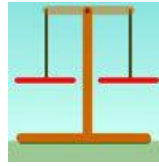
Distance



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

Mass

Of a blown-up balloon
Of a bar of chocolate
Of a loaf of bread
Of your teacher



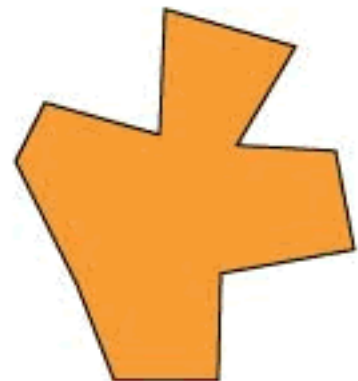
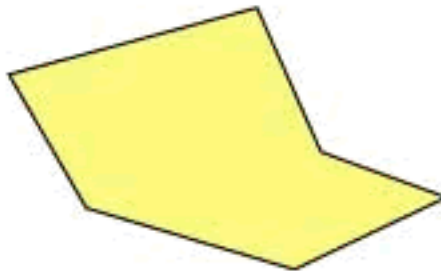
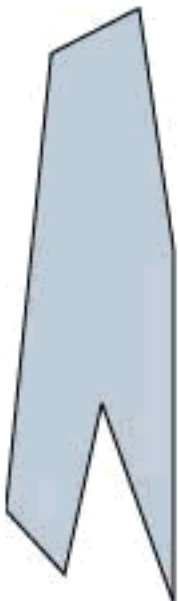
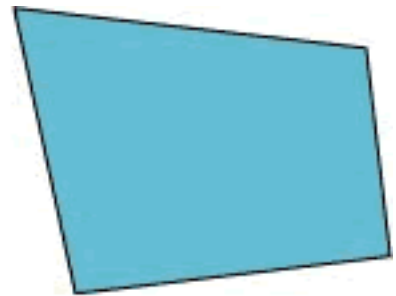
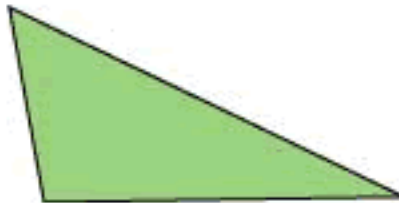
Hints

How could you estimate each of the quantities?

What extra information might you need to find out?

Challenge 3

Arrange these shapes in order of size. Put the smallest first.



Hints

Kelsey said:

"I printed the shapes and then measured the length of each shape at the longest point."

Louise and Rosie said:

"We observed the area of each and tried to rearrange the shapes in our heads to compare them. "

Thomas said:

"I cut out the shapes then cut each up into little pieces and laid them on top of each other to see which was bigger. I also put them on a grid with small squares and counted the number of squares for each."

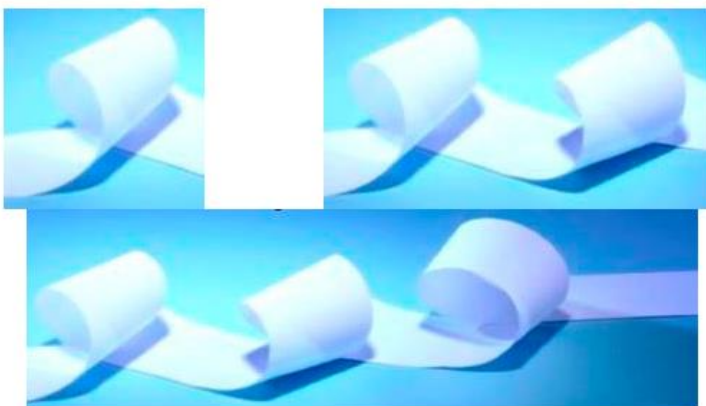
Can you take each of these starting ideas and develop each into a solution?

Challenge 4

Take One Metre



Use about 1 metre of paper (for example from a paper roll) and cut it into a few different lengths.



Lay each strip out flat.
How long is each strip?
If two are the same length can you cut them again to make different lengths.

Measure each length as carefully as possible.
Find a way of recording all the lengths of the pieces that you have made.

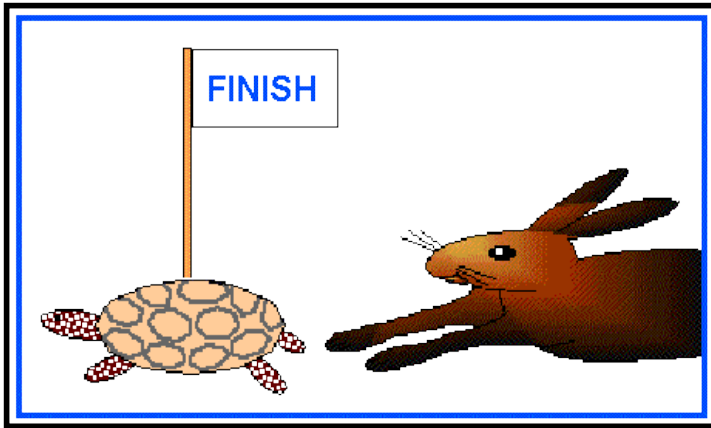
Hints

You may like to find a ruler, or a measuring tape or ...

Challenge 5 (super duper challenge!)

The Hare and the Tortoise

Most of you will know the story of the hare and the tortoise with the moral tag "slow and steady wins the race".



In this version

- The race is 10 km (kilometres) long.
- The hare runs at 10 times the speed of the tortoise.
- The tortoise take 2 hours and 30 minutes to complete the race.
- The hare arrives at the finish 30 seconds after the tortoise.

For how long does the hare sleep?

Hints

There are several approaches to this problem. Finding out how many kilometres an hour the tortoise travelled at is a very good starting point for comparing the speeds and time taken to cover the course by the two animals.

(The speed is the number of kilometres in an hour that is travelled.)

Maths Challenge Solutions for Parents Year 3

These links will take you to the possible challenge solutions as outlined on the enrich website.

Challenge 1: <https://nrich.maths.org/7536/solution>

Challenge 2: <https://nrich.maths.org/7340/solution>

Challenge 3: <https://nrich.maths.org/4962/solution>

Challenge 4: N/A

Challenge 5: <https://nrich.maths.org/1082/solution>

