Grade 5 NAPLAN

Measurement and Geometry

Challenge Cards

Compare and Order Length

Find five objects around the classroom and measure their length in millimetres, centimetres and metres. Which unit of measurement is best for each object you chose?

Explain your thinking.

Compare and Order Mass

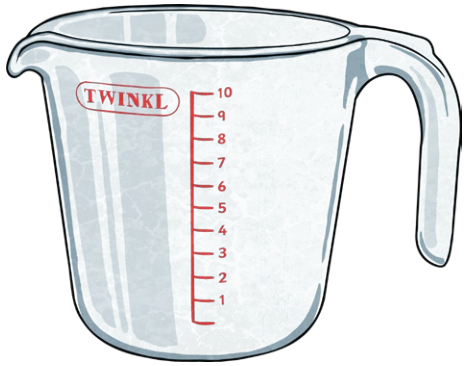
Find five objects around the classroom and measure their mass in grams and kilograms. Which unit of measurement is best for each object you chose?

Explain your thinking.

Compare and Order Capacity

Find five objects around the classroom and measure their capacity in millilitres and litres. Which unit of measurement is best for each object you chose?

Explain your thinking.



Measuring Time

Write the time you started this question in your maths book.

Have a read and estimate how long this task will take you.

How many minutes are there until your next break?

How long until something you are looking forward to?

What time did you finish and how long did this task take you?

Travel Times

What is a place you would love to travel to?

If you left right now, how long would it take you to travel there?

What time would you arrive in 24 hour time and 12 hour AM/PM time?

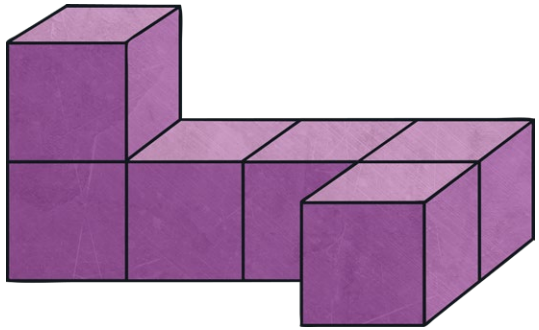
Comparing Area

Create two shapes on grid paper. You could follow Up/Down/Left/Right/Diagonal directions from a partner to make random shapes or roll a dice to see how long each side could be. What is the area of each shape you created in cm^2? Which shape is bigger and by how much?

Comparing Volume

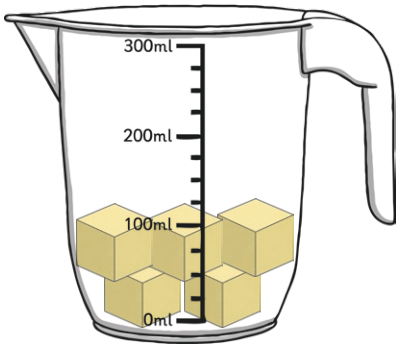
With a partner create two sculptures using centimeter cube blocks.

What is the volume of each shape in cm^3? Which shape is bigger and how much?



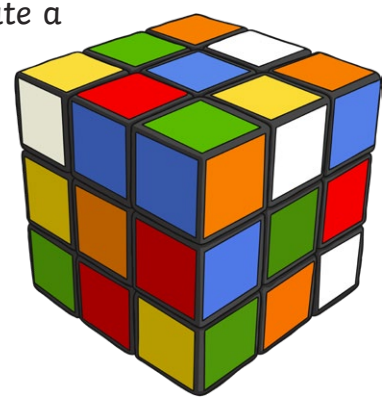
Connecting Volume and Capacity

Fill a container with centimeter cubes as best you can. If there are gaps, estimate how many extra cubes you could fit in the spaces. Write down the volume of the container in cm^3. Now pour water into the container and measure the capacity in ml. What do you notice?



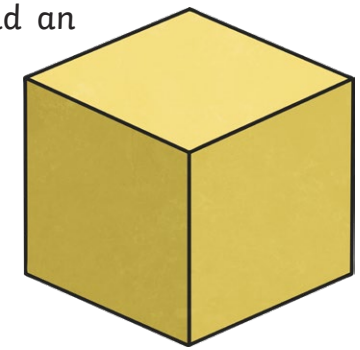
Making 3D Shapes

Find a small 3D object in your classroom that has flat surfaces. Using some thin paper, wrap your object. Unwrap it and notice where the paper has folded over the edges. See if you can use these lines as a guide to help you create a net of this object. Test out your net by rewrapping your object to see if it works!



Guess 3D Shapes

Play 'Guess my shape' with a partner. Choose a 3D shape that your partner will have to guess. One clue at a time, let them know how many vertices (corners), faces and edges your shape has. You could also let them know what 2D shape each face is or where in real life you might find an object that is this shape. See if they can guess your shape and how many clues they needed.

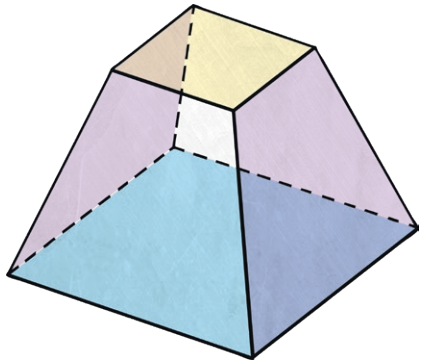


Investigate 3D Shapes

What is the most common number of vertices on a 3D shape?

Explain your answer by examining as many different 3D shapes as you can.

What about faces or edges?



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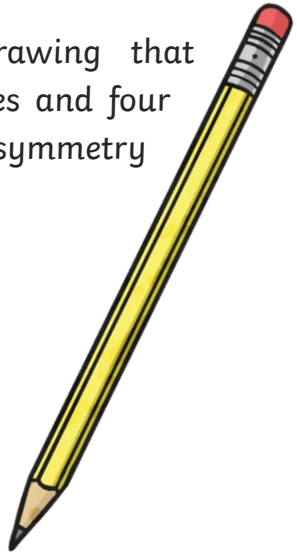
Create Symmetry

Design a symmetrical pattern or drawing that includes at least five different 2D shapes and four colours. Your design could have lines of symmetry or rotational symmetry.



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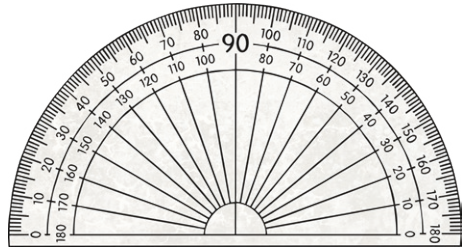
Translate/Reflect/Rotate

Create a shape or design on grid paper. You could follow Up/Down/Left/Right/Diagonal directions from a partner to make random shapes or roll a dice to see how long each side could be.

Now move your shape to the right, reflect it upside down and rotate your design 90^{o} or a quarter turn. Record each step by drawing and what you notice.



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Mapping Location

Create a map of your classroom and track your movements throughout the day.

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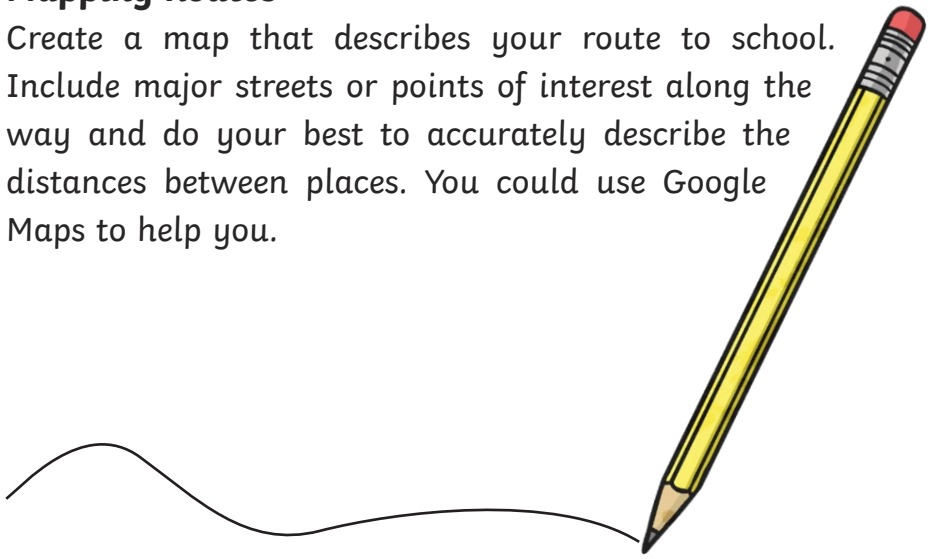
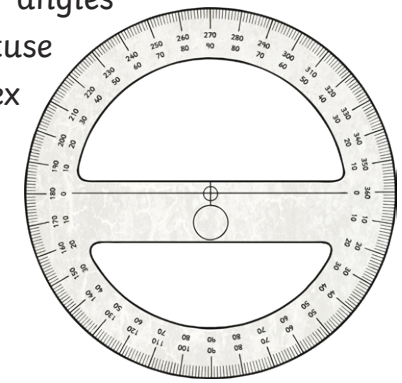
Mapping Routes

Create a map that describes your route to school. Include major streets or points of interest along the way and do your best to accurately describe the distances between places. You could use Google Maps to help you.



Identify and Order Angles

With a partner, find 10 angles in your classroom and measure them from smallest to biggest using a protractor (you may need to step back to get the angle to fit in your protractor). Record your results and classify your angles as Acute (< 90º), Right (90º), Obtuse (91º-179º), Straight (180º) or Reflex (181º- 359º)



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Identify and Order Angles

Create a design that includes these types of angles: Acute (< 90º), Right (90º), Obtuse (91º-179º), Straight (180º) or Reflex (181º- 359º). Label and measure your angles with a protractor.