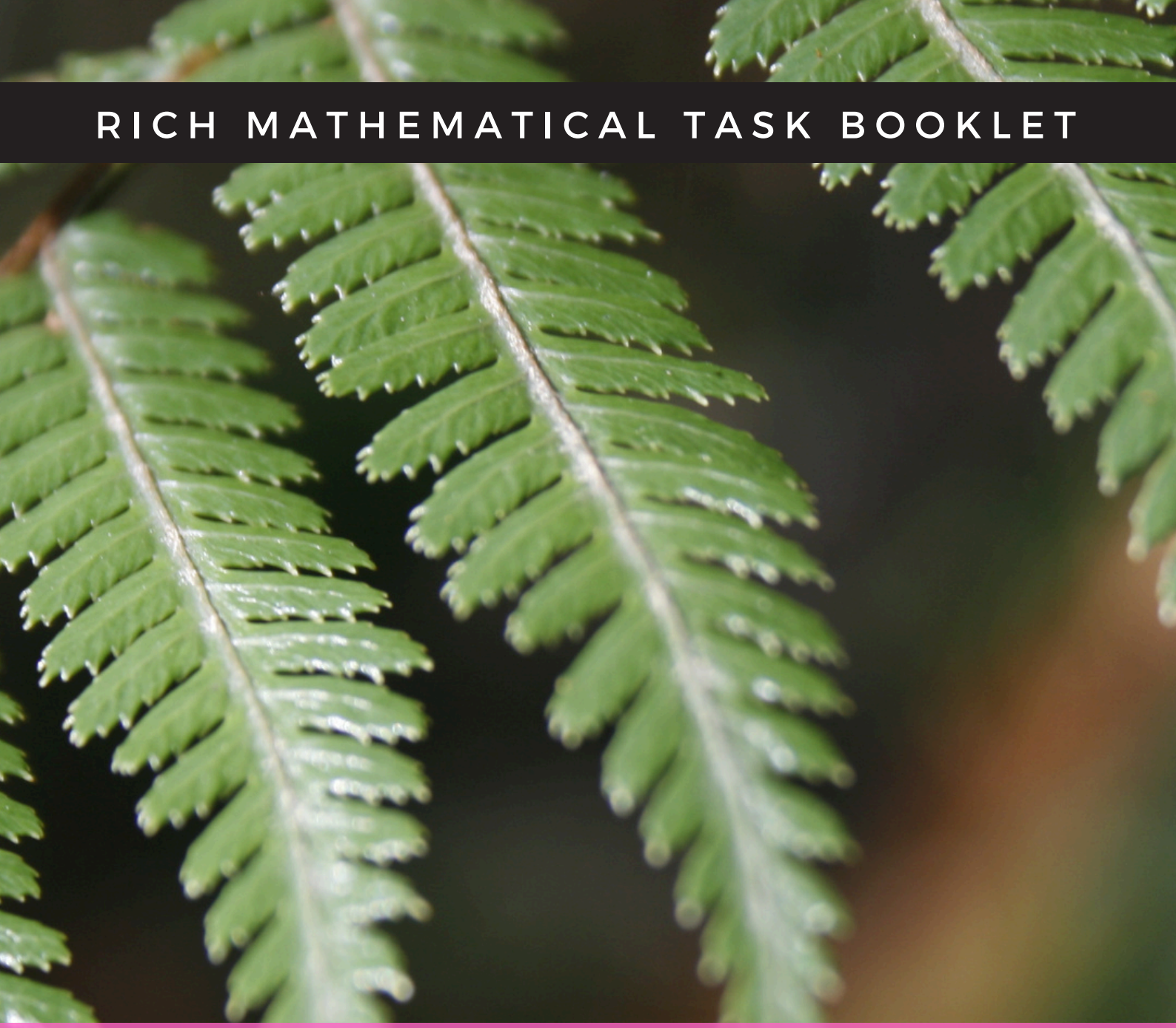
RICH MATHEMATICAL TASK BOOKLET



GEOMETRY

YEAR 5-6
ODD YEARS

Teacher Booklet

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Task 1

Decide on a criteria to sort these shapes.

What other criteria could you use to sort the shapes?

Teacher Notes

Have available for each pair of students a variety of 2D shapes including different types of triangles.

Facilitate the students to notice that shapes can be sorted by different attributes. For this task students could sort by: odd + even number of sides, edges, vertices, angles, quadrilaterials + non quadrilaterals etc.

Monitor for students who use sophisticated descriptions of shapes and revoice using geometric terms.

Refer to the quadrilateral chart (copy masters) if needed to support the sorting.

For the independent task, have available paper copies of rectangles made from two squares for students to re-represent from memory and short sticks of the same length.

Shareback

Select students to share who have used different properties to group the shapes.

Connect

What do you notice are the similarities and differences in the categories used to sort the shapes.

Ensure language such as polygons, quadrilaterals are correctly used in explanations.

Big Ideas

Two-and-three dimensional objects with or without curved surfaces can be described, classified, and analysed by their attributes.
Shapes have sides that are parallel, perpendicular, or neither.

Shapes have line symmetry, rotational symmetry, or neither.
Shapes are similar, congruent, or neither.

Curriculum Links

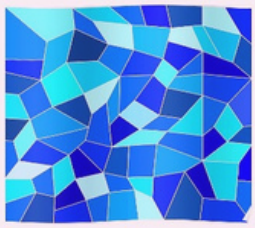
End of Year Six
Identify, classify, and explain similarities and differences between:
2D shapes, including different types of triangle prisms and pyramid

Suggested Learning Outcomes

Identify and sort shapes in a range of different ways using geometrical language to explain and justify grouping.

Independent Tasks

Look at the geometric patterns on some wrapping paper.



What do you notice about all the shapes on the wrapping paper that are the same? That are different?

Mason says that he can see lots of different shapes and they all have different names, but they are also all called quadrilaterals. Can you explain why Mason said that?

Can you find the different sorts of quadrilaterals in the design? How are they the same? How are they different from other quadrilaterals?

Mathematical Language

Properties, square, rectangle, attribute, 2-dimensional, 3-dimensional, shape, side, equal, size, smaller than, straight, parallel, congruent, collinear, angles, vertices, vertex, sides, vertical, horizontal, diagonal, symmetrical, face, curved, edge, corner, sphere, cylinder, cube, cuboid, rectangular prism, triangle, quadrilateral, hexagon, equilateral triangle, square corner, right angle, rhombus, parallelogram, kite, trapezoid, isosceles trapezoid.

Anticipations

Solutions, Misconceptions

Task 2

Ready to be a shape sorter? You will need to be because the word polygon is from Greek and poly means many!

Here you have a set of polygons all mixed up. With your group can you sort these polygons into different groups by their properties.

What do you notice about their properties? Can you come up with a list of attributes you have decided are shared by all the polygons each set?

As a shape sorter be ready to explain and justify your list of attributes shared by the polygons in each set.

What are the common properties across the whole set of polygons? What differences are there in the properties across the whole set of polygons?

Teacher Notes

As a starter, challenge the students with a "Can you make it?" activity in which they draw what is described.
A shape with only one square corner and four sides.
A shape with two square corners
A shape with two lines of symmetry
A shape with two pairs of parallel lines
A shape with two pairs of parallel lines and no right angles.

During the launch, have a long piece of elastic. Begin by standing 3 students up inside the elastic at an equivalent distance from each other. Have students draw the shape and discuss the properties of the shape. Continue adding children and repeating the drawing and discussion.

Have an elastic band and sets of the polygons ready for sorting and grouping. These can be either as 2D wooden blocks or card representations (from task one)

Facilitate the students to notice that all polygons are 2D closed plane figures with three or more sides that are all straight. Poly means many and that there are infinite number of polygons.

Notice students who identify the number of sides of the polygon, the angles between the sides of the polygon and the length of the sides of the polygon. Use their observations to name them as regular or irregular.

Big Ideas

Two-and-three dimensional objects with or without curved surfaces can be described, classified, and analysed by their attributes.
Shapes have sides that are parallel, perpendicular, or neither.

Shapes have line symmetry, rotational symmetry, or neither.
Shapes are similar, congruent, or neither.

Curriculum Links

End of Year Six
Identify, classify, and explain similarities and differences between:
2D shapes, including different types of triangle prisms and pyramid

Shareback

Select students to share who are able to sort and classify according to the properties of polygons.

Connect

We know that polygons are 2D shapes but what would you say if someone told you that all 2D shapes are polygons?

As part of your argument be ready to explain and justify a description of polygons.

Suggested Learning Outcomes

Use geometrical language to explain and justify classification and properties of shapes.

Use commonly shared rules to communicate ideas about defining shapes.

Identify and explain relationships between shapes, including similarities and differences

Independent Tasks

Regular polyhedrons are shapes that have all sides equal in length and all inside angles are equal.

Irregular polyhedrons are 2-D shapes that have straight sides that are not equal to each other and angles that are not equal to each other.

Fill in the missing details. Draw examples of what the following might look like.

Number of sides & angles	Name	Draw an example of regular polygon	Draw an example of irregular polygon
3	Triangle		
3	Triangle		
	Kite		
4	Quadrilateral		
5	Pentagon		
	Hexagon		
	Square		
7			
	Octagon		
	Nonagon		
10			

Mathematical Language

Properties, square, rectangle, attribute, 2-dimensional, 3-dimensional, shape, side, equal, size, smaller than, straight, parallel, congruent, collinear, angles, vertices, vertex, sides, vertical, horizontal, diagonal, symmetrical, face, curved, edge, corner, sphere, cylinder, cube, cuboid, rectangular prism, triangle, quadrilateral, hexagon, equilateral triangle, square corner, right angle, rhombus, parallelogram, kite, trapezoid, isosceles trapezoid, polygon, regular, irregular, pentagon, hexagon, heptagon, octagon.

Anticipations

Solutions, Misconceptions

Task 3

What do you notice about the shape of these different things?

Sort the things into groups which are the same.

Sort the things into groups which are different.

Explain and justify how you have sorted the things into different groups.

Teacher Notes

Provide students in groups with a collection of structured 3D shapes and a collection of common objects from their environment and have them talk with each other about what they notice about them (See Copy Masters booklet).

Then have the students sort the objects into groups that are the same and have them justify why they are the same. Repeat with how they are different.

Have available a large collection of common objects including some that are similar to cubes, cuboids, cylinders and spheres (e.g., boxes, dice, cans, balls, glad wrap roll, building blocks, Lego)

Facilitate the students to notice 3D aspects of the shapes including flat faces, curved faces, faces form an edge, corner, vertices when they come together, horizontal and vertical lines etc. Also notice that objects which are shaped like balls have a single curved surface.

Facilitate the students to group and sort the shapes based on the cross section shape. Cross section is the shape that you see when you slice through a 3D object. The shape of the cross-section depends on the shape of the 3D object and the angle at which it's sliced.

Shareback

Select students to share who can explain and justify using everyday language and the language of geometry how the different objects are the same and/or different.

Big Ideas

Two-and-three dimensional objects with or without curved surfaces can be described, classified, and analysed by their attributes.
Shapes have sides that are parallel, perpendicular, or neither.

Shapes have line symmetry, rotational symmetry, or neither.
Shapes are similar, congruent, or neither.

Curriculum Links

End of Year Six
Identify, classify, and explain similarities and differences between:
2D shapes, including different types of triangle prisms and pyramid

Connect

Someone said that all 3D shapes are made from 2D shapes. How would you respond to that? Think about the attributes of a square and the attributes of a cube. How are these related? Could any other 2D shape be used to construct a cube? Why or why not?

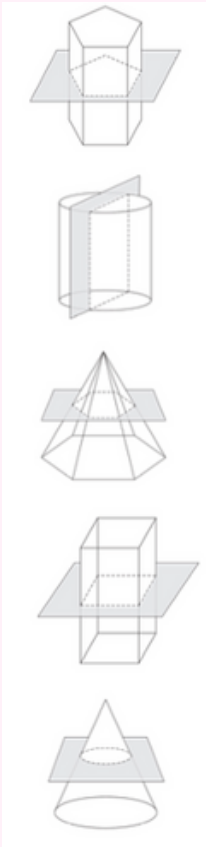
Suggested Learning Outcomes

Use geometrical language to explain and justify classification and properties of shapes.

Explain how solid shapes have fixed-cross sections and can be classified by their cross-section.

Independent Tasks

Draw the cross section of these different shapes.



Mathematical Language

Properties, square, rectangle, attribute, 2-dimensional, 3-dimensional, shape, side, equal, size, smaller than, straight, parallel, congruent, collinear, angles, vertices, vertex, sides, vertical, horizontal, diagonal, symmetrical, face, curved, edge, corner, sphere, cylinder, cube, cuboid, rectangular prism, triangle, quadrilateral, hexagon, equilateral triangle, square corner, right angle, rhombus, parallelogram, kite, trapezoid, isosceles trapezoid, polygon, regular, irregular, pentagon, hexagon, heptagon, octagon, equilateral, scalene, acute angle, obtuse angle

Anticipations

Solutions, Misconceptions

Task 4

Poppy noticed that “the interior (inside) angles in a triangle adds up to 180 degrees and the angles in a quadrilateral adds up to 360 degrees"

She said she could prove this by cutting the angles within the shapes and gluing them in a line to show 180 degrees and 360 degrees.

Using all of the triangles and quadrilaterals, test this theory. What do you notice?

Teacher Notes

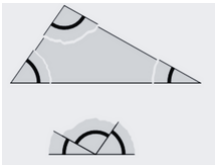
During the launch. Have the students stand with an arm out and rotate 180 degrees and 360 degrees.

Represent this on the board to demonstrate 180 =  and 360 degrees.

Prompt the students to take a triangle and rip the corners off.

Taking the corners (angles) the students are to glue them on a line.

Repeat this with the variety of traingles.



Then move onto the quadrilaterals. Taking the corners off to show the angles add to 360 degrees.

Shareback

Select students to share that can explain how the angles in their shapes equal 180 degrees or 360 degrees.

Connect

Show the image of the triangle.

Prompting the students: if we know that the internal angles add together to be 180 degrees, what is the size of the unknown angle?

Big Ideas

Two-and-three dimensional objects with or without curved surfaces can be described, classified, and analysed by their attributes.
Shapes have sides that are parallel, perpendicular, or neither.

Shapes have line symmetry, rotational symmetry, or neither.
Shapes are similar, congruent, or neither.

Curriculum Links

End of Year Six
Identify and describe the interior angles of triangles and quadrilaterals.

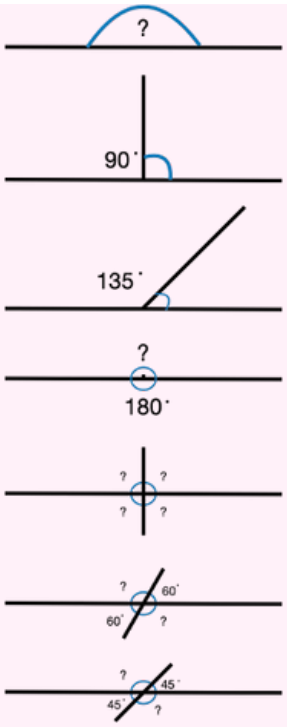
Suggested Learning Outcomes

Explain interior angles of quadrilateral and triangle.

Independent Tasks

Calculate the missing angles.

Remember that angles on a straight line add up to 180degrees and angles around a point add up to 360 degrees.



Mathematical Language

Square, rectangle, attribute, 2-dimensional, 3-dimensional, shape, sort, describe, side, equal, size, colour, big, small, bigger than, smaller than, straight, congruent, half, collinear, corners, angles, sides, vertical, horizontal, symmetrical, halves, quarters, face, curved, edge, corner, sphere, cylinder, cube, cuboid, rectangular prism, triangle, quadrilateral, hexagon, sharp corners, blunt corners, equilateral triangle, square corner, rhombus, parallelogram, kite, trapezoid, isosceles trapezoid.

Anticipations

Solutions, Misconceptions

Task 5

When the box makers were designing these cuboids, they drew a 2D representation of their net. What 2D shapes did they draw?

Look carefully at one of the cuboids and imagine what it would look like flattened out as a net. Talk to your buddy about how many faces it will have and how many will be congruent.

Draw what you think it will look like as a net. Remember that when you fold the net up it needs to make a 3D cuboid and so you need to draw all the faces.

Teacher Notes

During the launch, use the geometric quick images (See quick images PDF for ideas).

Have available a wide range of cuboid shaped boxes collected from home.

Tell the students not to draw the flaps just the faces. This activity will need to be repeated so that they have the opportunity to get closer and closer to drawing the net. As they complete an iteration have them open the box and compare their net with the net of the box.

Facilitate the students to notice that despite the different dimensions of the boxes they all have six rectangular faces, and the opposite faces are congruent (the same). Note also that all corners are square (right angles).

Notice the students who are able to draw six faces and approximate a net for a cuboid. These students will often be different from those who are able to compute. Also notice the students who use gesturing for the number of faces needed.

For the independent task have 3d shapes available.

Shareback

Select students to share who are able to explain and justify the attributes of a cuboids and can approximate these as a net.

Connect

Predict which of these nets will fold and make a cuboid. What attributes are important to make a net for a box shaped like a cuboid?

Big Ideas

Two-and-three dimensional objects with or without curved surfaces can be described, classified, and analysed by their attributes.

Curriculum Links

During Year 5
visualise 3D shapes and connect them with nets, 2D diagrams, verbal descriptions, and the same shapes drawn from different perspectives.

During Year 6
visualise and draw nets for rectangular prisms.

Suggested Learning Outcomes

Create 2-dimensional drawings of 3-dimensional models.

Draw objects which can take the form of plane views of nets.

Use commonly shared rules to communicate ideas about defining shapes.

Mathematical Language

3D, 3 dimensional, cube, box, sides, flaps, net, plane view, 2 dimensional.

Independent Tasks

Make up a chart to describe each of these 3D shapes.
Record on your chart:

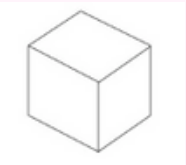
1) the name of the solid and a 3D drawing of it
2) the number of faces it has
3) the number of edges it has
4) the number of corners it has.
5) the 2D shapes that make the 3D shape

Anticipations

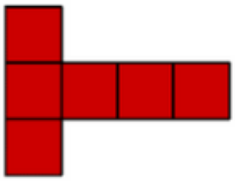
Solutions, Misconceptions

Task 6

Your class has an opportunity to sell lucky dip prizes at the local Night Market for a fundraiser. The prizes will be put in a box that looks like this and children will lift the flap and choose a parcel:



In your group discuss and justify whether the net drawing below would make the box.



Can you draw at least 3 different nets which will also make the box. Be ready to prove that they all work.

Teacher Notes

Have cardboard, scissors, and Sellotape available and encourage the students to use the inside of these to test out their different nets. Have different templates for cubes, some which will work and some which will not work (See Copy Masters booklet, Task 6 best printed on A3).

Notice students who use gesturing to represent the six faces and their attention to ensuring that they have congruent faces.

Facilitate students to notice the need to attend to width, length and height as the attributes.

For the independent task, have available cardboard boxes for the students to use to draw nets from.

Shareback

Select students to share who are able to explain and justify the attributes of a cuboids and can approximate these as a net.

Connect

Predict which of these nets will fold and make a cuboid. What attributes are important to make a net for a box shaped like a cuboid?

Big Ideas

Two-and-three dimensional objects with or without curved surfaces can be described, classified, and analysed by their attributes.

Curriculum Links

During Year 5
visualise 3D shapes and connect them with nets, 2D diagrams, verbal descriptions, and the same shapes drawn from different perspectives.

During Year 6
visualise and draw nets for rectangular prisms.

Suggested Learning Outcomes

Create 2-dimensional drawings of 3-dimensional models.

Draw objects which can take the form of plane views of nets.

Mathematical Language

3D, 3 dimensional, cube, box, sides, flaps, net, plane view, 2 dimensional.

Independent Tasks

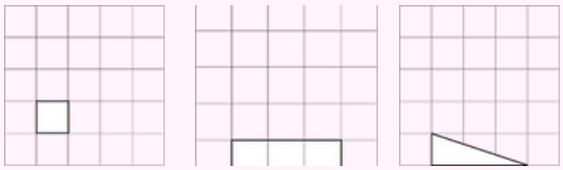
Look closely at the box you have chosen. Draw what you think it will look like as a net. Do not draw the flaps just the faces. Remember that when you fold the net up it needs to make a 3D cuboid and so you need to draw all the faces.

When you have finished drawing the net undo your box and compare its net with the net you drew. Keep redrawing the net until you have got it correct.

Anticipations

Solutions, Misconceptions

Task 7



How can the square be enlarged but remain as a square?

How can the rectangle be enlarged but remain as a rectangle?

How can the triangle be enlarged but remain as a triangle?

Teacher Notes

Have available grid paper and sheets with a square, a rectangle, and a triangle (see copy masters)

Facilitate students to notice that when you resize a shape it gets bigger or smaller, but it still looks similar (not congruent). All angles stay the same, relative sizes are the same (in proportion)

Notice students who recognise that enlarging and reducing uses specific factors (factor of 2 as an example).

Shareback

Select to share students who are able to explain and justify their enlargements using correct factors.

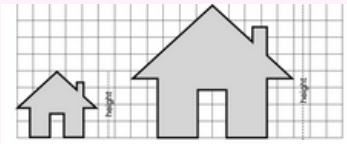
Connect

What are the important factors related to resizing (enlarging and reducing) a shape? Why?

Suggested Learning Outcomes

Explain enlargement as how an object/image can be made bigger or smaller using a scale factor.

Independent Tasks



The house on the right is an enlargement of the house on the left.
Complete the questions.

Small house:	Big house:
Length:	Length:
Height:	Height:

Draw an enlarement of the house of the next size.

Big Ideas

Transformations provide a significant way to think about the ways properties change or do not change when a shape is moved on a plane.

Curriculum Links

During Year 5
resize (enlarge or reduce) a 2D shape

During Year 6
visualise, create, and describe 2D geometric patterns and tessellations, using rotation, reflection, and translation and identifying the properties of shapes that do not change

Mathematical Language

enlarge, factor, reduce, scale grid.

Anticipations

Solutions, Misconceptions

Task 8

Repeating patterns are used in many different ways as part of designs.

Identify the repeating patterns on the wrapping paper.

Identify and discuss where each repeating patterns starts.

Choose a repeating pattern and explain whether it shows rotation or reflection.

Teacher Notes

Provide students with pieces of wrapping paper (or similar such as material) which shows translational symmetry (see copy masters).

Facilitate the students to notice that in mirror symmetry a shape matches itself when it is reflected in a specific mirror line but in slide symmetry the shape matches itself when it is slid in a particular direction by a particular distance thus making it translational symmetry.

Translation is sliding a figure in any direction without changing its size, shape or orientation.

Notice students who can describe rotation and reflection elements within their pattern.

Shareback

Select students to share who can explain and justify the similarities and differences in the way the repeating patterns are a process of slide symmetry.

Select students who can identify different rotations or reflections within the patterns.

Connect

Is translation or slide symmetry the same as mirror symmetry or is it different? Explain the similarities and differences.

Big Ideas

A transformation is a way of moving a shape, and a shape that remains unchanged under a transformation is said to have symmetry.

Transformations provide a significant way to think about the ways properties change or do not change when a shape is moved on a plane.

Curriculum Links

During Year 5
resize (enlarge or reduce) a 2D shape

During Year 6
visualise, create, and describe 2D geometric patterns and tessellations, using rotation, reflection, and translation and identifying the properties of shapes that do not change

Suggested Learning Outcomes

Explain transformation as a way of moving a shape

Describe how a shape that stays the same under transformation has symmetry.

Recognise that turns around a point can be described and recorded as a quarter, half, full turn or rotation or an angle.

Explain that angles are linked with slides (translations) to create paths.

Independent Tasks

Make your own wrapping paper design using a combination of mirror, slide, and rotational symmetry.

Draft different designs and ensure you are using all of the types of symmetry.

Leave a space for a border on the edge of the paper around your pattern design.

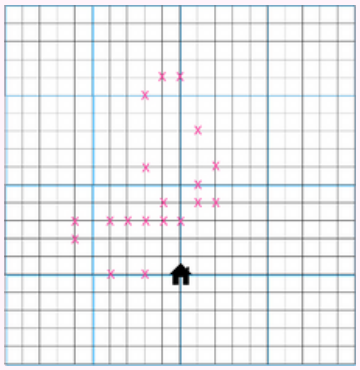
Mathematical Language

Reflection, mirror line, mirror symmetry, reflectional symmetry, line of symmetry, flipping, congruent, translation, sliding, rotation, turning, revolution, transformation, forward, backwards, right, left, front, back, clockwise, anticlockwise, full turn, half turn, quarter turn, 4-turn symmetry, congruence, path, angle, perspectives, bird's eye view, reverse, invert, obtuse, acute.

Anticipations

Solutions, Misconceptions

Task 9



You are playing a computer game and need to collect the most gems and bring them to your home base.

Draw straight lines through the gems using the four points of the compass (North, South, East, West). You can only use up to ten lines to create your route from the home base and back again.

Try and improve your route to collect more gems.

Can you collect all the gems?

Keep a record of the directions to explain the best route to collect the gems.

Teacher Notes

During the launch introduce the use of compasses. Have students develop benchmarks for where each direction is in relation to parts of their classroom and beyond. Link to the face of a clock and the angles of the hands on the face of the clock.

Have available small hand-held compasses.

Facilitate students to understand that they need to place the compass on the floor before getting a reading and that North is always North and that compass points are 90 degree turns.

Shareback

Select students to share who can explain and justify the most direct route the children took to gather the most gems using the compass points.

Connect

If you turn from North to West, what angle turn do you take? If you turn North to South, what angle turn do you take? What do you notice? How are compass points related to angles?

Big Ideas

Shapes can be described in terms of their location in a plane or space.

Coordinate systems can be used to describe these locations precisely.

The coordinate view of shape offers another way to understand certain properties of shapes.

Curriculum Links

by the end of year Six

interpret and create grid references and simple scales on maps
› use directional language, including the four main compass points, turn (in degrees), and distance (in m, km) to locate and describe positions and pathways.

Suggested Learning Outcomes

Use a map to describe directions or map out a path on a map.

Follow and give directions involving turns (left and right) and compass directions (N,E,W,S).

Independent Tasks

Make your own grid map of home and gems which you need to gather. Make sure that it is solvable and then give it to your buddy to complete.

Mathematical Language

north, south, east, west, forward, rotate, turn, start, end

Anticipations

Solutions, Misconceptions

Task 10

Using grid paper draw a map of an area you know well. Make sure that you have numbers down the side of your grid and use alphabet letters across the top. Put the names of all your group members in different places.

Mark on your map key points of interest. To the side of your map put a key (or legend) using simple symbols, signs, and colours to give others information about your map in a small space. Don't forget to put in where the compass directions are. These could include more specific compass points (for example, North-West).

Write a set of 10 statements about your map using the grid references, and compass points or angles and turns to indicate paths each person might take to go from one point of interest to another.

Teacher Notes

Facilitate the students to know that map makers use signs and symbols on maps to enable a lot of information in a small space. This is termed a legend.

Notice students who realise the importance of the use of consistent scaling and signs and symbols.

Expect students at year five to use compass points in their statements, and year six students to begin to use degrees to describe turns.

For the independent task have a variety of maps with different legends and scales available. These could be electronic or physical. Alternatively, students could use their maps from this task to add more detail or complete their statements as the independent task.

Shareback

Select students to share who are able to explain and justify their legend and their statements using a range of different abbreviated instructions.

Connect

Explain the key points which mapmakers consider when constructing a map. Be ready to explain and justify why these are important?

Discuss the use of turning in angles, importance of using an accurate scale and distances.

Big Ideas

Coordinate systems can be used to describe these locations precisely.

The coordinate view of shape offers another way to understand certain properties of shapes.

Curriculum Links

By the end of Year Five
interpret and create grid maps to plot positions and pathways, using grid references and directional language, including the four main compass points

By the end of Year Six
interpret and create grid references and simple scales on maps › use directional language, including the four main compass points, turn (in degrees), and distance (in m, km) to locate and describe positions and pathways.

Suggested Learning Outcomes

Use a map to describe directions or map out a path on a map.

Follow and give directions involving turns (left and right) and compass directions (N,E,W,S)

Mathematical Language

north, south, east, west, forward, rotate, turn, start, end

Independent Tasks

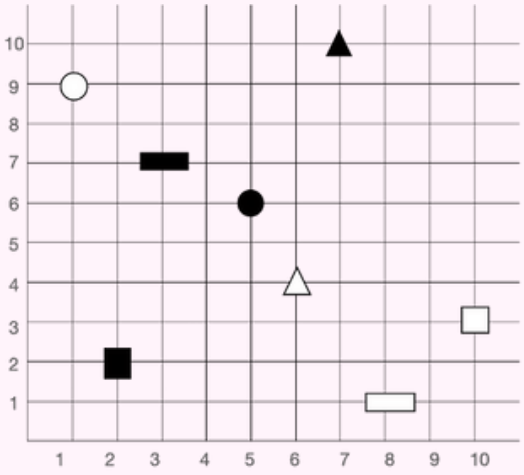
Explore as many different types of maps as you can. With a buddy talk about their legend and scale.

Make a list of all the different symbols in the different legends and the different scales.
Links to maps:
Northland https://www.topomap.co.nz/NZTopoMap?v=2&ll=-35.17555,173.14659&z=14
Auckland
https://www.topomap.co.nz/NZTopoMap?v=2&ll=-36.977807,174.785357&z=13
Christchurch
https://www.topomap.co.nz/NZTopoMap?v=2&ll=-43.571067,172.831764&z=12
Gisborne
https://www.topomap.co.nz/NZTopoMap?v=2&ll=-38.596248,178.019028&z=11
Taranaki
https://www.topomap.co.nz/NZTopoMap?v=2&ll=-39.571413,174.277968&z=15

Anticipations

Solutions, Misconceptions

Task 11



Draw the objects found at:

A: (1,9)

B: (10, 3)

C: (5,6)

Give the Grid Reference for:

Add your own shapes and provide the co-ordinates to share with the class.

Teacher Notes

After launching the task, allow the students the time to explore co-ordinates (rather than telling them how to "read" co-ordinates).

Notice students who are able to correctly use co-ordinates correctly – going along the horizontal and then up the vertical. You may need to pause the class and get one group to share back how they are reading the co-ordinates before continuing further.

Introduce the students to the language of longitude and latitude.

For the independent task, provide students with grid paper.

Shareback

Select students to share who are able to explain and justify the objects and different grid references they used.

Connect

How are scale and grid references connected?

Big Ideas

Shapes can be described in terms of their location in a plane or space.

Coordinate systems can be used to describe these locations precisely. The coordinate view of shape offers another way to understand certain properties of shapes.

Curriculum Links

By the end of Year Five
interpret and create grid maps to plot positions and pathways, using grid references and directional language, including the four main compass points

By the end of Year Six
interpret and create grid references and simple scales on maps › use directional language, including the four main compass points, turn (in degrees), and distance (in m, km) to locate and describe positions and pathways.

Mathematical Language

north, south, east, west, longditute, latitude, co-ordinations

Suggested Learning Outcomes

Use coordinates (either letters or numbers) on maps to specify a location and direction

Independent Tasks

Use grid paper to make your own grid challenge for other students. You might place objects on the grid and ask others to provide their grid reference or ask them to name objects found at the grid references.

Mathematical Language

north, south, east, west, longditute, latitude, co-ordinations

Anticipations

Solutions, Misconceptions

Task 12

Make your own Golden Egg Hunt. You can choose your own setting but you need to use a grid with the sides numbered and the top lettered, decide on a scale and have a legend.

Mark where the hunt begins on your map.

Provide 10 clues to find the Golden Eggs using your scale, legend and the grid labels.

Teacher Notes

Before launching the task, ask students to provide an explanation for scale, legend and grid labels. Reinforce their prior learning from previous tasks.

Remind students of their co-ordination work the task prior.

Students could use technology to generate their Golden Egg Hunt Map.

Facilitate the students to notice the importance of clear instructions.

Once maps are created, swap between groups to allow students to trial each others clues.

Shareback

Select students to share who are able to explain their maps or how they followed others directions.

Connect

Write a question for someone else to answer using the map.
What was important about how you wrote your instructions? Why?

Suggested Learning Outcomes

Identify and describe a location using coordinates, directions and distances.

Independent Tasks

Assessment Tasks:
One: Shape Sorting
Two: Translations
Three: Maps

Big Ideas

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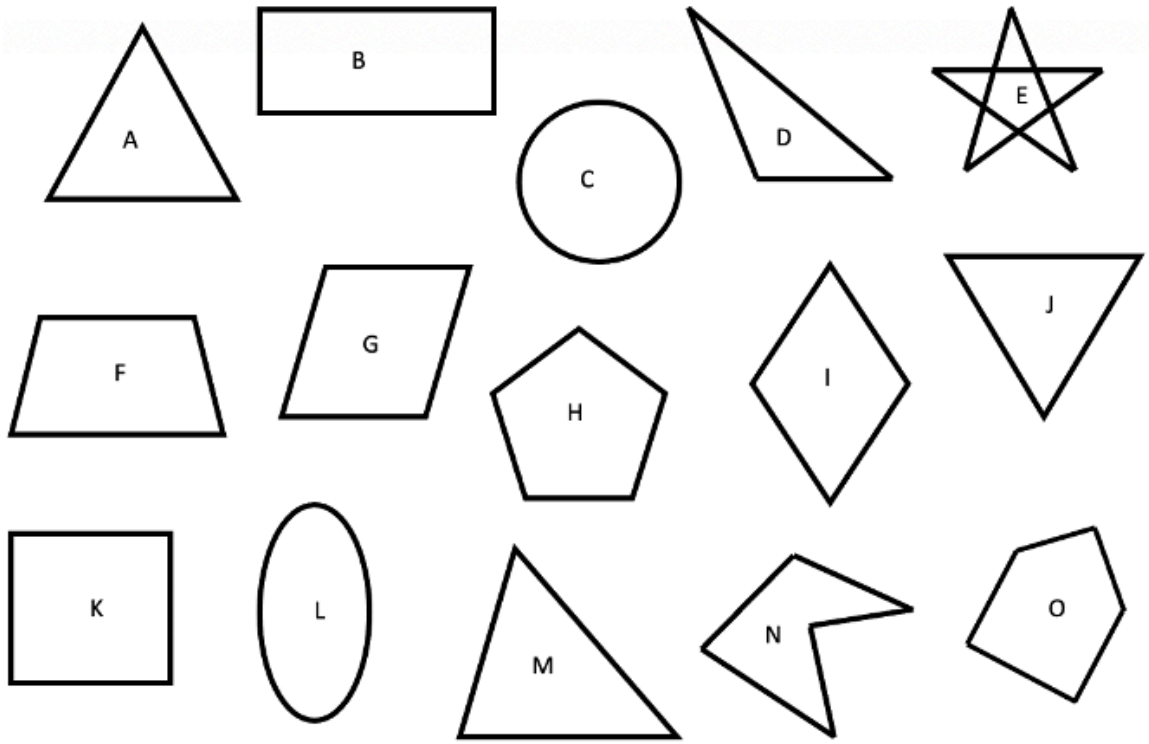
Anticipations

Solutions, Misconceptions

Assessment Task 1 - Shape - Year 5-6

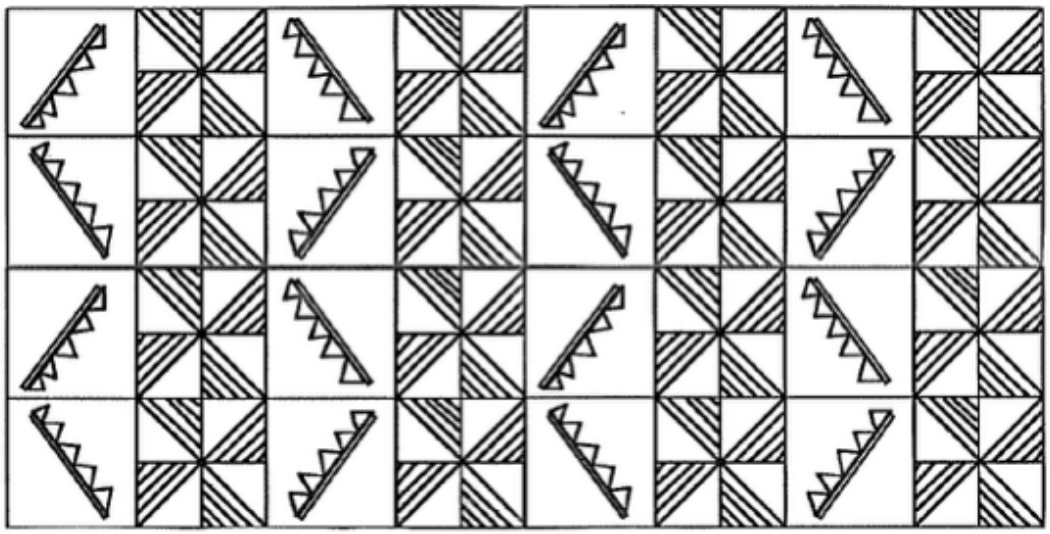
GEOMETRY: SHAPE:
Here is a set of shapes. Sort them into groups and provide a description of the properties of the groups using geometrical language. This could include types of lines, angles, and sides.



Assessment Task 2 - Spatial Reasoning - Year 5-6

GEOMETRY: Spatial Reasoning:

Use the language of geometry to describe the picture below. Use words like reflection, rotation, translation, and symmetry. You may draw or label the picture to highlight parts of your description.



Assessment Task 3 - Pathways - Year 5-6

Choose 3 - 4 different attractions to visit. Develop a set of instructions using geometrical language (e.g., turns, angles, distances) to get to the different attractions.