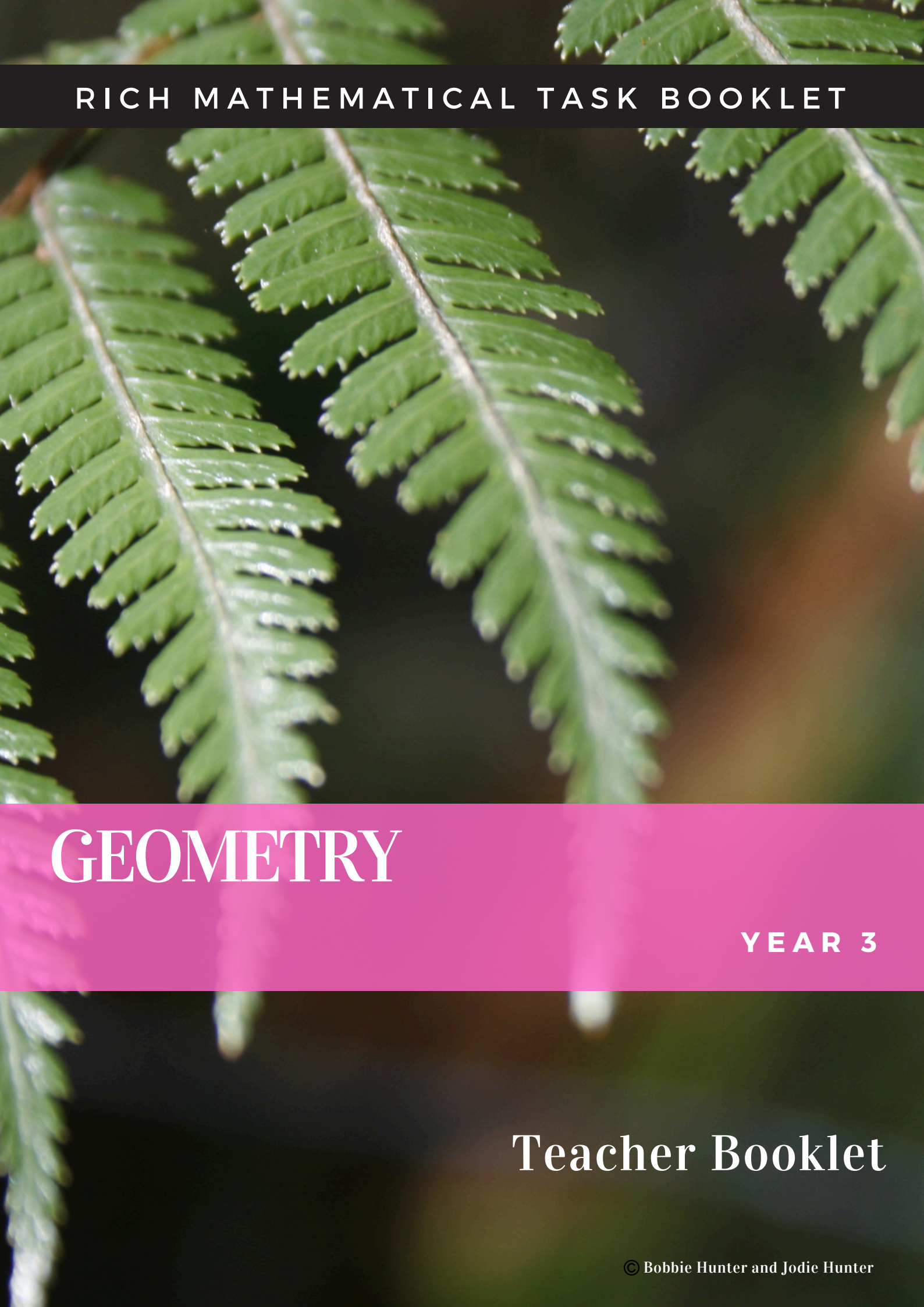


RICH MATHEMATICAL TASK BOOKLET

GEOMETRY

YEAR 3

Teacher Booklet

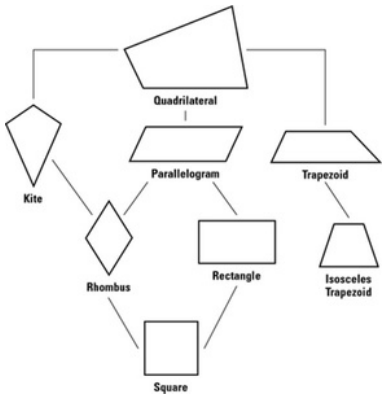
Task 1

Sort these shapes into different groups.
What do you notice?
How are the shapes the same?
How are the shapes different?

Teacher Notes

Starter: Is it or not quadrilateral? Hold up a series of shapes asking the students, is this or is it not a quadrilateral? Facilitate a discussion supporting the students to make statements explaining what is a quadrilateral and what is not. Refer to this Quadrilateral table to support explanations.

Have available for each pair of students a variety of triangle, quadrilateral, and hexagon shapes. These can be either as 2D wooden blocks or card representations (See Copy Masters booklet).



Facilitate the students to notice that shapes can have a different number of sides and that their shapes have either 3, 4 or 6 sides. They also have different sized corners (angles) and that these can be sharp or blunt angles.

Have the students sort and re-sort until they are sorting the shapes by number of sides. Introduce the correct terms of triangle, quadrilateral and hexagon as 3-sided, 4-sided and 6-sided shapes.

Monitor for students using vocabulary which is everyday language and revoice using the language of geometry.

For the independent task, have available the copy masters or shapes for students to sort and name.

Shareback

Select groups to share back that are able to describe an attribute of the group of shapes.

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

Visualise, identify, compare, and sort 2D and 3D shapes, using the attributes of shapes.

Connect

Place one of each shape on the board or modelling book.

Generate a list of rules to identify each shape. Focusing on the shape name and one attribute.

This is a ____ because it has ____.

Suggested Learning Outcomes

Recognise shapes in their environment.

Identify and sort objects in a variety of ways.

Group and classify similar shapes together and explain and justify why they are similar using everyday language and geometrical language.

Group and classify different shapes together and explain why they are different using everyday language and geometrical language.

Independent Tasks

Sort the shapes into different groups.
Name these shapes.

Mathematical Language

Square, rectangle, attribute, 2-dimensional, shape, sort, describe, side, equal, size, colour, big, small, bigger than, smaller than, straight, half, corners, angles, sides, halves, quarters, face, curved, edge, corner, sphere, cylinder, cube, cuboid, triangle, quadrilateral, hexagon, sharp corners, equilateral triangle, square corner, rhombus,

Anticipations

Solutions, Misconceptions

Task 2

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

Sort them into groups which you think are the same.

Sort them into groups which you think are different.

Explain and justify why you sorted them into the different groups.

Teacher Notes

Starter: Draw or show a square: Prompt the students: This square has four right angles, where are they? Facilitate a discussion about right angles, students may make the connection that right angles are similar to quarter turns. Following show a series of shapes/images asking: Do these shapes have right angles? Continue this starter into the next lesson if needed.

Provide students in groups with a collection of common objects from their environment and have them talk with each other about what they notice about them.

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. They are called a sphere; objects shaped like a can or glass jar have two circular ends and a curved surface between them and are called cylinders; objects shaped like bricks and dice have 6 rectangular faces and are called cuboids.

Monitor for students using vocabulary related to 3D shapes.

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

Visualise, identify, compare, and sort 2D and 3D shapes, using the attributes of shapes.

Identify right angles in shapes and objects.

Connect

Choose two different shaped objects and explain the relationships between them. Make sure that you can describe the similarities and the differences.

Suggested Learning Outcomes

Explain the attributes of a circle, triangle and rectangle.

Use geometrical language to compare shapes.

Independent Tasks

Sort your objects into cuboids, cylinders, and spheres.

Talk with a partner about why they are cuboids, cylinders, and spheres.

Play a game with your partner of “guess what I have behind my back”.

Hide one of your shapes behind your back.

Describe it to your partner. They have to draw it and say whether it is a cuboid, cylinder or sphere.

Take turns doing this. What do you notice?

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 3

Make an attribute train using the shapes infront of you.

Teacher Notes

Provide the group with a selection of both 2d and 2d shapes (see copy masters if needed)

Build an attribute train across the middle of the circle. To do this:

Choose a starting shape: Select any shape as the base for your train.

Explain to the students that the next shape added must have one attribute the same.

Building the train:
Prompt the students to discuss and then select a group to justify what different shape to add. Continue discussing and adding shapes each time. Continue until finished: Build the train as long as possible, ensuring each step adheres to the one attribute the same rule.

Expect the students to have clear explanations when explaing the shape that will be added onto the train.

Repeat this activity using different criteria:
One attribute the same, or every attributions the same but one different. Make trains using different criteria. Choose a different starting shape each time.

For the independent task have a variety of shapes 2D and 3D available.

Shareback

Select groups to share that can make clear explanations for their shape choice.

Connect

Make connections to attributes that may not have been discussed.

For example: right angles, recognising 2D shapes within the 3D shapes.

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

Visualise, identify, compare, and sort 2D and 3D shapes, using the attributes of shapes.

Identify right angles in shapes and objects.

Suggested Learning Outcomes

Identify and sort objects in a variety of ways.

Group and classify similar shapes together and explain and justify why they are similar using non-geometrical and geometrical language.

Group and classify different shapes together and explain and justify why they are different using non-geometrical and geometrical language.

Use geometrical language to describe two-and-three- dimensional shapes according to their attributes.

Independent Tasks

Make your own attribute train.

How many different trains can you make?

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 4

Choose a larger shape.

Use the paper squares to complete the puzzle.

You can cut the squares in three different ways:
Mid-point to mid-point (to make a rectangle)
Corner to corner (to make a triangle)
Corner to midpoint (to make a triangle and quadrilateral).

Try and use as few squares as possible to solve the puzzle.

Choose a different larger shape.

Use the paper squares to complete the puzzle.

You can cut the squares in three different ways:
Mid-point to mid-point (to make a rectangle)
Corner to corner (to make a triangle)
Corner to midpoint (to make a triangle and quadrilateral).

Try and use as few squares as possible to solve the puzzle.

Teacher Notes

During the launch, explain to the students that they can use the squares and cut them in three different ways to make the puzzle:
Mid-point to mid-point (to make a rectangle)
Corner to corner (to make a triangle)
Corner to midpoint (to make a triangle and quadrilateral).

Provide the students with paper that is already cut into squares to complete the puzzles.

Challenge the students to use as few squares as possible to make the puzzles.

Support students to use spatial visualization skills to solve the puzzle including using turn, flip, and slide. Use these terms to describe what the students are doing to solve the task.

For the independent task, have squares available to solve the puzzles.

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

Compose and decompose 2D shapes using the attributes of shapes (e.g., lines of symmetry), other shapes, side lengths, and angles.

Shareback

Select students to share who are able to use geometrical and spatial language such as turn, flip, and slide to describe how they solved the puzzles.

Connect

Ask the students to discuss which puzzles and shapes were more difficult to make and describe why.

Model and reinforce geometrical language where needed.

Suggested Learning Outcomes

Recompose shapes from other shapes.

Independent Tasks

Choose a larger shape.

Use the paper squares to complete the puzzle.

You can cut the squares in three different ways:
Mid-point to mid-point (to make a rectangle)
Corner to corner (to make a triangle)
Corner to midpoint (to make a triangle and quadrilateral).

Try and use as few squares as possible to solve the puzzle.

Choose a different larger shape.

Use the paper squares to complete the puzzle.

You can cut the squares in three different ways:
Mid-point to mid-point (to make a rectangle)
Corner to corner (to make a triangle)
Corner to midpoint (to make a triangle and quadrilateral).

Try and use as few squares as possible to solve the puzzle.

Mathematical Language

rectangle, triangle, quadrilateral, slide, make, turn, translate, symmetrical.

Anticipations

Solutions, Misconceptions

Task 5

Use the large shape to make smaller shapes to make the picture.

Draw the lines on to the larger shape.

Cut out the smaller shapes from the larger shape when you have drawn in the lines.

See if you can complete the puzzle.

Teacher Notes

During the launch, explain to the students that they can use the hexagon and will need to draw lines on and then cut it to make the puzzle.

Challenge the students to draw the lines onto the hexagon to plan where they will cut to make the puzzles.

Support students to use spatial visualization skills to solve the puzzle including using turn, flip, and slide. Use these terms to describe what the students are doing to solve the task.

For the independent task, have tangram puzzle outlines and pattern blocks or the copy-masters available to solve the puzzles or https://www.mathplayground.com/tangram_puzzles.html

Shareback

Select students to share who are able to use geometrical and spatial language such as turn, flip, and slide to describe how they solved the puzzles.

Connect

Draw a square and hexagon on the whiteboard. Ask students to draw lines to show how these could be cut to make different shapes.

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

Compose and decompose 2D shapes using the attributes of shapes (e.g., lines of symmetry), other shapes, side lengths, and angles.

Suggested Learning Outcomes

Decompose and recompose shapes.

Use geometrical language to describe their actions when making bigger shapes.

Independent Tasks

Choose a puzzle.

Use the pattern blocks to complete the puzzle.

Choose another puzzle.

Use the pattern blocks to complete the puzzle.

Mathematical Language

rectangle, triangle, quadrilateral, slide, make, turn, translate, symmetrical.

Anticipations

Solutions, Misconceptions

Task 6

Use the shapes to design your own wrapping paper.

You must use reflection, rotation and translation in your design.

Make a prediction first, what will your transformations look like?

Teacher Notes

Have available triangles, rectangles and hexagons for the students to use in designing their wrapping paper.

Facilitate the students to notice how these basic shapes are widely used to make more complex patterns particularly in different wrapping papers.

Encourage the students to either use one shape and perform the transformations on them, or use multiple shapes in designing their wrapping paper.

Before starting students must make a prediction about the transformations. Share these back to the class e.g. We think if we rotate a triangle it could look like this...

Shareback

Select students to share who are able to explain and justify the different patterns they have made using the different elements required.

Connect

What do you notice that is the same or different between your pattern and the patterns of others?

Reinforce accurate explanations of reflection, rotation and translation.

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

Predict the result of a one-step transformation (reflection, translation, or rotation) on 2D shapes.

Suggested Learning Outcomes

Explain transformation as a way of moving a shape

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

Identify how turning around a point is a rotation.

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

Independent Tasks

Rotate this shape four times.

Reflect this shape four times.

Translate this shape four times.

Design your own wrapping paper.

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

Anticipations

Solutions, Misconceptions

Task 7

With your group discuss and explore the mirror symmetry of each shape. Make a prediction about each shape before starting.

Be ready to explain and justify their lines of symmetry.
Think about which shapes reverse, and which one's invert, and which ones stay the same? Be ready to explain why

Teacher Notes

Have available an assortment of pattern block shapes, some symmetrical, some not, and small mirrors.

Facilitate the students to notice that when the two halves of a shape are the same, they are congruent because they are exactly the same. Have them notice that they are also reversed because one side has to be flipped over. Have the students describe how one half is a reflection of the other when using a mirror and that it is termed mirror symmetry and the mirror line is the line of symmetry.

Notice students who recognise that reflection is flipping an object across a line without changing its shape or size.

Shapes that stay the same in one or both directions are symmetrical.

In the connect have students explore how a rectangular sheet of paper has mirror symmetry by, folding or drawing the mirror line. Discuss how it has two mirror lines and likewise their drawings may have more than one line of symmetry.

For the independent task have available (see copy masters) for students to explore symmetry with.

Shareback

Select students to share who are able to predict and then describe how one half of a shape is a reflection of the other, and which of the shapes are symmetrical.

Connect

Fold your rectangular piece of paper in half. Now draw a shape on one half of the paper. Use the mirror to check what the other half will look like and then draw it. Draw in the mirror line to show symmetry on your rectangular piece of paper. Talk about what you notice about the mirror lines.

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

Predict the result of a one-step transformation (reflection, translation, or rotation) on 2D shapes

Suggested Learning Outcomes

Describe a symmetrical shape including lines of symmetry.

Explain transformation as a way of moving a shape.

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

Independent Tasks

Fold the shapes so that each side is congruent and symmetrical.

Sort the shapes into two different groups. In one group put all the ones that are not symmetrical and in the other group put all the ones that could be described as symmetrical.

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, invert, reverse.

Anticipations

Solutions, Misconceptions

Task 8

Play the Puppet Game.
You are the Puppeteer, and you have to design a set of instructions for a Puppet to take to move from one place to another using slides.

Make sure you have tested your instructions in your group and that they work for everyone.

Teacher Notes

During the launch, have the students stand up and face the front of the classroom. Give them commands which include front, back, left, and right, clockwise and anticlockwise, half turn, quarter turns, three quarter turns and including taking steps forward and backwards.

Have students develop ways to represent a set of slides on paper for a puppet. Have them use a rectangular grid.

Monitor for students who recognise that moving in one direction is called sliding (translation). Reinforce the use of all correct terms.

Notice students who are able to draw an arrow that represents a slide of the appropriate (same and consistent) length.

Note that front and forward are usually represented as a vertical direction when recorded on a sheet and arrows can be bent to indicate clockwise and anticlockwise.

Shareback

Select students to share who are able to draw an accurate representation of their path including those that have consistent distance between each point and have used a variety of different instructions.

Connect

Your challenge is to make up a set of instructions for slides where you end up back in the same place you started. What did you notice?

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

Follow and create a sequence of step-by-step instructions (an algorithm) for moving people or objects to a different location.

Suggested Learning Outcomes

Explain transformation as a way of moving a shape

Identify how turning around a point is a rotation.

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

Independent Tasks

Write a set of 8 direction cards using arrows (or abbreviations).

Without moving first think about where your finishing position will be on your grid paper.

Test out your instructions using counters and then get a buddy to see whether they can follow your instructions by walking them like a puppet would.

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

Anticipations

Solutions, Misconceptions

Task 9

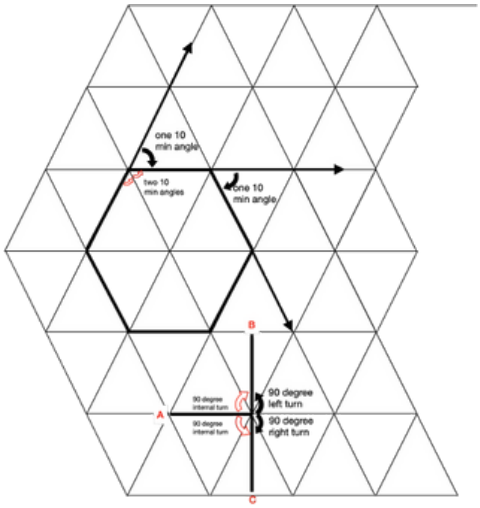
Use the triangular grid paper to record the path of a puppet if they were made to follow these instructions:

Forward one step, turn clockwise through one ten-minute angle, repeat these commands until your robot is back at where they started.

What shape does this make? Be ready to explain and justify why.

Teacher Notes

Facilitate the students to notice that the shape they make is the same as the shape block of a regular hexagon. Have them notice that the exterior angle turned through at each corner (10 minute angle) is not the same as the interior angle between the 2 parts of the path (which is two ten minute angles).



This is different from turning left (A-B) or right (A-C) as the angle of turning and the angle between the two parts of the path (interior) are the same (right angles/90˚).

Shareback

Select students to share who are able to explain and justify why the shape was a regular hexagon on the triangular grid paper.

Connect

What instructions could you use to make a larger regular hexagon? What do you notice is the same and different?

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

Follow and create a sequence of step-by-step instructions (an algorithm) for moving people or objects to a different location

Suggested Learning Outcomes

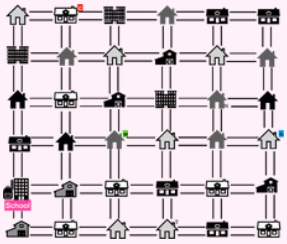
Identify how turning around a point is a rotation.

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

Complete the questions about the different ways the children can go to school.



How many different ways can George go to school?
How many different ways can Margo go to school?
How many different ways can Charlie go to school?
What is the shortest way George can get to Charlie's house?
What is the shortest way Margo can get to Charlie's house?

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, acute, obtuse.

Anticipations

Solutions, Misconceptions

Task 10

Find your way around Pirate Island.
(see Copy Masters)

Teacher Notes

Starter: Play the robot game. Stand the students up and give them instructions. Move two steps forward two steps back etc.

Provide the students a blank grid and a counter and give them instructions such as: move four squares forwards, go left two squares. Reiterate left and right. After each instruction is given, notice where the students have their counters to ensure they are following the instructions.

During the task:
Ask each question one at a time, asking the students to explain how they know.

Reiterate the language such as clockwise, anticlockwise, left, right to the students.

For the independent activity, have a blank island and grid available.

Shareback

Select students who can explain their reasoning.

Connect

What other instructions could we give someone to find their way around Pirate Island?

Suggested Learning Outcomes

Follow and give instructions.

Represent your instructions.

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

Follow and create a sequence of step-by-step instructions (an algorithm) for moving people or objects to a different location.

Interpret, draw, and use simple maps to locate objects and places relative to other objects and places.

Independent Tasks

Draw your own map with people and features on it.

Write a series of instructions to move around the map.

Mathematical Language

forward, backwards, right, left, front, back, clockwise, anticlockwise, full turn, half turn, quarter turn, around, over, through.

Anticipations

Solutions, Misconceptions

Task 11

You are pirates!

Design your own Treasure Island - it may look like this: 

Your island needs to have hills, a swamp, trees and be surrounded by the sea. Pick a landing place on the edge of the island and mark it as your shipwreck.

Bury your treasure somewhere on the Island - but you need to write instructions for how you are going to find it again.

Give instructions for another pirate crew to find the treasure. Every square is a kilometre across.

Teacher Notes

Give each pair either a blank treasure map or their own grid paper to design an Island.

Each pair is to follow the instructions to design their own Treasure Island.

You may need to introduce each object one at a time for students to add to their map.

Remind students of the arrow and numbers they could use to represent their instructions.

Once the instructions are written, students are to join another group and see if they can follow the instructions.

Notice students that can use a variety of directions and instructions to get to the treasure.

Notice students using accurate directionality langauge.

For the independent activity, have either a blank treasure map in copy masters or grid paper for the students to make their own maps.

Shareback

Select students who can explain their instructions/have clear representations.

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

Follow and create a sequence of step-by-step instructions (an algorithm) for moving people or objects to a different location.

Interpret, draw, and use simple maps to locate objects and places relative to other objects and places.

Connect

Discuss the different pathways/representations.

What was easy to follow, what was tricky when giving directions.

Get the students to stand and discuss the following:
Stand and face the front. Turn all the way around to the left. What do you notice about which direction you are facing? Why?

Stand and face the front. Take one step foward and then one step back. What do you notice?

Suggested Learning Outcomes

Give instructions.

Follow instructions.

Represent instructions.

Independent Tasks

Design a treasure map and write instructions for someone to follow.

Mathematical Language

forward, backwards, right, left, front, back, clockwise, anticlockwise, full turn, half turn, quarter turn, direction, path, instructions.

Anticipations

Solutions, Misconceptions

Task 12

You are going to deliver positive affirmations around the school.

Write a series of instructions to move from our classroom to the office.

Write a series of instructions to move from our classroom to your buddy room.

Teacher Notes

Note: Change the delivery rooms to best suit your school/classroom.

Discuss with the students where they need to go in the school to deliver the positive affirmations.

What are the names of places around the school (office, library etc)

What are these places close to/next to/beside?

Expect the students to be specific in their instructions - go down the stairs etc.

Provide the students with a birds eye view image of the school from Google Maps and a scale.

Students are to use this map to support their instructions.

Shareback

Select students who are able to specifically explain their instructions. Test out these instructions walking around the school.

Connect

What do you notice when walking around the school and what you can not see on your map?

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

Follow and give instructions to move to a familiar location or locate an object.

Use pictures, diagrams, or stories to describe the positions of objects and places.

Suggested Learning Outcomes

Use a map to give instructions.

Identify landmarks on a map.

Mathematical Language

forward, backwards, right, left, front, back, clockwise, anticlockwise, full turn, half turn, quarter turn.

Independent Tasks

Asssessment Tasks -
One: Sort Shapes
Two: Describe transformations
Three: Give instructions (you can change the map to a relevant area)

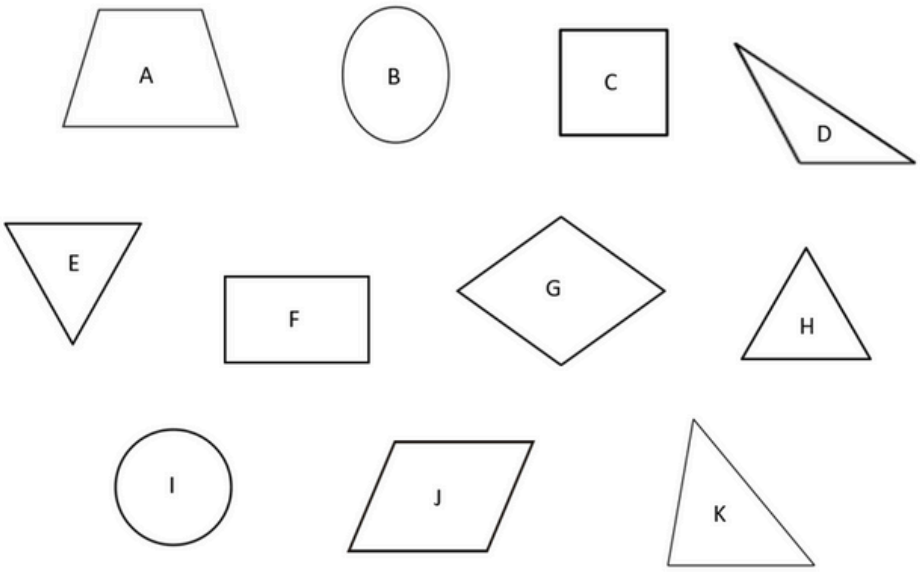
Anticipations

Solutions, Misconceptions

Assessment Task 1 - Shape - Year 3

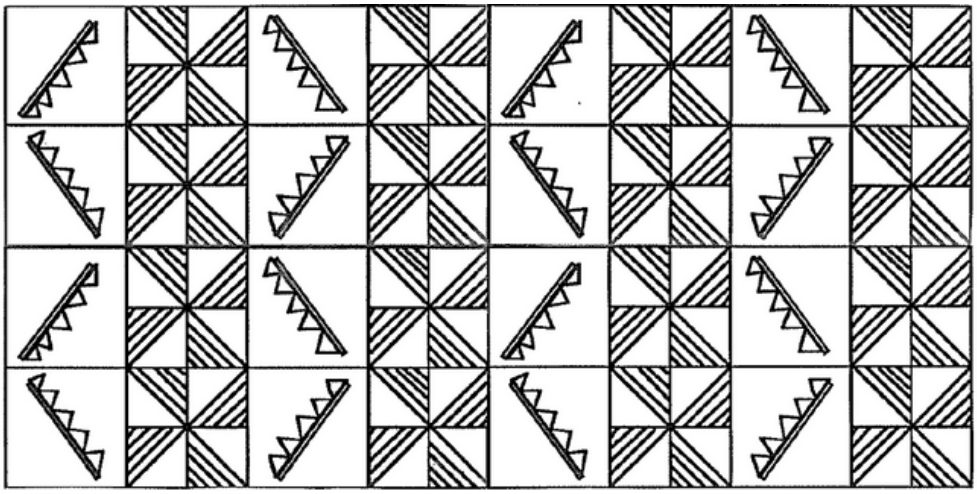
GEOMETRY: SHAPE:

Sort these shapes into groups. Explain why you grouped them together using the language of geometry.



Assessment Task 2 - Position and Orientation - Year 3

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 2 - Position and Orientation - Year 3

Write instructions to get from the Entry to the Dinosaur Kingdom. Choose another area to go from the Dinosaur Kingdom and write instructions for that.