EARLY FOUNDATIONS

CUSPA

CURRICULUM WITH UNITY SCHOOLS PARTNERSHIP

MATHS

Age 4 – 5

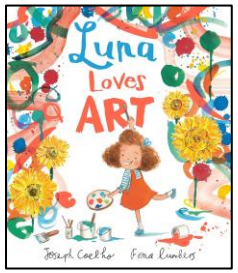
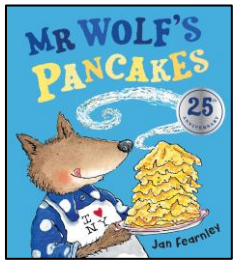
Spring Block 9

2D shapes

Learning Sequence: Age 4 – 5 Block 9 2D shapes

Foundational knowledge	Recognise a variety of 2D shapes. Describe a 2D shape's attributes. Explore 2D shapes within other 2D shapes.	
Key mathematical language (essential vocabulary)	**Threshold vocabulary** circle, curved, side, flat, triangle, straight, corner, rectangle, square, sort	**Clarification vocabulary** same, different, length, compare, make, arranged
Sentence stems	This is a _____ because it has _____ . A square and a rectangle both have _____ . Corners are _____ . A circle / triangle / rectangle / square are the same as they have / are _____ . A circle / triangle / rectangle / square are different because _____ .	
Resources required	paper 2D shapes in different colours and sizes lolly sticks planks pictures made from shapes cardboard shapes that can be filled with other shapes	
At the end of this unit, pupils will …	**Know** • the names of a variety of 2D shapes • the attributes of different 2D shapes • the orientation does not change the shape.	**Be able to** • identify and name a circle, a triangle, a rectangle and a square • describe the attributes of 2D shapes • recognise 2D shapes in their environment • compare 2D shapes • recognise shapes within other shapes.
Prompting questions for thinking hard	What do you notice about this shape? How will you know when you have found a circle / triangle / rectangle / square? How are these shapes the same? How are these shapes different? If I turn this shape around / put it upside down, is it still the same shape? What can you tell me about this shape? How can you make this shape? Why is a square a special type of rectangle?	

Learning Sequence: Age 4 – 5 Block 9 2D shapes

Opportunities and experiences	Outdoors	Creative play	Water tray
 This is a fabulous text to explore and spot different shapes in, e.g. *Malevich's Black Square*. Ask what shape the picture frames are. What shape decorates the giant gourd?  Explore the shapes of the signs in the shop window. Ask pupils to trace around the different shapes they can see on the three little pigs' houses.	**Building shapes** Provide planks or sticks and encourage pupils to make shapes. Encourage them to make the same shape in different sizes. **Shape hunt** Go on a shape hunt around your setting (indoors or outdoors) and ask pupils to find examples of circles, triangles, squares and rectangles. They can use cameras to record their findings.	**Creating with shapes** Provide paper equilateral triangles in different colours. Challenge pupils to explore tessellation and investigate how the triangles can fit together. Pupils create their own Mondrian artwork. In the art area, set out examples of Mondrian's artwork, white paper, strips of black paper and red, yellow and blue paint. Pupils use these resources to create their own version of a Mondrian artwork. Ask pupils to count the number of squares and rectangles they have created.	**Fishing for shapes** Magnetise (e.g. with magnetic tape) a variety of paper shapes in different colours and sizes and place them in a water tray. Provide pupils with a magnetic fishing rod. Tell pupils to fish out the shapes and place them in the different baskets labelled with either the shape name or a sorting criterion.

Learning Sequence: Age 4 – 5 Block 9 2D shapes

Part 1/2					
Connect	**Vocabulary**	**Explain**	**Example**	**Attempt** (checking for understanding)	**Guided**
Lesson 1 – recognise and describe a circle					
Show pupils the numerals between 0 – 10 and ask them to show the corresponding number on their fingers.	Instruct the key vocabulary – *curved* (x3): bending / round. Instruct the key vocabulary – *side* (x3): the outside line of a shape. Instruct the key vocabulary – *flat* (x3): having no height.	Show pupils a circle saying: *This is a circle*. Explain that a circle is a flat shape. Show that the circle has no height. Trace your finger around the outside of the circle saying: *This is the side. A circle has one curved side.*	Using a variety of paper circles in different sizes and colours, model selecting one circle at a time saying: *This is a circle. It is a flat shape with one curved side.*	Provide each pupil with a circle. Ask pupils to trace their finger around the outside of the circle. Tell pupils to repeat: *A circle has one curved side.* Ask pupils to hold the circle between two of their fingers. Tell pupils to repeat: *A circle is flat.* Then, using *My Turn, Your Turn,* repeat the sentence below. *A circle is a flat shape with one curved side.* Draw pupils' attention to a real-life example of a circle*, e.g. *Your sticker is a circle. I know this because it is flat and has one curved side.* Pupils then look around them to identify another example and say: _____ *is a circle. I know this because it is flat and has one curved side.* *If needed, place real-life examples of circles, e.g. paper plates, in the vicinity of pupils.	Provide a variety of paper circles in different sizes and colours. Ask pupils to name the shape and tell you what is special about it. Provide the sentence stems for support. *This is a _____ . It is a _____ with _____ side.* Pupils go on a walk around their setting, both inside and outside, to look for circles. Ensure pupils say what they have found and describe the attributes of the shapes. Address any misconceptions, e.g. not complete circles, spheres or non-uniform curved shapes.

Learning Sequence: Age 4 – 5 Block 9 2D shapes

Part 1/2

Connect	Vocabulary	Explain	Example	Attempt (checking for understanding)	Guided
Lesson 2 – recognise and describe a triangle					
Show pupils the numerals 0 – 10 and ask them to point to the corresponding number on their number track.	Instruct the key vocabulary – *straight* (x3): without a bend or curve. Instruct the key vocabulary – *corner* (x3): a place where two sides meet.	Show pupils a triangle saying: *This is a triangle*. Explain that a triangle is a flat shape. Show that the triangle has no height. Trace your finger around the sides, counting as you go. *A triangle has three sides.* Point out that each side is straight and has no bends or curves. *A triangle has three straight sides.* Show pupils a point where two sides meet and explain that this is a corner. Placing your finger at each corner, count the number of corners. *A triangle is a flat shape with three straight sides and three corners.*	Using different types of paper triangles in a variety of sizes and colours, model selecting one triangle at a time and saying: *This is a triangle.* Count the number of sides and corners. *It is a flat shape with three straight sides and three corners.* Place a triangle in front of pupils and change its orientation. Share that it is still a triangle by noticing it is still flat and counting the number of the sides and corners.	Provide each pupil with a triangle. With pupils, trace your finger down each side of the triangle, pausing at each corner. Tell pupils to repeat: *A triangle has three straight sides and three corners.* Ask pupils to hold the triangle between two of their fingers. Tell pupils to repeat: *A triangle is flat.* *A triangle is a flat shape with three straight sides and three corners.* Share some real-life examples of triangles. Ask pupils to show on their fingers how many sides a triangle has. *How many corners does a triangle have. Show me on your fingers,*	Provide different types of paper triangles in a variety of sizes and colours. Ask pupils to name the shape and tell you what is special about it. Provide the sentence stems for support. *This is a _____ . It has _____ _____ and _____ corners.* Pupils go on a walk around their setting, both inside and outside, to look for triangles. Ensure pupils say what they have found and describe the attributes of the shapes to show how they know it is a triangle. Address any misconceptions, e.g. not complete triangles, curves instead of corners or pyramids / prisms.

Learning Sequence: Age 4 – 5 Block 9 2D shapes

Part 1/2

Connect	Vocabulary	Explain	Example	Attempt (checking for understanding)	Guided
Lesson 3 – recognise and describe a rectangle					
Provide a variety of paper circles and triangles. Ask pupils to sort them into circles and triangles.	Revisit the key vocabulary – *side* (x3): the outside line of a shape. Revisit the key vocabulary – *straight* (x3): without a bend or curve.	Show pupils a rectangle saying: *This is a rectangle*. Explain that a rectangle is a flat shape. Show that the rectangle has no height. Trace your finger around the sides, counting as you go. Draw attention to a rectangle having two shorter sides and two longer sides. Point out that each side is straight; it has no bends or curves. *A rectangle has four straight sides.* Show pupils a point where two sides meet and remind them that this is a corner. Placing your finger at each corner, count the number of corners. *A rectangle is a flat shape with four straight sides and four corners.*	Using a variety of paper rectangles in different sizes and colours, model selecting one rectangle at a time and saying: *This is a rectangle.* Count the number of sides and corners. *It is a flat shape with four straight sides and four corners.* Place a rectangle in front of pupils and change its orientation. Share that it is still a rectangle by noticing it is still flat and counting the sides and corners.	Provide each pupil with a rectangle. With pupils, trace your finger down each side of the rectangle, pausing at each corner. Tell pupils to repeat: *A rectangle has four straight sides and four corners.* Ask pupils to put a finger on each shorter side and then do the same for each of the longer sides. Ask pupils to hold the rectangle between two of their fingers. Tell pupils to repeat: *A rectangle is flat.* *A rectangle is a flat shape with four straight sides and four corners.* Draw pupils' attention to a real-life example of a rectangle, e.g. *Our timetable is a rectangle. I know this because it is flat and has four straight sides and four corners.* Pupils then look around them to identify another example and say: _____ *is a rectangle.* Ask pupils to show on their fingers how many sides a rectangle has., *How many corners does a rectangle have? Show me on your fingers*	Provide a variety of paper rectangles in different sizes and colours. Ask pupils to name the shape and tell you what is special about it. Provide the sentence stems for support. *This is a _____ . It is a _____ with _____ _____ sides and _____ corners.* Pupils go on a walk around their setting, both inside and outside, to look for rectangles. Ensure pupils say what they have found and describe the attributes of the shapes. Address any misconceptions, e.g. incomplete rectangles or cuboids.

Learning Sequence: Age 4 – 5 Block 9 2D shapes

Part 1/2

Connect	Vocabulary	Explain	Example	Attempt (checking for understanding)	Guided
Lesson 4 – recognise and describe a square					
Provide each pupil with a circle, a rectangle or a triangle. To the tune of *If You're Happy and You Know It* sing: *If you're holding a circle stand up!* x2 *If you're holding a circle.* x2 *If you're holding a circle stand up!* Pupils who are holding a circle stand up. Encourage pupils to join in with the singing. Repeat with the other shapes.	Revisit the key vocabulary – *length* (x3): how long something is from end to end.	Show pupils a square saying: *This is a square.* Explain that a square is a special type of rectangle because each of the four sides is the same length. Explain that a square is a flat shape. Show that the square has no height. Trace your finger around the sides, counting as you go. Draw attention to the same length of each side. Point out that each side is straight and has no bends or curves. *A square has four straight sides.* Placing your finger at each corner, count the number of corners. *A square is a flat shape with four straight sides and four corners. Each side is the same length.*	Using a variety of paper squares in different sizes and colours, model selecting one square at a time and saying: *This is a square.* Count the number of sides and corners. *It is a flat shape with four straight sides and four corners. Each side is the same length.* Place a square in front of pupils and change its orientation. Share that it is still a square by noticing it is still flat and still has sides of the same length and counting the four sides and four corners.	Provide each pupil with a square. With pupils, trace your finger down each side of the square, pausing at each corner. Tell pupils to repeat: *A square has four straight sides and four corners.* Note that each side is the same length. Ask pupils to hold the square between two of their fingers. Tell pupils to repeat: *A square is flat. A square is a flat shape with four straight sides and four corners. Each side is the same length.* Draw pupils' attention to a real-life example of a square, e.g. *This window is a square. I know this because it is flat and has four straight sides and four corners. Also, each side is the same length.* Pupils then look around them to identify another example and say: _____ *is a square.* Ask pupils to show on their fingers how many sides a square has. *How many corners does a square have? Show me on your fingers. What is special about each side of a square?* Look out for any possible misconceptions between squares and rectangles.	Provide a variety of paper squares in different sizes and colours. Ask pupils to name the shape and tell you what is special about it. Provide the sentence stems for support. *This is a _____. It is a _____ with _____ _____ sides and _____ corners. Each side is the _____.* Pupils go on a walk around their setting, both inside and outside, to look for squares. Ensure pupils say what they have found and describe the attributes of the shape. Address any misconceptions, e.g. incomplete squares, rectangles or cuboids.

Learning Sequence: Age 4 – 5 Block 9 2D shapes

Part 1/2

Connect	Vocabulary	Explain	Example	Attempt (checking for understanding)

Lesson 5 – flexible content

The purpose of this lesson is to provide teachers with an opportunity to respond to pupil outcomes from the rest of the teaching week. This time should be used strategically to move pupils' thinking forwards. This lesson can be moved to a different position in the week to ensure it is used where and when it is needed. Although not an exhaustive list, below are some suggestions of how this time can be utilised to maximise impact.

Revisit areas in which pupils would benefit from further consolidation.

Respond to pupils' interests.

Deepen pupils' thinking about the subject matter.

Pre-teach vocabulary or background knowledge.

Guided

Learning Sequence: Age 4 – 5 Block 9 2D shapes

Part 2/2

Connect	Vocabulary	Explain	Example	Attempt (checking for understanding)	Guided
Lesson 1 – classify shapes					
Pupils sit in a circle of five. Explain how you know they are in circles. Model rolling a ball to a pupil in the circle and saying a number from 0 – 10. The pupil then rolls it back saying the number that is one more. Pupils continue the game in their circles.	Instruct the key vocabulary – *sort* (x3): to put things into set groups.	Explain that when we sort shapes, we can organise them into groups based on what is the same and what is different.	Set out two hoops, baskets or whiteboards with a label displaying curved side or straight side on each (dual code your labels). Sort a selection of circles, squares and triangles of different sizes and colours into the relevant groups. *This is a circle. It has a curved size so it will go in this group.* *This is a triangle. It has straight sides so it will go in this group.* *This is a square. It has straight sides so it will go in this group.*	Provide each pupil with a circle, a rectangle, a square or a triangle. Pupils sit in a circle around two sorting hoops. Explain that you are first going to sort the shapes into squares and rectangles. Revisit that a square has four sides that are all the same length and a rectangle has two shorter sides and two longer sides. If needed, model using the sentence stems from Part 1. *This is a _____ . It is a _____ with _____ _____ sides and _____ corners.* Pupils who have a square or a rectangle will place their shape in the appropriate group. They need to explain the reason for their choice, e.g. this is a square as it has four sides that are all the same length. Change the criteria to shapes with one, two or three sides and shapes with four sides. Pupils place their shape in the appropriate group and give the reason for their choice.	Provide a variety of circles, rectangles, squares and triangles. Set out sorting hoops or baskets and share the sorting criteria with the pupils. They will then select a shape and place it in the correct group. Encourage them to say the name of the shape and why it belongs to the group they selected. Repeat with different sorting criteria until pupils are confident.

Learning Sequence: Age 4 – 5 Block 9 2D shapes

Part 2/2

Connect	Vocabulary	Explain	Example	Attempt (checking for understanding)	Guided
Lesson 2 – build shapes					
Provide each pupil with a circle, a rectangle, a square or a triangle. To the tune of *If You're Happy and You Know It* sing: *If you're holding a circle stand up!* x2 *If you're holding a circle.* x2 *If you're holding a circle stand up!* Pupils who are holding a circle stand up. Encourage pupils to join in with the singing. Repeat with the other shapes.	Instruct the key vocabulary – *make* (x3): to form something by putting parts together.	Explain that we can make shapes using twigs, planks or lolly sticks as we can use these items to represent the sides.	Model using lolly sticks to make a triangle. Use *Thinking Talk* as you build, e.g. *I know a triangle has three sides so I will use three lolly sticks. I know a triangle has three corners so I will make sure each lolly stick meets at a corner.* Repeat modelling making a square.	Place a square made from lolly sticks in front of the pupils. Ask for ideas about how you could make this shape into a rectangle. *Do I need to add or remove some lolly sticks?* Model making a rectangle by adding two lolly sticks. Then, show how you can make another rectangle by adding four or six lolly sticks. Remind pupils that a rectangle always needs to have two shorter and two longer sides. Pupils then create their own squares, triangles and rectangles using lolly sticks. Encourage pupils to name the shapes they have made and to explain how they can make different shapes by adding or removing lolly sticks. Challenge them to make different squares, rectangles and triangles.	Using planks (if outside) or rulers (if inside), model making a triangle, square and rectangle. *I have made a square as it has four sides and each side is the same length.* Pupils then try to make their own shape and explain what shape they have made and how they know it is that shape. Watch out for misconceptions and remind pupils that shapes with straight sides meet at corners. If it is open, it is not a shape.

Learning Sequence: Age 4 – 5 Block 9 2D shapes

Part 2/2

Connect	Vocabulary	Explain	Example	Attempt (checking for understanding)	Guided
Lesson 3 – make pictures with shapes					
Sing the counting nursery rhyme *One, Two, Buckle My Shoe*.	Revisit the key vocabulary – *arranged* (x3): put in an attractive order.	Share a piece of artwork that shows shapes, e.g. by Piet Mondrian or Wassily Kandinsky and highlight the different shapes that can be seen. Explain that different shapes can be arranged on paper to create pictures.	Using a large yellow circle and small yellow triangles, model making a sun. Share a shape picture and model identifying each shape used, e.g. *I can see the wheels are made with circles.*	Display a different shape picture and ask pupils to identify the different shapes that have been used. Circle the shapes as they name them. Provide pupils with a variety of paper circles, triangles, squares and rectangles in different colours and sizes. Pupils use these to make their own pictures. *What shape would be good to use for a head / wheel?* *How many rectangles will you need to make a _____ ?* If needed, provide some examples of pictures they could create, e.g. a child, a train, a robot.	Provide each pupil with a partially completed shape picture. Model selecting shapes to complete the picture. *I am going to use these squares to make the windows. I think a triangle would make a good leaf as it has three corners.* Pupils complete their own version of the picture. Ask pupils to compare their picture to a partner's and explain how it is the same and how it is different.

Learning Sequence: Age 4 – 5 Block 9 2D shapes

Part 2/2

Connect	Vocabulary	Explain	Example	Attempt (checking for understanding)	Guided
Lesson 4 – recognise shapes within shapes					
Provide art trays containing sand or rice and have pupils draw a circle, a rectangle, a square or a triangle in their tray.	Revisit the key vocabulary – *make* (x3): to form something by putting parts together.	Explain that we make new shapes by putting shapes together.	Model cutting a square in half across a diagonal and share that inside the square, you have two triangles. Show how a square can also have four triangles inside it. Repeat this with a rectangle. Place two squares side by side and share that you have made a rectangle as the new shape has two shorter sides and two longer sides.	Provide pupils with a variety of triangles, rectangles and squares. Model selecting two identical right-angled triangles and lining then up to make a square. Repeat this with four triangles to create a square. Tell pupils to create their own rectangles using triangles. If needed, provide a cardboard frame for pupils to insert their shapes into. Pupils then tell you whether they have made a rectangle or a square. Next, using identical squares, ask for suggestions about what shapes they can be made into. Model using four squares to make a larger square. Encourage pupils to talk about the shapes they have made and how they changed the orientation of some of the squares to create that shape.	Provide cardboard frames for two different squares and two different rectangles. Model selecting shapes to fill the inside of the frame, e.g. *I have made a rectangle. I used two squares to make it.* Pupils make their new shape and complete the sentence stems to say what shape they have made and what shapes they have used to make it. *I have a made a _____ . I used _____ to make it.*

Learning Sequence: Age 4 – 5 Block 9 2D shapes

Part 2/2

Connect	Vocabulary	Explain	Example	Attempt (checking for understanding)

Lesson 5 – flexible content

The purpose of this lesson is to provide teachers with an opportunity to respond to pupil outcomes from the rest of the teaching week. This time should be used strategically to move pupils' thinking forwards. This lesson can be moved to a different position in the week to ensure it is used where and when it is needed. Although not an exhaustive list, below are some suggestions of how this time can be utilised to maximise impact.

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Guided