

Autumn Block 4

Circles and triangles

Teacher guidance



Key books

- *Circle, Triangle, Elephant! A Book of Shapes and Surprises* by Kenji Oikawa and Mayuko Takeuchi
- *Triangle* by Mac Barnett and Jon Klassen
- *Shapes, Shapes, Shapes* by Tana Hoban
- *We're Going on a Bear Hunt* by Michael Rosen
- *Rosie's Walk* by Pat Hutchins

Top tips

- Parents and children can be encouraged to bring in loose parts, such as bottle tops and lids, to support activities and learning in this block. What different sizes can they find? These can be used as discussion points as you make a collection together.
- Ensure that the resources used for exploring shapes are of varied sizes and shown in different orientations.
- Having a tablet available next to the maths area will encourage children to take photographs of their own shape arrangements and show adults and other children what they have created.

Key resources



Small steps

Step 1

Identify and name circles and triangles

Step 2

Compare circles and triangles

Step 3

Shapes in the environment

Step 4

Describe position

Identify and name circles and triangles

Notes and guidance

In this small step, children notice circles and triangles all around them and begin to describe their properties. Children may use informal language such as 'pointy' or 'sharp' to describe what they notice. They should also be introduced to mathematical language for describing the properties of circles and triangles, such as 'sides', 'straight', 'corners' and 'round'.

Children learn that triangles are flat shapes with three straight sides and three corners, and that circles are flat shapes which are perfectly round. When using physical representations of 2-D shapes, ensure that they are as thin as possible to support children's understanding about them being flat.



Rhymes

- *My Hat, It Has Three Corners*



Books

- *Circle, Triangle, Elephant! A Book of Shapes and Surprises* by Kenji Oikawa and Mayuko Takeuchi

Key questions

- What do you notice about your shape?
- Can you see another shape that is the same/different?
- How do you know they are the same/different?

Possible sentence stems

- This shape is a _____.
- I know this shape is a _____ because ...
- This shape is the same/different because ...

Links to the curriculum

- *Development Matters* – 3 and 4-year-olds – Talk about and explore 2D and 3D shapes (for example, circles, rectangles, triangles and cuboids) using informal and mathematical language.
- *Birth to 5 Matters* – Range 6 – Uses informal language and analogies, (e.g. *heart-shaped and hand-shaped leaves*), as well as mathematical terms to describe shapes.

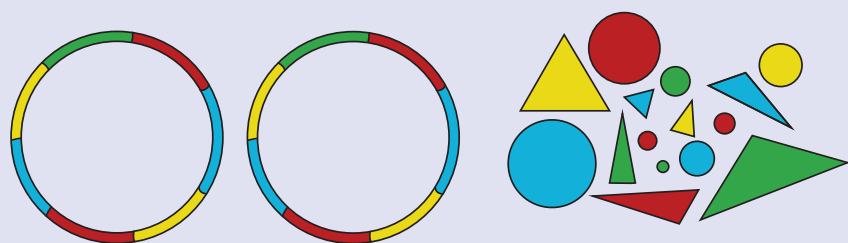
Identify and name circles and triangles

Adult-led learning

Show children a selection of circular and triangular shapes.

What do they notice about the shapes?

Can they sort them into two groups?



What is the same and what is different about the shapes in each group?

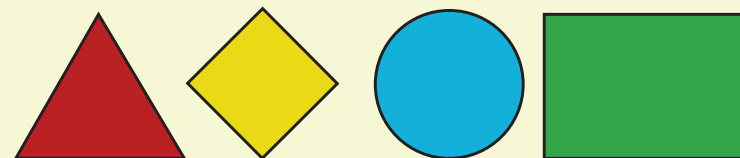
Display works of art featuring circles and triangles, such as Kandinsky's *Circles in a Circle* and *Stained in Triangle*.

Encourage children to use mathematical language to describe the shapes that they find.

In small groups, support children to create their own art in a similar style.



Have a feely bag with a range of circular and triangular shapes inside. You could include other shapes too.



Show children either a circle or a triangle.

Without peeking inside the bag, ask children to find a shape that is the same as yours. Before they pull out a shape, prompt them to explain how they know that it is the same as yours.

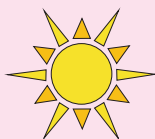


Explore shape pictures with circles and triangles.

How many circles can children see?

How many triangles can they see?

Prompt children to describe how they know that they have found a circle or a triangle.



Together, make a class shape picture using circles and triangles.

Compare circles and triangles

Notes and guidance

In this small step, children use what they have learned about the properties of circles and triangles to support them to compare shapes. Children also draw on learning from earlier blocks to use the language of size when comparing shapes.

It is important that children are shown circles of different sizes, and different types of triangles that vary in size and orientation. Support children to talk about the properties of the shapes and to explain how they know it is the same shape, even if the orientation or the size is different.

Within this step, introduce children to non-examples or 'almost' circles and 'almost' triangles. Examples of 'almost' circles would be a biscuit or a pancake, while examples of 'almost' triangles would be a slice of pizza, a musical instrument triangle and a cheese triangle with rounded corners. Support children to explain why they are not circles and triangles.



Books

- *Triangle* by Mac Barnett and Jon Klassen

Key questions

- Can you find a shape that is the same as mine?
- Can you find a different shape to mine?
- How have you sorted the shapes? Is there another way?

Possible sentence stems

- This shape is the same/different because ...
- I know this shape is a _____ because ...
- These shapes have been sorted by _____.

Links to the curriculum

- *Development Matters* – 3 and 4-year-olds – Talk about and explore 2D and 3D shapes (for example, circles, rectangles, triangles and cuboids) using informal and mathematical language.
- *Birth to 5 Matters* – Range 6 – Uses informal language and analogies, (e.g. *heart-shaped and hand-shaped leaves*), as well as mathematical terms to describe shapes.

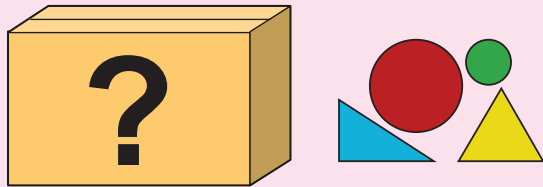
Compare circles and triangles

Adult-led learning



Have a mystery box with lots of circles and triangles inside.

Ensure that the shapes are of different sizes and represent different types of triangles.



Ask children to select a shape from the box and talk about what they notice.

Explore how shapes can be sorted by size and type.

Explore circles and triangles on a tuff tray.

Ensure that the shapes have different sizes and orientations and that there are different types of triangles.

Select a shape and ask children what they notice.

Prompt children to find another shape that is the same as yours or a shape that is different to yours.

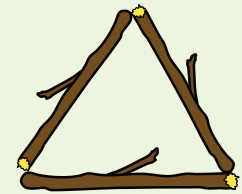


Use planks, sticks or ropes to create large 'almost' triangles.

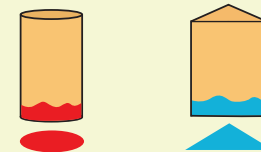
How many of each object will they need?

How could they make a larger triangle?

What is the same or different about the triangles they have made?



Ask children to print with the flat faces of 3-D shapes. Children could print using paint or they could explore pressing the 3-D shapes into dough to see what shape it makes.



Encourage children to predict which 3-D shapes will print a triangle.

Which will print a circle?

Shapes in the environment

Notes and guidance

In this small step, children build on the learning from the two previous steps and progress onto noticing shapes in the environment.

Provide different opportunities for children to notice circles and triangles in the classroom, outside and on walks around the local area.

Children could also hunt for shapes at home and share photographs of what they find.

Encourage children to talk about the properties of the shapes they can see and to compare the shapes. For example, “This shape has straight sides but that shape is round”.

As there are examples of ‘almost’ circles and triangles in the environment, such as the ‘almost’ circle of the top of a tree trunk, it is important to support children to talk about why these are not quite circles or triangles.



Books

- *Shapes, Shapes, Shapes* by Tana Hoban

Key questions

- How do you know it is a circle/triangle?
- Where can you see small shapes?
- Where can you see large shapes?

Possible sentence stems

- I can see a _____.
- This shape is the same/different because ...
- I know this shape is/is not a _____ because ...

Links to the curriculum

- *Development Matters* – 3 and 4-year-olds – Talk about and explore 2D and 3D shapes (for example, circles, rectangles, triangles and cuboids) using informal and mathematical language.
- *Birth to 5 Matters* – Range 6 – Uses informal language and analogies, (e.g. *heart-shaped and hand-shaped leaves*), as well as mathematical terms to describe shapes.

Shapes in the environment

Adult-led learning



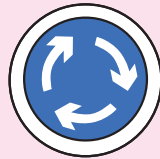
As a class, look at different photographs of shapes in the environment.

What shapes can children see?

How many circles can they see?

How many triangles can they see?

Where can they see large/small shapes?



Go on a walk around the local environment and hunt for shapes.

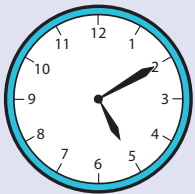
How many circles can children find?

How many triangles can they find?

Children could take photographs of the shapes they see on the walk and these could be used to make a shape display when you get back to school.

Go on a shape hunt around school.

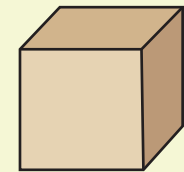
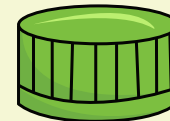
Prompt children to notice circles and triangles on the surface of everyday objects.



On your shape hunt, children could use both informal and mathematical language to talk about what they notice.



Provide children with a range of items, such as bottle tops, jam jar lids, beads and cubes.



Ask children to press the items into dough.

Which items print circles or 'almost' circles in the dough and which do not?

To add even more challenge, ask children to find objects that will print a triangle or 'almost' triangle into the dough.

Describe position

Notes and guidance

In this small step, children hear and begin to use positional language such as 'in', 'on', 'under', 'over', 'beside', 'between', 'in front of', 'around', 'through' and 'behind' to describe how items are positioned in relation to other items. Model using these words in play.

Story time is a great opportunity to focus on positional language and journeys. While reading stories, use gestures to emphasise what the vocabulary means. Once children are familiar with these stories, they can be used as hooks into activities about position.

Encourage children to use positional language on a larger scale outside, building large-scale models of stories and journeys. Children could take photographs of each other in different places outside and the class could then describe where they are standing.

Key questions

- Where is the _____?
- How are you going to move around the _____?
- Where are you going to go next?

Possible sentence stems

- The _____ is _____ the _____.
- Go _____ the _____.
- Next, go _____ the _____.

Links to the curriculum

- *Development Matters* – 3 and 4-year-olds
 - Describe a familiar route.
 - Discuss routes and locations, using words like 'in front of' and 'behind'.
- *Birth to 5 Matters* – Range 5 – Responds to and uses language of position and direction.



Books

- *We're Going on a Bear Hunt* by Michael Rosen
- *Rosie's Walk* by Pat Hutchins

Describe position

Adult-led learning



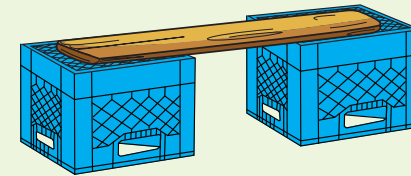
Play 'Where's my teddy?' with the class.

Hide a teddy in different positions around the classroom or outside.

Encourage children to hunt for the teddy and to use positional language to describe where they find it.



Set up an obstacle course around the outdoor area.



Children work in pairs, where one child gives directions to their partner as the other child moves around the course. Prompt them to give instructions such as "Go over the bridge", or "Go through the tunnel".



Many stories, such as *We're Going on a Bear Hunt* by Michael Rosen and *Rosie's Walk* by Pat Hutchins, focus on positional language and journeys.

Read one of these stories with children, using gestures as you read to emphasise the positional language.

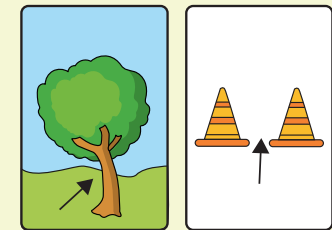


Provide children with resources to build the scenes from the story in the small world area or on a large scale outside. Prompt them to recreate the journey that the characters go on.



Design a treasure hunt for children in the outdoor area with a series of pictorial clues.

Give children their first clue and prompt them to go to the place in the picture, for example, between the cones or behind the tree, to look for their next clue.



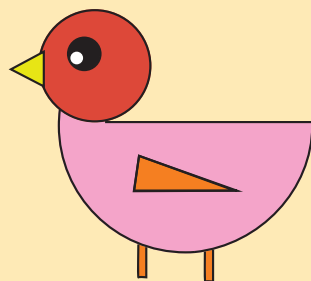
Encourage children to use positional language to tell you where they need to go.

Continuous provision

Show children a collection of shape pictures and ask them to make their own.

Give children shapes to make a collage or provide them with shapes to draw around and cut out.

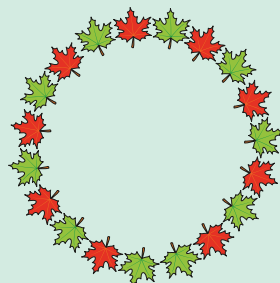
Prompt them to talk about why they are using those shapes for the different parts of their picture.



Display photographs of art where the artist has used natural materials to create shape artwork.

Provide children with a range of loose parts for them to use to make their own circle shape artwork.

Children could also make triangle artwork in the same style.



In the small world area, set up a scene of a journey that is familiar to children. This could be a journey from a story, or their journey to school.

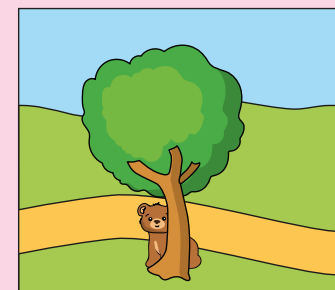
Prompt children to move small world characters around and to use positional language to retell the story or to describe the journey.

Children could then have a go at creating their own small world journey.

Set up a bear hunt outside.

Give children verbal instructions about where they need to go to find the bear. Include a variety of positional language in your instructions.

Challenge children to play this game together.

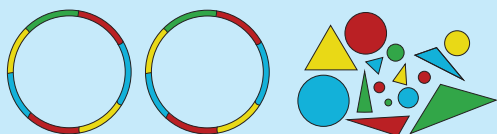


End of block checkpoint

Checkpoint 1

Hide different-sized circles and triangles around the classroom and outdoor area.

Place two hoops on the carpet.



Can children identify the triangles and circles and sort the shapes by placing them into the hoops?

Are they able to explain why they have placed each shape in the chosen hoop?

Checkpoint 2

Place a toy, such as a bear, on top of your head. Where is the bear?

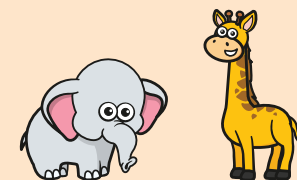
Position the bear in different areas of the classroom, for example, under the chair, next to the box and on the shelf.



Are children able to identify where the bear is positioned in relation to other objects?

Checkpoint 3

Set up a small world area related to children's interests. While playing, check that children are able to follow and use the language related to position, for example, "The cow is walking around the pond", or "The elephant is standing next to the giraffe".



Give children different instructions to follow, and encourage them to give you instructions.