

Can I find similarities and differences between shapes and use these to sort them into sets I can label?

Teaching guidance

Key vocabulary

rectangle, rectangular, square, triangle, triangular, circle, circular, pentagon, hexagon, octagon, pyramid, cube, cuboid, sphere, cone, cylinder, face, corner, right angle, edge, side, flat, curved surface, straight, round, solid, sort, classify, property, Venn diagram, Carroll diagram

Models and images, resources and equipment

Display of key vocabulary

Equal sides

Right angles

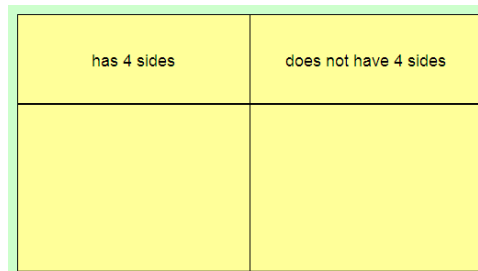
Curved

Display relevant lists of shape names and properties.

These will help children to match shapes and pictures to the appropriate properties and will support discussions about criteria for sorting and identifying similarities and differences.

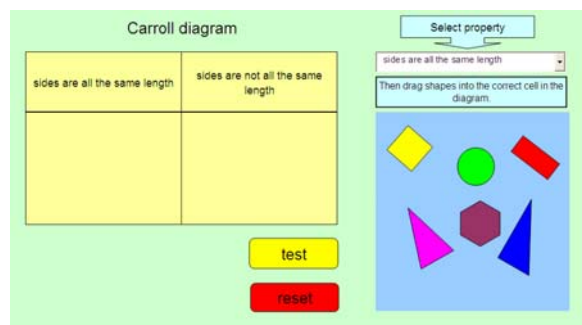
Carroll and Venn diagrams

Use Carroll diagrams to help discuss the meaning of 'not.'



ICT

The Carroll diagram spreadsheet provides opportunities to discuss, agree and test where to place given shapes on Carroll diagrams. Ensure children have plenty of practical experience of physically sorting shapes before using ICT-based programs.



Teaching tips

- Make sure that discussion is a key element of shape activities. Children will need support in developing the language needed to describe shapes accurately. As well as knowing the appropriate vocabulary, children also need to be able to use the words in sentences and so need help using the appropriate language structures, for example: 'The shape has four right angles and four straight sides', 'The triangle has three sides but no right angles'. EAL learners will benefit from hearing all children use mathematical language in complete sentence structures. To support EAL learners further, provide them with 'sentence starters' that include examples of positive and negative verb use.
- Ensure that children always begin by sorting practically, for example placing shapes into two hoops, before using sorting diagrams and ICT. Provide opportunities for children to choose their own criteria and labels, as well as discussing the sorting done by others.
- Children need to explore criteria that shapes don't have as well as criteria they do have.
- Activities involving finding the odd one out in a set of shapes will develop children's reasoning about shapes and the correct use of key vocabulary. They also help children to understand that there may be different solutions depending on the criteria used.
- Provide opportunities for children to explore and explain what makes two given shapes similar and what makes them different.
- Ensure that the shape resources used include examples of the same shape in different sizes and that children are shown shapes in different orientations.
- Plan activities that give children opportunities to choose the criteria they use to sort a set of shapes and to identify the criteria that other children have used. For example, children might look at some shapes sorted by another child and identify the criteria used or sort a set of shapes, then move one shape into the wrong area and ask a partner to identify which shape is in the wrong place and why.