

Extended mathematical thinking: Get students to draw a simple picture e.g. a sun or a house. Once they have drawn the picture get them to identify all the straight lines and all the curved lines. You might do this by getting them to go over all the straight lines in red crayon.

Words that describe two dimensional shapes

I am learning to use words that describe a two dimensional shape, (side surface and corner).

Paper, crayons

Using materials: Show the students a sheet of paper with a square on it. Explain to students that we are going to draw this shape together. On a separate sheet of paper get the students to draw the top line. Explain to the students that we have drawn one side of the shape. Now repeat this process drawing the left hand line. Again get students to draw it on their paper (make sure both their lines meet). Ask the students what number side they have just drawn.

At this point introduce "corners". Explain that where two sides meet a corner is created. Get students to circle the corner on their page. Now draw the bottom line of your square and then get students to draw the line on their paper. Ask the students what number side they have just drawn. Then ask if they have created any more corners. Students must then circle the corner and explain why. Review with the students what makes a corner before moving on.

Draw the last line then get students to draw the last line on their paper. Ask students what they have just drawn (prompt for the answer, a fourth side). Now ask students if they have created anything else. If students do not identify that they have created another corner circle the bottom corner and review why it is a corner i.e. it is where 2 lines meet. Now ask if there are any other corners in the shape.

Using a different colour shade the face of your object. Explain that the face of the object is the flat surface that is inside the border that the edges make. Get students to then shade the face of the square on their piece of paper.

Using imaging: Show the students a picture of a triangle. Ask them to imagine it in their heads. Now ask them how many sides the shape has. If necessary display the picture and cross off the edges. Now repeat this procedure for corners and faces.

Extended mathematical thinking: It is important that students do not see a side as synonymous with a straight line. Do this by asking the students to imagine a circle. Ask the students how many sides, corners and faces this shape has. If necessary scale back to a physical image of a circle.

Grouping shapes

I am learning to group shapes that are similar in appearance (two dimensional shapes).

Various drawings of triangles, squares, circles and rectangles.

Using materials: Present students with a triangle drawn on a piece of paper. Ask the students how many sides this shape has (answer 3). Put a variety of shapes in front of the students, including a variety of triangles e.g. isosceles, right angle, scalene and equilateral. Ask students to pick out all the triangles. Students must explain why it is a triangle.

Present students with a rectangle. Ask the students how many sides there are and if they notice if any of the sides are similar to any other side. Explain that the sides opposite each other are equal in length. You may like to prove this by cutting a piece of string so that it fits one side of the square and then lay it against its opposite side to check it is the same length.

Present students with a square. Ask them what shape this is very similar to and how it is similar. Now ask what students notice about all the sides (they are all equal in length). Present students with an array of shapes and get students to identify all the squares.

Present students with a circle. Ask students how many sides this shape has. Now ask what types of objects students could draw around to create this shape (e.g. lids) Then ask students to identify all the circles in the shapes presented in front of them.

Using imaging: Brainstorm with students all the places they might find a triangle. Then get them to draw a picture of this object. Repeat this process with all the shapes detailed in the materials section of this lesson.

Extended mathematical thinking: n/a

Distance (near and far)

I am learning to use words that describe distance.

Using materials: Place an item close to the students on the mat. Now place a similar item at the other end of the mat. Ask students what words we could use that describe the distance the two shapes are from us. Brainstorm all the possibilities. Explain that today we are going to use the words near and far to describe distance. Put two groups of objects on the mat. Now one by one go through and point at all the objects. Get students to state "The..... is near/far from me". It is important students use a reference point for the distance. In this case it is the student "me".

Using imaging: Ask students to identify objects around the room that are near to them. Repeat this process identifying objects around the room that are far from them.