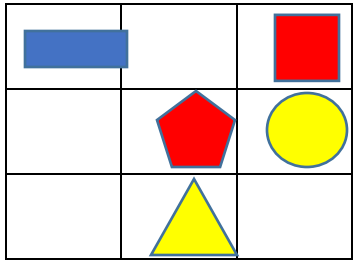
Station: Barrier Game – Grids

(See Manual p.32)

A game for two players. Use the 3 x 3 grid game board and two sets of attribute blocks or 2-D shapes to play this barrier game. Place a barrier between the players. Player one places one of their blocks in a space on the grid, describes the block and where it is located to player 2. Player 2 must then try to place the same block in the location on their own grid. Play continues until all blocks have been placed. The barrier can then be lifted and both game boards compared to check results.



Strand:	Shape & Space
Strand unit:	Spatial Awareness, 2-D Shapes
Concepts:	Explore, discuss, develop and use the vocabulary of spatial relations (positional and directional). Sort, describe and name 2-D shapes. Levels A.1, A.2.
Skill:	Applying & problem solving; Communicating & Expressing; Integrating & Connecting; Reasoning; Implementing, Understanding & Recalling

Station: Constructing 3-D Shapes

(See Manual p.103)

Use polydrons, play-dough and blue-tack & toothpicks to construct one polyhedron of your choice. Try to construct a skeleton (blue-tack & toothpicks), solid (play-dough) and hollow (polydrons) models of your shape.

Which properties of the 3-D shapes are highlighted by the different materials?
Were there any particular properties that you needed to focus when working each type of model?
Which model did you find easiest to work with? Why?
Compare your models. How are they the same/different?
Can you identify the number of faces/vertices/angles/edges in your shape? Which model is best for showing each of these properties?

Strand:	Shape & Space
Strand unit:	3-D shapes
Concepts:	Describe, compare, identify, examine and classify3-D shapes. Construct 3-D shapes. Levels B.2, C.1, C.3, D.1
Skill:	Applying & problem solving; Communicating & Expressing; Integrating & Connecting; Reasoning; Implementing, Understanding & Recalling

Station: Discovering Angles using Anglegs & Geostrips

(See Manual p.128)

Use Geostrips or Anglegs for this activity.

What do you know about right angles? Make a right angle using your Geostrips or Anglegs. Compare your angle to your partner's angle. How are they the same/different?

Now try making an angle that is smaller than a right angle. Compare your angle to your partner's angle. Does anyone know the term we use to describe an angle that is smaller than a right angle? What does 'acute' mean?

Does anyone know what we call the point where the two arms of our angles meet? (Vertex). Show the vertex of your angle to your partner.

Now try rotating your Anglegs/Geostrips to create an angle that is greater than a right angle? Compare your angle to your partner's angle. What do we call angles that are bigger than a right angle?

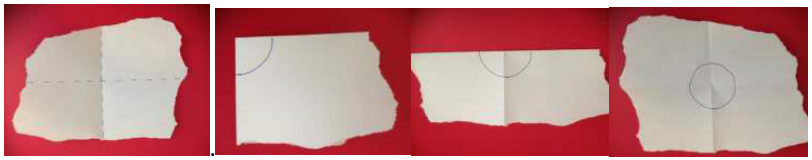
Now, record the terms 'right angle', 'acute angle' and 'obtuse angle' in your Maths journal. Try to explain the meaning of these terms and draw an example of each based on the angles you created with your Anglegs or Geostrips.

Strand:	Shape & Space
Strand unit:	Angles
Concepts:	Explore and recognise angles in the environment. Classify angles as greater than, less than or equal to a right angle. Recognise an angle in terms of a rotation. Levels B.7, C.8, C.9
Skill:	Applying & problem solving; Communicating & Expressing; Integrating & Connecting; Reasoning; Implementing, Understanding & Recalling

Station: Investigating Angles as Corners

Fold the paper to create four right angles. A right angle can now be made. Two of the folded shapes together show that two right angles make a straight line. Four fitted together create a whole circle. The right angle in the second picture can be used to 'measure' the corners on various shapes found in the environment.

Can you identify any corners in the environment? What do you notice about these corners? What do you know about 'angles'? Would you describe any of the corners you found as angles? Why? Try folding your sheet of paper first horizontally and then vertically. When you un-fold your sheet of paper, how many angles can you find in the centre? What kind of angles are they? Are all the angles the same size? Mark a right angle on your paper. What kind of angle would two right angles make? What do you notice about four right angles? Could we use our folded paper to measure what we think are right angles in the room. Show us how.



Strand:	Shape & Space
Strand unit:	Angles
Concepts:	Explore and recognise angles in the environment. Classify angles as greater than, less than or equal to a right angle. Levels B.7, C.8
Skill:	Applying & problem solving; Communicating & Expressing; Integrating & Connecting; Reasoning; Implementing, Understanding & Recalling

Station: Nets of 3-D Shapes

With a partner use Polydrons to create a cube. When you deconstruct your cube, a net of the cube is made. On the square paper in your booklet record all the various nets of a cube you discover. Compare your nets to your partner's nets.

Which Polydron pieces did you use to construct your cube? Describe their shape.
So how would you describe the faces of a cube?
How many polydron pieces did you need to make the cube?
When you deconstructed your cube, what did it look like? Show me that net on your squared paper.
How was the net different from your partner's net?
How many different nets of a cube did you discover?

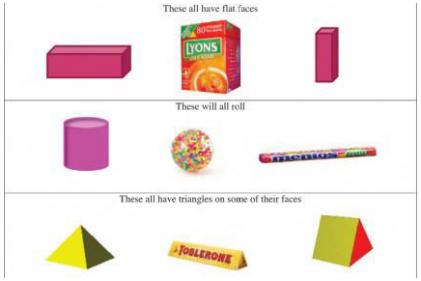
Extension: If you have finished, take your partner's squared paper and check if their nets are correct. How could you do this?

Strand:	Shape & Space
Strand unit:	3-D shapes
Concepts:	Draw the nets of simple 3-D shapes and construct the shapes. Levels C.3, D.2
Skill:	Applying & problem solving; Communicating & Expressing; Integrating & Connecting; Reasoning; Implementing, Understanding & Recalling

Station: 3-D Shape Sorting

An activity for a group of pupils. Use threading beads or sets of 3-D shapes (commercial or everyday materials). The task is to identify various ways of sorting the objects, with a particular focus on the properties of 3-D shapes. Teacher prompts their mathematical thinking through questioning.

How are they the same?
Why do they belong together?
How are they different?
Why do they not belong together?
You chose a shape that has flat faces; can you find another one that has flat faces?
Did you discover any other shapes that roll/don't roll?



Strand:	Shape & Space, Early Maths Activities
Strand unit:	3-D shapes, Classifying
Concepts:	Sort, describe compare, name and classify 3-D shapes. Levels A.2, B.2, C.1
Skill:	Applying & problem solving; Communicating & Expressing; Integrating & Connecting; Reasoning; Implementing, Understanding & Recalling