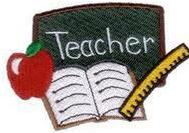


Station: Creating 2-D Shapes using Lollipop Sticks

(Level A3: See Manual p.48)

Work with a partner. Use 10 lollipop sticks to make as many 2-D shapes as possible.



*How many shapes did you make Jim? What shapes are they?
Did you have any sticks left over? Why?
Could you do it a different way and have no sticks left over?
Did anyone else make a different number of shapes?
Why do you have more/less shapes than Jim?
So why did making triangles give you more shapes than Paddy who made rectangles?
Mai please explain that to me in your own words.*

Extension: Allow pupils to experiment with more sticks and discuss the possibilities of creating bigger/more shapes

Strand:	Shape and Space
Strand unit:	Exploring 2-D Shapes
Concept:	Sorting, describing, naming 2-D shapes. Constructing and drawing 2-D shapes See Manual Levels (A.3, B.3, B.4, C.2, C.3, C.4)
Skill:	Applying & problem solving; Communicating & Expressing; Integrating & Connecting; Reasoning; Implementing

Station: Co-Ordinate Challenge

(See Manual p.161-163)

Problem Solving: Position these ten letters in their correct places according to the eight clues below:

Clues:

The letters at (1,1) and (1,2) and (1,3) are all symmetrical about a vertical line.

The letter at (4,2) is not symmetrical in any way.

The letters at (1,1), (2,1) and (3,1) are symmetrical about a horizontal line.

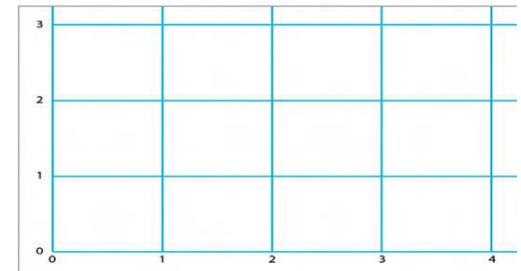
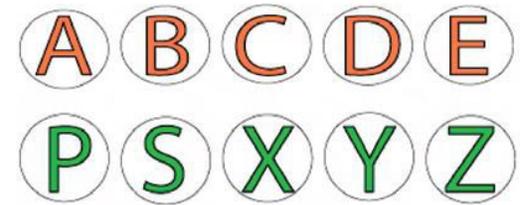
The letters at (0,2), (2,0) have rotational symmetry.

The letter at (3,1) consists of just straight lines.

The letters at (3,3) and (2,0) consist of just curved lines.

The letters at (3,3), (3,2) and (3,1) are consecutive in the alphabet.

The letters at (0,2) and (1,2) are at the two ends of the alphabet.



Strand: Shape and Space

Strand unit: 2-D Shapes

Concept: Plot simple co-ordinates and apply where appropriate
See Manual Levels (D.8)

Skill: Applying & problem solving; Communicating & Expressing; Integrating & Connecting; Reasoning; Implementing

Station: Explore, Describe, Compare and Classify the Properties of 2-D Shapes (MDL)

(See Manual p.98, 101, 108)

This activity builds on earlier work pupils have done sorting 2-D shapes according to their own criteria using simple sorting diagrams. In this level pupils extend their reasoning skills to categorise regular and irregular shapes according to the properties of the shapes, until they end up with a minimal defining list (MDL). A tree diagram can be a useful model to develop this type of reasoning, but the categories should be devised by the pupils.

Activity: Devise a tree diagram and use post-its to develop a sorting key to help you categorise all the shapes until they cannot be subdivided any further. This is your MDL.

What shapes did you have to sort? Can you describe some categories you used to sort 2-D shapes before? Which sorting diagram would be helpful for categorising each shape even further this time? Why do some shapes belong together? How does using a classification key help you to consider the properties of each shape?

Strand:	Shape and Space
Strand unit:	Exploring 2-D Shapes
Concept:	Explore, Describe, Compare and Classify the Properties of 2-D shapes. Levels(A.3, B.3, B.4, C.2, C.3, C.4)
Skill:	Applying & problem solving; Communicating & Expressing; Integrating & Connecting; Reasoning; Implementing

Station: Sorting 2-D Shapes According to Pupil's own Criteria Development - Using a Sorting Diagram

(See Manual p.40 -45)

Pupils should focus on the properties of shapes (regular and irregular) and decide themselves which property to sort for. Pupils need to have plenty of experience devising, reasoning and communicating the various categories by which they have sorted 2-D shapes. This can be further developed using a sorting diagram.



Tell me about this shape. How is it the same as this one? Why do they belong together? How are they different? Why do they not belong together? Can you find another shape that also has curved sides?

Activity: Pick one of the sorting diagrams (Venn, Carroll or Tree). Decide on properties pupils might sort by. Write the properties on post-its. Sort the set of 2-D shapes according to these properties on the sorting diagram.

Using a sorting diagram helps to clarify pupils' thinking and reasoning and provides a different perspective on their sorting activities.

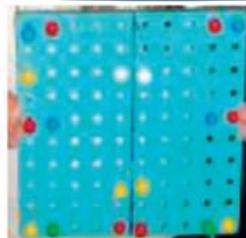
Strand:	Shape and Space
Strand unit:	Exploring 2-D Shapes
Concept:	Sorting, describing, naming 2-D shapes. Constructing and drawing 2-D shapes See Manual Levels (A.3, B.3, B.4, C.2, C.3, C.4)
Skill:	Applying & problem solving; Communicating & Expressing; Integrating & Connecting; Reasoning; Implementing

Station: Exploring Line Symmetry using Pegboards

(See Manual p.118- 123)

Pupils work in pairs to play a game on a pegboard. The line of symmetry is marked on the pegboard with a band. Each player takes a turn to put a peg on the board and their partner has to reflect or mirror the location of their opponent's peg on their side. Then they take a turn to place a new peg and the partner mirrors this move. Pupils can begin to use positional language that is further developed in Level D.

Martin what did you notice about where Sarah placed the first red peg? How did you work out where to put a peg on your side to mirror this move?



Strand: Shape and Space

Strand unit: Symmetry

Concept: Identify, draw and recognise line symmetry in the environment and in shapes
See Manual Levels (B6, C6, D4)

Skill: Applying & problem solving; Communicating & Expressing; Integrating & Connecting; Reasoning; Implementing