

# **Logo Activity Sheets.**

## Discovering Polygons.

Discuss with the children the names of the different polygons from Triangle up to Decagon. Make sure they know the names of the shapes and how many sides they have.

Work with the children so that they are secure in the concept of angle and discuss whether Logo will require them to calculate the internal or external angles of a shape (it is the internal angle, but make sure the children understand why - it is because you measure the angle from the direction in which the Turtle is pointing to the direction of the next side). Use examples to ensure the children are happy in calculating angles when drawing shapes in logo.

## Activity.

Ask the children to use Logo to draw all the shapes you have been discussing. Since you are dealing with regular polygons, they should be encouraged to use procedures in their work.

They might choose to present their work in a table and use printouts of the shapes and procedures to illustrate their work:

Number of Sides	Name of Polygon	Repeat number	Angle size	Action
3	Triangle	3	60	repeat 3 [fd50 rt60]
4	Square	4	90	repeat 4 [fd50 rt60]
5	Pentagon			
6	Hexagon			

Ask the children to see if they spot any patterns. Can they work out a rule for calculating the angle needed to draw any polygon? (The rule is, 360 divided by the number of sides of the polygon).

Illustrate the rule by asking a child to walk in a square (perhaps use another as a guide, so that embarrassment doesn't turn it into an ellipse!). The children will notice that the child is facing the same way as they started, and, therefore, has turned 360°. However, this angle was divided by 4, giving equal sized angles at the end of each side. This rule can be applied to any regular polygon.