Game 3S3: Symmetry

<u>Strand:</u> Shape and space

Strand Unit: Symmetry

<u>Curriculum Objectives Covered:</u>

- Identify line symmetry in the environment
- Identify and draw lines of symmetry in two-dimensional shapes

<u>Part 1:</u> "Symmetry Knockout " <u>Aim:</u> To identify lines of symmetry in the environment and avoid the knockout! <u>Activity Area:</u> Classroom <u>Duration:</u> 10 minutes

Linkage: Fractions

Set Up:

- 1. Before the game begins, the children should be reminded of the meaning of symmetry i.e. an exact mirror reflection of a shape or pattern onto the opposite side of a dividing line.
- 2. The children should be shown examples of symmetry in their environment e.g. an open copy book.
- 3. The class is split into groups of 4 children per group.

Start Playing:

- 1. When the teacher says 'start', each child, in turn, has 10 seconds to name something in the room that demonstrates line symmetry, for example "The window has a line of symmetry across the middle".
- 2. If a child cannot name something within 10 seconds, or names something that does not demonstrate line symmetry, or names something that has already been said, he/she is knocked out.
- 3. The winners are the final players to be left in the game in each group.

<u>Part 2:</u> "Symmetry in Shapes Race" <u>Aim:</u> To work together as a team to find and draw lines of symmetry on 2-D shapes. <u>Activity Area:</u> Classroom <u>Duration:</u> 20 minutes

Linkage: Fractions

Resources:

- Set of ten 2-D shape pictures for each group (photocopiable set attached)
- Answer Sheet (attached)
- Pencil and ruler for each team.

Set Up:

- 1. Before the game begins, lines of symmetry in 2-D shapes should be explained (one of the shapes from the photocopiable set attached could be used).
- 2. Groups of 4 children work together as a team to compete against the other teams.
- 3. Each team is given a set of ten 2-D shapes (photocopiable set attached).

Start Playing:

- 1. Each team works together to discuss where they think the lines of symmetry are, if any, in each 2-D shape. They can fold the paper over the line to check if their answer is correct.
- 2. One team member then uses the ruler and pencil to draw all the lines of symmetry onto the shape. (One line of symmetry is sufficient for a circle).
- 3. The winning team is the first team to hold up a full set of ten 2-D shapes showing the correct lines of symmetry, including the one shape with no line of symmetry.

<u>Square</u>





Rectangle



<u>Triangle</u>



<u>Hexagon</u>



Semi-circle





Other shapes







Answers

Square: 4 lines of symmetry – horizontal, vertical and both diagonals. **Circle:** Any line through the centre point.

Rectangle: 2 lines of symmetry – horizontal and vertical.

Triangle (isosceles): 1 line of symmetry - from top point through centre of base line.

Hexagon: 6 lines of symmetry - each going through the centre point from either a corner or the middle of a side.

Semi-circle: 1 line of symmetry – through centre of, and perpendicular to, straight side.

Oval: 2 lines of symmetry – horizontal and vertical.

Other shape no.1: 2 lines of symmetry – horizontal and vertical.

Other shape no.2: No lines of symmetry.

Other shape no.3: 1 line of symmetry – vertical.