## PRIMARY WORKSHEET

Colour the shapes that are symmetrical.


Complete the drawing to make symmetrical shapes.


Draw three different symmetrical shapes of your own.


Draw the line of symmetry on each of these shapes.


## CREATE:

Practice creating symmetrical shapes. Use a piece of paper that is folded in half. On the fold-side, draw half a shape, and carefully cut it out. Make sure you do not cut off the fold, or you'll end up with two shapes. When your cutting is done, unfold it to see a symmetrical shape!


Once you've practiced that, try folding your paper in four and repeat, making sure not to cut off the fold. When you unfold your shape you'll see that it is symmetrical in two directions.

Next try folding your paper a few more times until you have a narrow triangle. Cut out a few shapes, leaving a lot of paper behind. When you unfold it, you'll have something that looks like a snowflake or a flower. You'll also have a shape that shows radial symmetry!

Have fun and see how many different shapes you can make!

## JUNIOR / INTERMEDIATE WORKSHEET

Draw three different symmetrical shapes that use REFLECTION.


Draw two identical shapes to show TRANSLATION. Your shape can move up, down diagonally or in several directions to make a translation. Use the grid below to help plan your moves.

| 0 | 0 | 2 | 0 | $\bigcirc$ | 0 | 0 | - | 0 | 0 | 0 | $\bigcirc$ | 0 | $\bigcirc$ | $\bigcirc$ |
| :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: |
| 0 | 0 | $\bigcirc$ | 0 | 0 | 2 | - | 0 | O | 0 | 0 | 0 | 0 | 0 | 0 |
| 0 | 0 | 0 | 0 | 0 | $\bigcirc$ | 0 | 0 | 0 | 0 | 0 | $\bigcirc$ | 0 | 0 | $\bigcirc$ |
| 0 | $\bigcirc$ | 0 | 0 | 0 | 0 | 0 | $\bigcirc$ | 0 | 0 | $\bigcirc$ | 0 | 0 | - | $\bigcirc$ |
| 0 | 0 | 0 | 0 | $\bigcirc$ | 0 | 0 | $\bigcirc$ | 0 | 0 | c | $\bigcirc$ | 0 | $\bigcirc$ | 0 |
| 0 | 0 | 0 | $\bigcirc$ | 0 | 0 | 0 | $\bigcirc$ | 0 | 0 | 0 | 0 | 0 | 0 | $\bigcirc$ |
| 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | $\bigcirc$ | 0 | $\bigcirc$ | $\bigcirc$ | 0 | 0 | 0 |
| 0 | 0 | 0 | 0 | 0 | 0 | 0 | $\bigcirc$ | $\bigcirc$ | 0 | 0 | 0 | 0 | 0 | 0 |
| $\bigcirc$ | 0 | 0 | $\bigcirc$ | - | $\bigcirc$ | $\bigcirc$ | 0 | 0 | O | 0 | - | ¢ | 0 | $\bigcirc$ |

Describe how your shape moved (example, 6 spaces right, 3 spaces up):

Complete the RADIAL symmetry using this outline. Remember, each section should be the same.


## CREATE: RADIAL SYMMETRY

A rosette is a circular drawing that uses radial symmetry to create a repeating pattern of lines and shapes. You may see rosettes in the round stained glass windows in churches. Another version of a radial symmetry is a mandala. In various spiritual traditions, mandalas may be employed for focusing attention. Drawing a mandala can help you relax and focus. Remember, each section should be exactly the same. Use the circular grid on the next page to help.



