


Reflective symmetry


Rotational symmetry

## Introduction

One way to understand symmetry is to think of something such as a pattern, drawing, or shape that repeats itself.
Reflective symmetry, also known as mirror or bilateral symmetry, is when a shape or pattern is reflected as though in a mirror along a line of symmetry (also known as a mirror line). In this case, we can say something is symmetrical when it is the same on both sides.
There are other types of symmetry, including radial or rotational symmetry. Here, you can turn the object to a certain degree and at certain places in the turning, it will look exactly the same as before you started the rotations.

Besides nature, we often see examples of symmetry in art, architecture, and design. Can you create a piece of art inspired by symmetry?

## Mirror Art

- Fold your paper in half. This will be your background, or your canvas, for your artwork.
- On one side of the canvas, place items you've collected to make a picture, a scene, or a neat pattern.
- On the other side of the canvas, make exactly the same scene but in reverse. Lay out your design so it's like the one side is looking at itself in the mirror. Depending on what you've created, the "mirror image" might look exactly the same, or exactly opposite.
- When you're happy with how your picture looks, you can glue or tape your items onto the background.


Mirror art

## Mirror Art Extensions

- You could also try making mirror art by folding your canvas in 4 equal parts and then copying what you create in one quadrant over to the other 3 remaining quadrants - always remembering to pretend as though your picture is looking in a mirror along the folded lines of the canvas.
- Finally, it's really hard making a perfectly symmetrical picture. After you've tried your best, you can challenge a friend or family member to 'spot the difference' between the sides.
- If you want, you can always find or make a nature frame for your artwork.


## Hammer Time (or, Rolling Pin Time)

- Gather fresh plants. Be sure to ask your parents or teacher what's OK to pick first. You'll want plants, or parts of plants like petals or leaves, that are alive and "juicy". Be mindful that you don't hurt the plant. Please note that some plants work much better for this than others, and the only way you can find out is by trying.
- Fold your thick paper in half. Place it somewhere strong and sturdy where you can hammer (or roll the rolling pin) on it.
- Place your plant parts inside the folded paper. You can specially arrange your items on one side, or just throw them in and see what happens. Shut the folded paper up on itself.
- Hammer the outside of the folded paper all over the areas where you've hidden the plants. After you think you've hammered enough, take a little peak in your "card" and see - remember, you don't want to move any of the pattern-makers in case you want to hammer them some more.
- When you're happy with the pattern that's emerged, open your card and admire your work.
- If you'd like to make a butterfly (or other 'reflectively symmetrical' shape), remove the "filling" and close the "card" again. Draw one half of a butterfly over its surface. If you cut both sides out at once, you've created a symmetrical butterfly!


