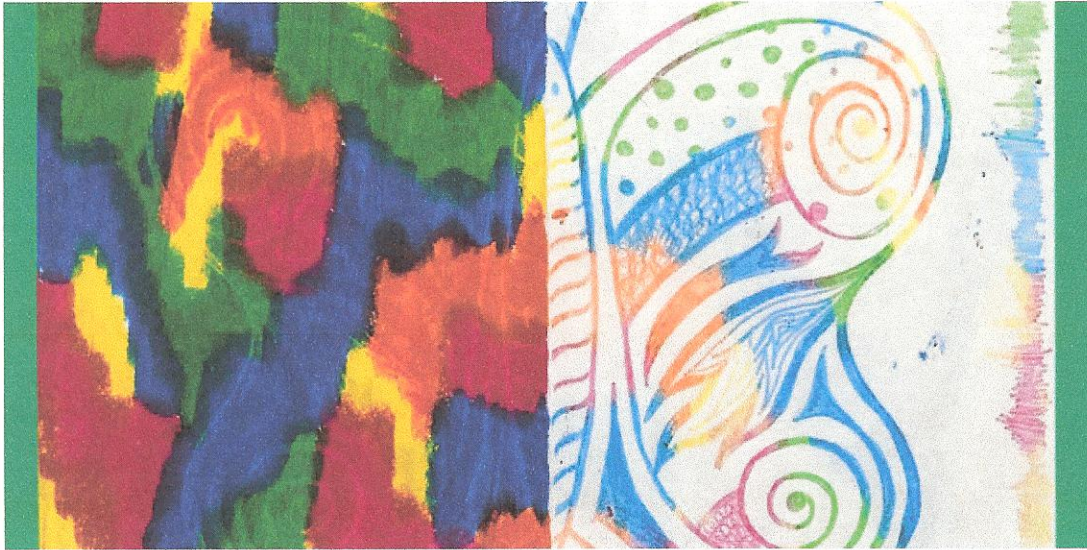


# Forwards & Backwards: Mirror-Image Geometry



## Crayola Supplies

Colored Pencils

Glue Sticks

Twistables® Slick Stix™ Crayons

Construction Paper

Sketchbook

## Household Supplies

recycled newspaper

## Why?

Create a bright "master" design with geometric shapes. Use it to make amazing reverse-symmetrical drawings and mirror images!

## Steps

1. Fold paper in half and open it up. Cover your art area with newspaper. Fill half of your paper with color using Crayola Slick Stix™ super-smooth crayons. Place colors in either geometric or organic shapes. Cover all of the white space, up to the edges and the crease.
2. Refold the paper. Remove the newspaper so you can work on a hard surface to draw half of a picture. You MUST begin AND end your outline shape on the fold. The first time you try this, choose a simple shape, such

as a butterfly or half an apple.

3. Press hard with Crayola Colored Pencils to outline your shape. Begin at the folded edge and end on the fold. Make your lines thick. Add lots of details inside your outline.

4. Open up the paper. Inside you'll find a complete image! Half of your background is colored and half is white! This kind of drawing, which has two halves exactly the same (but reversed), is called symmetrical.

5. Glue your drawing on a large piece of construction paper to be your frame.

### **Adaptations**

Color a whole piece of paper and then place another piece of paper (the same size) on top of it. The Slick Stix "master" paper can be re-used for several drawings, and even "re-charged" by coloring over the pale spots, and used again.

Explore the fraction concepts of half and whole with this technique. Can you figure out how to write words using this technique? Try it!

Assessment: Success is measured by the completeness of the object being drawn. Greater attention to detail will also show more advanced understanding of the concept.

### **Benefits**

Students explore the mathematical concept of symmetry in a visual arts project.

Students recognize what parts of an object need to be represented as half to end up with a complete drawing.

### **Grades**

Grades 1 to 3

Grades 4 to 6

### **Subjects**

Math

Visual Arts

### **Time**

30 to 60 minutes

### **Curriculum Standards Links**

US: [Research U.S. Standards](#)

UK: [Research UK Standards](#)

Canada: [Research Canada Standards](#)