

Mirror Books and Snowflakes

Why

Explore the rotational symmetry. It connects counting and grouping, the visual and the sequential, algebra and geometry.

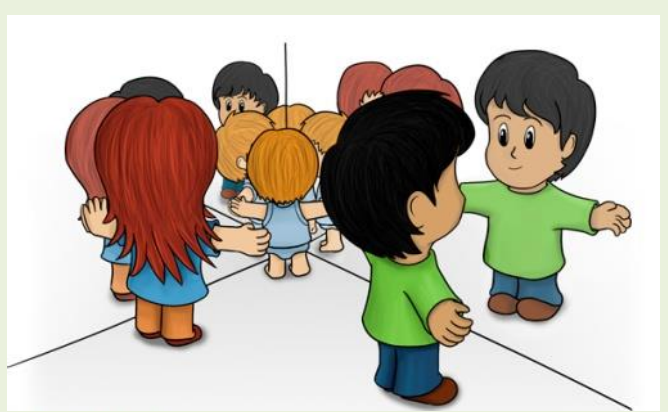
How

Connect the non-reflective side of two mirrors with duct tape for a mirror book.

Fold a piece of paper repeatedly and cut out a snowflake.

What

Use rotational symmetry to create multiple copies of an object.



1



Lay two rectangular mirrors face to face. Connect them at one edge with duct tape. Put things inside the open mirror book. Vary the angle.

2



Combine two mirror books and invite the kids to explore infinity.

3



Explore Snowflakes. Fold a piece of paper through its center repeatedly, then sketch and cut out a snowflake.

Explorations

Predict (and ask others to guess) how many sectors or holes there will be once you unfold your snowflake.

Learn different folds and make a snowflake multiplication table. You can fold paper to make any number of sectors.

Draw or write numbers, letters, and words inside the mirror book, or cut them out of snowflakes. Letters have interesting symmetries within them.

Become puzzle makers, taking turns with challenges. Can you use a toothpick and the mirror book to make a square (a hexagon, etc.)? Can you make stars or triangles in your snowflakes?

Go large! Make giant snowflakes out of newspapers or wrapping paper. Make your own giant mirror books out of large door mirrors.

Math is what you make of it!

Make Up Your Own Symmetry Models of Multiplication

Email your ideas and pictures to reach.out@naturalmath.com

