The Elf on the Shelf®
TEACHER RESOURCE CENTER
Third Grade

CC Standard: Partition shapes into parts with equal areas. Express the area of each part as a unit fraction of the whole. For example, partition a shape into 4 parts with equal area, and describe the area of each part as ¼ of the area of the shape.
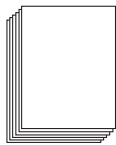
Materials:

- Copies of elf template snowflake patterns (page 4)
- Scissors
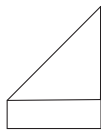- String or yarn
- White paper
- Hole punch

Lesson:

Tell the class that The Elf on the Shelf® misses the snow at the North Pole. So, you are going to decorate the classroom in snowflakes to make him/her feel right at home. Tell the students that snowflakes are typically found in a hexagonal pattern. (Review the shape of a hexagon by drawing one on the board and point out the six sides). Explain that the individual atoms in water form when ice freezes causing snowflakes to have a six-fold symmetry. However, to get six-fold symmetry you need to fold your paper into six equal sections.
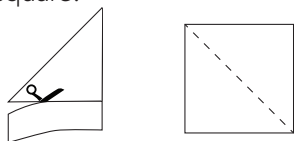
How-to make a standard snowflake:

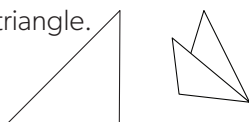1. Pass out a sheet of plain white paper to each student.

2. As you make the snowflake, allow students to fold along with you as you fold in the front of the class. As you fold, identify the shapes the kids see. For example, you will start with a triangle by bringing one corner of the paper down and folding it evenly, matching it up to the opposing side.
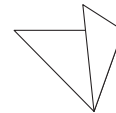
3. Cut off the extra at the bottom, then unfold the paper. Now you have a square.
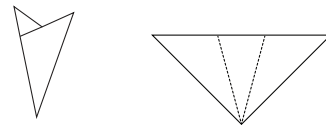
4. Fold it back into a triangle. Then fold it in half again, making a smaller triangle.
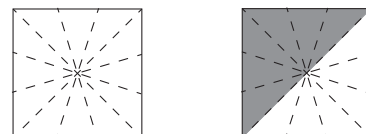
5. Take the right side of your triangle and fold it over towards the left side until you get another smaller triangle.

6. Repeat, bringing the left edge of the triangle over towards the center and forming another triangle. If you were to unfold it, you would have three more triangles.

7. Continue to unfold the paper, so that students can see that the square is made up of 12 equal sections. Those 12 equal sections make up the one whole square. Then point out how six triangles equal half the square and so on until you feel the kids have a general understanding that the triangle shapes are parts with equal areas and that each part as a unit fraction makes up the whole.
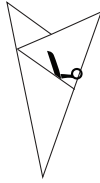
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8. Fold your paper back together. Now make the final cut at a diagonal. That will make their six points.

9. Ask students to hold the tip of their snowflake—so they do not cut it.

10. Then allow students to cut freely. They should make different shapes in different sizes. They should cut on both sides of the triangle. The only rule is that they cannot cut all the way through to the other side.

11. Open the snowflakes and use the hole punch, string or yarn to hang them. The elf will feel right at home!

Activity Follow up:

Give students the fractions practice worksheet on page 3 to help them use shapes to identify fractions. For extra fun, give the students The Elf on the Shelf® Snowflake Template on page 4 and the folding guide on page 5 to create snowflakes with The Elf on the Shelf® pattern!

Third Grade | *Using shapes to identify fractions.*

To complete this worksheet, draw lines to connect divided snowflakes to the fractions the pie slices represent. The first one is done for you.

$$\frac{6}{6}$$

$$\frac{3}{6}$$
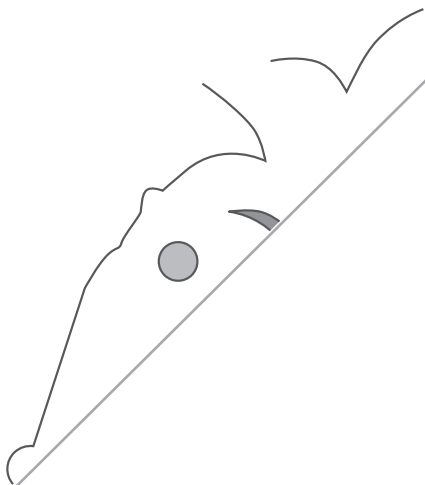
$$\frac{1}{6}$$

$$\frac{2}{6}$$

$$\frac{5}{6}$$

The Elf on the Shelf® Snowflake Template

1. Print out the elf snowflake template below and folding guide on page 5 (one for each student).
2. Cut off the top part of the elf snowflake template along the dotted line.
3. Fold the template diagonally, corner to corner with elf template on top (see "A" on folding guide).
4. Fold again, with elf template on top (see "B" on folding guide).
5. Place folded piece on folding guide (use "C" on folding guide) with elf facing down. This guide will help you fold your snowflake into perfect thirds. Use the guidelines for where to fold. Make sure you end up with elf on top.
6. Once folded, cut the top area parallel with the elf off for easier handling (see "D" on folding guide).
7. Cut along line of elf template. Use a hole punch to cut out the eyes.
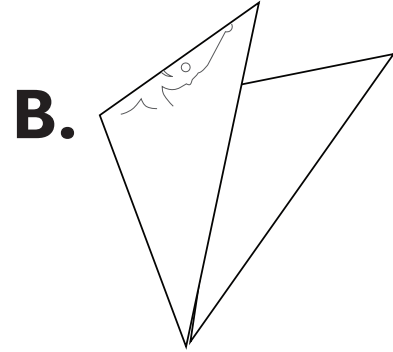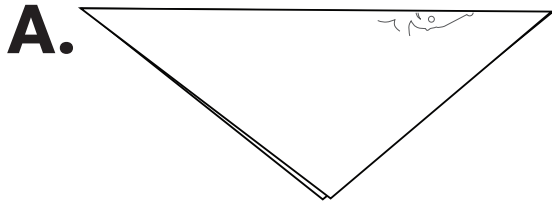8. Once cut, unfold carefully to reveal your elf snowflake (see "E" on folding guide).

Folding Guide
(Refer to instructions on page 4)

A.

B.

C. Place snowflake on top; use to fold into perfect thirds (elf should be facing down).

Fold this side first

Fold this side second

D.

E.