

3rd Grade Math Lesson- Partitioning Shapes

By Kori Goldstein

Math Standards

MAFS.3.G.1.2- 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 $\frac{1}{4}$ of the area of the shape.

MAFS.3.NF.1.1- Understand a fraction $\frac{1}{b}$ as the quantity formed by 1 part when a whole is partitioned into b equal parts; understand a fraction $\frac{a}{b}$ as the quantity formed by a parts of size $\frac{1}{b}$.

Materials

- Copy of page 2 and 3 for each student/pair
- Pattern blocks including triangles, rhombuses, squares, rectangles, trapezoids, and hexagons. Each student/pair will need multiples of each shape. Students may need to share manipulatives.
- Ruler for each student/pair

Teacher Instructions

Students will complete the performance task independently or in groups of two. This activity can also be completed in a teacher-led small group, depending on the level of support needed.

Students will use one type of pattern block at a time to fill the trailer (back of the truck) on the provided illustration. For each type of polygon, the student will record the number of pattern blocks used to fill the entire trailer and write a fraction to represent the area of one pattern block.

*The size of the truck illustration is appropriate for use with my pattern blocks. It may need to be adjusted for your blocks. Test the size before copying.

Name: _____

Date: _____

Directions: Investigate how many of each polygon is needed to fill the entire back of the truck, or trailer, using the pattern blocks provided. In the chart below, record the name of each polygon and how many were needed to fill the entire trailer. In the last column, write a fraction to represent the area of the trailer represented by 1 pattern block. When you're done with everything else, use a ruler to partition the trailer into equal parts and write a sentence beneath the illustration to name polygon you used to partition the trailer and the area of each shape. For example: *One rectangle is one-fourth of the trailer's area.* If you have time, you may color your truck.

Polygon	Number Needed to Fill Trailer	Area of 1 pattern block

If there are any polygons that could not be used to fill all the space in the back of the trailer, name each shape and explain why it could not be used on the lines below.

