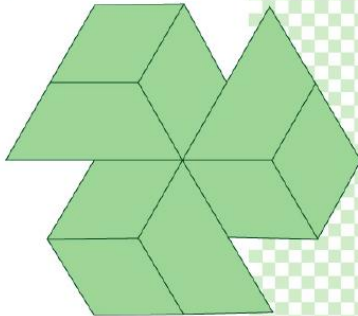## Gigo®

PLASTIC PATTERN BLOCKS

Activity 3 Discover fractions

The value of the hexagon is one whole. Use at least two different types of pattern blocks to make a shape with a value of $3\frac{1}{2}$. Record your solution.

For example:

Can you find any other solution?

⊠ Objective:

● Used to develop geometry, reasoning and proof, communication and connection skills.

● To manipulate triangles, rhombuses, trapezoids, hexagons, and squares to see how they might combine to form different patterns on the plane.

● To recognize the colors and design patterns.

● To develop concept of fraction and the relationship between divisions.

Introduction

Pattern recognition is the heart of all mathematical thinking. They help children learn math in a multitude of ways. Tessellations are patterns made with "tiles" which will cover a surface with no gaps and without overlapping. Through different activities, children will be able to distinguish the regular or irregular tessellation pattern.

GENIUS TOY TAIWAN CO., LTD.

Contents:

## About each shape:

▲	This is the **triangle** and it is the smallest of all the shapes.
▱	This is the blue **rhombus**. Its size or area is exactly twice that of the triangle. I.e. you can fit two triangles inside of it.
⬠	This is the **trapezoid**. Its size or area is exactly three times that of the triangle. That means that you can fit three triangles inside of a trapezoid or one blue rhombus and one triangle.
⬡	This is the **hexagon** and it is the largest of all the shapes. Its size or area is exactly six times that of the triangle. You can fit six triangles or three blue rhombus or two trapezoids inside of it.
▢	This is the **square**. This and the beige rhombus are the only shapes with a size that is not an even multiple of the triangle!
▱	This is the beige **rhombus** with sharper angles.

The features of each shape of Pattern Blocks

HEXAGON — 120°, 60°

TRAPEZOID — 60°

TRIANGLE — 60°

SQUARE — 90°

BLUE RHOMBUS — 120°, 60°

BEIGE RHOMBUS — 150°, 30°
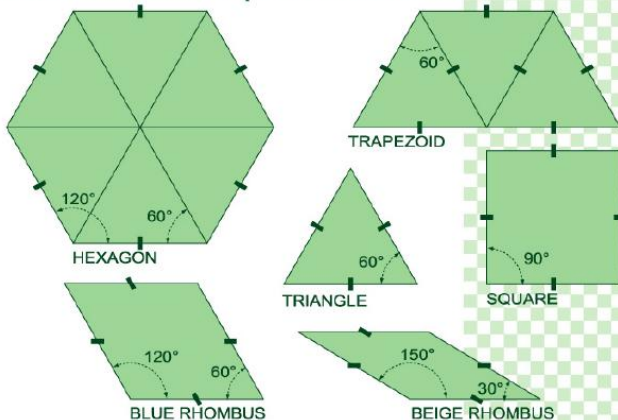
Activity 1 Make patterns

Step 1: Have children take a two-handed scoop of pattern blocks, sort them by shape, and ask them to name & count their own pattern blocks.

Step 2: Use limit pattern blocks making simple patterns or create different shapes, which leave no gaps or spaces.
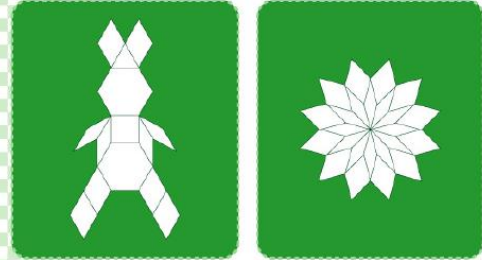
- Copy the pattern by drawing it on a grid paper. Discuss the patterns with the children
- Discuss the relationships between the blocks
- Which shapes fit together easily?

Activity 2 Make tessellations

Try to find out if each of the pattern block shapes will tessellate. For example, use only Yellow Hexagon.
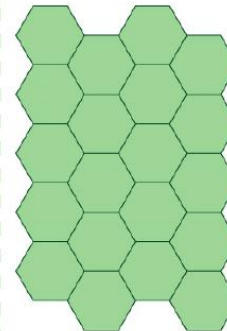
Now try each of the other blocks to see what will happen.