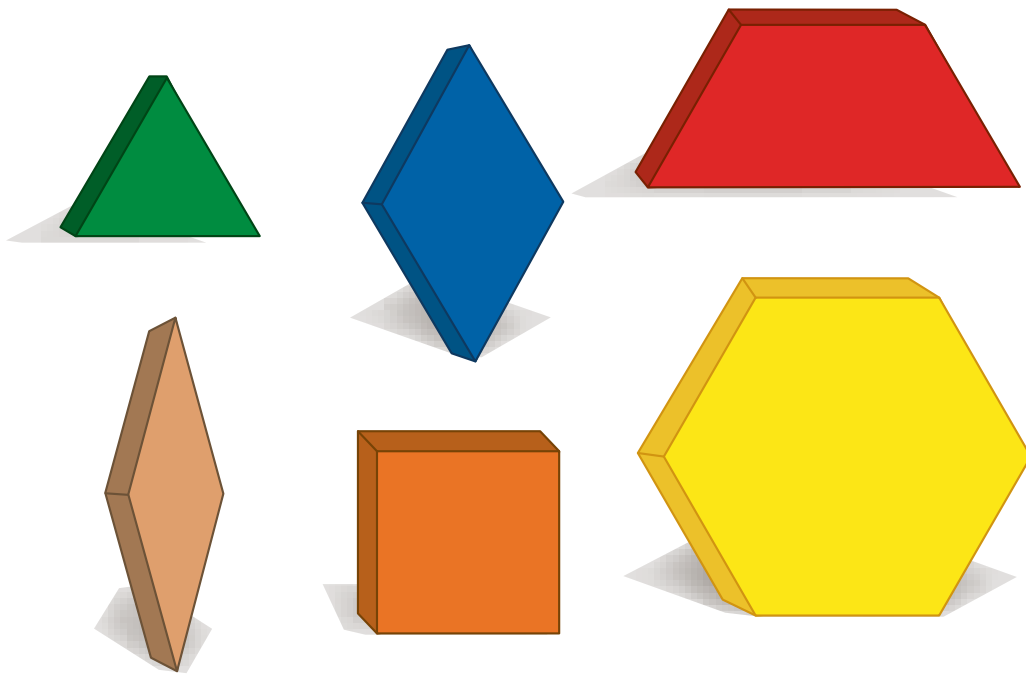


# Math Tasks

## with Pattern Blocks



# Alignments

# ACTIVITIES - 86589

Page	Activity Name	Description	Math Strand	Topics
12	<b>All Possible Perimeters</b>	Students investigate the possible perimeters of shapes that can be made by using different combinations of the six Pattern Blocks.	Problem Solving, Communication, Reasoning, Connections, Geometry, Measurement	Perimeter, Problem Solving Strategies, Spatial Visualization
16	<b>Building Larger Shapes</b>	Students investigate the number of blocks needed to build shapes that are similar to each of the individual Pattern Block shapes.	Problem Solving, Communication, Reasoning, Connections, Geometry, Patterns/Functions	Pattern Recognition, Similarity, Spatial Visualization
20	<b>Find All the Perimeters</b>	Students use specific Pattern Blocks to create shapes with as many different perimeters as possible.	Problem Solving, Communication, Reasoning, Connections, Geometry, Measurement	Area, Perimeter
24	<b>Fraction Puzzles</b>	Students solve Pattern Blocks puzzles that require them to build shapes in which certain blocks comprise specific fractional parts of the whole shape.	Problem Solving, Communication, Reasoning, Connections, Geometry, Logic, Number	Equivalence, Fractions, Proportional Reasoning, Spatial Visualization
28	<b>Pattern Block Riddles</b>	Students identify hidden collections of Pattern Blocks by solving descriptive clues.	Problem Solving, Communication, Reasoning, Connections, Geometry, Logic, Measurement, Number	Area, Deductive Reasoning, Fractions, Percents, Perimeter, Properties of Geometric Figures
32	<b>What Are My Odds?</b>	In this activity, the students have the opportunity to collect and analyze data, understand that probability is a change event, and calculate the probability of simple and compound events.	Problem Solving, Communication, Reasoning, Connections, Probability/Statistics	Numbers, Patterns, Counting
36	<b>What's My Path?</b>	Students perform rigid transformations with irregular polygons made of Pattern Blocks and record the images. They then examine classmates' images to determine the sequences of transformations used.	Problem Solving, Communication, Reasoning, Connections, Geometry	Congruent Shapes, Spatial Reasoning, Transformational Geometry
40	<b>The Great Train Escape!</b>	In this 2-player game, students work with Pattern Blocks to create trains of varying lengths and widths and determine their perimeter. They then record their results in a table. As they repeat game play, students work together to devise the equation, $p(x + q) = r$ , to find the perimeter of any train length or width.	Problem Solving, Communication, Reasoning, Connections, Expressions/Equations	Perimeter, Equations, Writing Equations, Spatial Reasoning
44	<b>The Incredible Shapeshifter!</b>	In this 2-player game, students work together with Pattern Blocks to create scale figures of varying sizes and then challenge one another to reproduce the same figure at a different scale.	Problem Solving, Communication, Reasoning, Connections, Geometry	Scale Drawings and Models, Scale Models, Length, Area

# CHALLENGE ACTIVITIES - 86589

Page	Activity Name	Description	Math Strand	Topics
48	Patangles	Students investigate the measures of the interior and exterior angles of the Pattern Block shapes and the measures of the angles formed by bisecting these angles.	Problem Solving, Communication, Reasoning, Connections, Geometry, Logic, Measurement	Angles, Polygons, Spatial Visualization, Angle Measures, Interior and Exterior Angles of Polygons, Angle Bisectors, Supplementary Angles
54	M.C. and Me	Students explore ways to arrange Pattern Blocks around a point to create tessellating designs and investigate the angles of the shapes in their designs.	Problem Solving, Communication, Reasoning, Connections, Geometry, Measurement, Number	Angles in Polygons, Spatial Visualization, Tessellations
60	Mathematical Mosaics	Students investigate the different angles that can be built using Pattern Blocks. They then use their discoveries to build polygons with different angle measures.	Problem Solving, Communication, Reasoning, Connections, Geometry, Measurement	Angle Measure, Spatial Reasoning
66	What's Inside?	Students play a game in which they use different sets of Pattern Blocks to build polygons. They then investigate how the sum of the interior angles is related to the number of sides in their polygons.	Problem Solving, Communication, Reasoning, Connections, Geometry, Logic, Measurement	Angle Measure, Polygons, Spatial Visualization
72	House of Representatives	Students use percents to compare the areas of five of the Pattern Blocks and their relation to the sixth block. Then, they create a puzzle in which another group must determine which block was used as the focus of the percentages.	Problem Solving, Communication, Reasoning, Connections, Geometry, Measurement, Number	Area, Estimation, Percents, Ratio and Proportion
78	Block Busters	Students solve Pattern Block puzzles that require them to build shapes in which certain blocks make up specific fractional parts of the whole.	Problem Solving, Communication, Reasoning, Connections, Geometry, Measurement, Number	Equivalence, Fractions, Ratio and Proportion, Spatial Visualization
84	It's In The Bag	Students identify hidden collections of Pattern Blocks by solving riddles. Students then create a series of their own Pattern Block riddles.	Problem Solving, Communication, Reasoning, Connections, Geometry, Logic, Measurement, Number	Area, Deductive Reasoning, Fractions, Percents, Ratio and Proportion, Properties of Geometric Figures
90	Inside Out, Outside In	Using Pattern Blocks, students investigate the sums of the measures of the interior angles and of the exterior angles of a variety of polygons.	Problem Solving, Communication, Reasoning, Connections, Geometry, Measurement, Number, Patterns/Functions, Probability/Statistics	Pattern Recognition, Writing Formulas, Convex and Concave Polygons, Angles of Polygons
96	Block Path	Students play a game in which they use Pattern Blocks, selected by chance and skill, to build a path that ends closest to the finish line.	Problem Solving, Communication, Reasoning, Connections, Measurement, Probability/Statistics	Chance, Measurement, Spatial Visualization