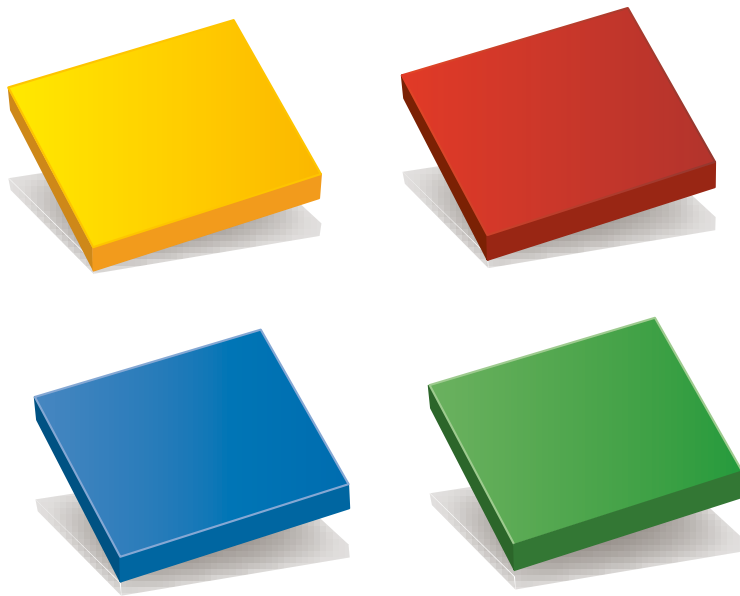


Math Tasks

with Color Tiles



Alignments

ACTIVITIES - 86586

Page	Activity Name	Description	Math Strand	Topics
12	Border Tiles	Students use Color Tiles to model a series of squares and then to figure out the number of border tiles and interior tiles in each square.	Problem Solving, Communication, Reasoning, Connections, Geometry, Number, Patterns/Functions	Pattern Recognition, Predicting, Square Numbers
16	Building Rectangles	Students use Color Tiles to build rectangles in which a specified fractional part is red.	Problem Solving, Communication, Reasoning, Connections, Geometry, Number	Equivalence, Fractions, Multiples, Ratios
20	Carpet and Square Roots	Using the Color Tiles, students will build a pattern to determine square roots. Using their observations they use perfect squares to approximate the non-perfect or irrational square roots.	Problem Solving, Communication, Reasoning, Connections, Number	Number, Patterns, Counting
24	Making Flags	Students use Color Tiles to design flags. They then identify the part of each flag represented by each color both as a fraction and as a percent.	Problem Solving, Communication, Reasoning, Connections, Number	Estimation, Fractions, Percents
28	Great Rates!	In this activity, students represent rates using Color Tiles. They record data about each rate, look for patterns, and use Color Tiles and proportional reasoning to solve unit rate problems.	Problem Solving, Communication, Reasoning, Connections, Number	Ratios, Looking for Patterns
32	Squares of Four	Students investigate the different-sized squares that can be made using 2-by-2 Color Tiles squares.	Problem Solving, Communication, Reasoning, Connections, Geometry, Number, Patterns/Functions	Looking for Patterns, Square Numbers
36	The Great Hippo-tenuse Hunt!	In this two-player game, students work together with Color Tiles to create right triangles with various whole-number leg lengths. They use the Pythagorean theorem to find the length of the hypotenuse and examine how the hypotenuse length compares to the leg length(s).	Problem Solving, Communication, Reasoning, Connections, Geometry	Pythagorean Theorem, Right Triangles, Triangles, Properties of Triangles
40	The S-Shaped Figure	Given a scale model of a shape made from Color Tiles and the area of the larger shape it represents, students figure out the scale used and the perimeter of the larger polygon.	Problem Solving, Communication, Reasoning, Connections, Geometry, Measurement	Area, Perimeter, Ratios, Scale Drawing, Similarity
44	Two-Thirds Blue	Students use Color Tiles to represent a fractional part of a whole and to investigate probability.	Problem Solving, Communication, Reasoning, Connections, Number, Probability/Statistics	Experimental Probability, Fractions, Ratios, Theoretical Probability
48	What's Your Prediction?	Students draw Color Tiles from a bag in order to predict how many tiles there are of each color.	Problem Solving, Communication, Reasoning, Connections, Logic, Probability/Statistics	Organizing and Interpreting Data, Predicting, Sampling

CHALLENGE ACTIVITIES - 86586

Page	Activity Name	Description	Math Strand	Topics
52	Cardboard Cartons	Students search to find all possible arrangements of six Color Tiles. They then determine which of these arrangements could be folded to form a cube.	Problem Solving, Communication, Reasoning, Connections, Geometry, Number	Congruence, Spatial Visualization, Transformations
58	Greta's Garden	Students use Color Tiles to investigate ways to create a shape that has a given perimeter and the greatest possible area.	Problem Solving, Communication, Reasoning, Connections, Geometry, Measurement, Number	Area, Perimeter, Scale Drawings, Spatial Reasoning
64	Tiling Designs	Students use Color Tiles to investigate the perimeters of shapes that have the same area.	Problem Solving, Communication, Reasoning, Connections, Geometry, Logic, Measurement	Area, Perimeter, Spatial Reasoning
70	Pedro's Patio Plans	Students use Color Tiles to represent red, blue, and green patio tiles. Students build the tiles into rectangles that satisfy fractional specifications.	Problem Solving, Communication, Reasoning, Connections, Geometry, Number	Fractions, Multiples, Ratio and Proportion
76	Fill 'Em Up!	Students determine the volume and length of time needed to create a solid using a specified number of Color Tiles. Students then estimate the amount of time and the maximum number of tiles needed to fill an empty rectangular box.	Problem Solving, Communication, Reasoning, Connections, Geometry, Measurement, Number	Estimation, Ratio and Proportion, Spatial Visualization, Volume
82	Rain Gear	Students search for the numbers of Color Tiles and Cuisenaire® Rods, respectively, that could be packed in individual boxes of the same size. Then students attempt to minimize the surface area of the boxes by changing the dimensions, but keeping the volumes the same.	Problem Solving, Communication, Reasoning, Connections, Geometry, Measurement, Number	Estimation, Spatial Visualization, Surface Area, Volume
88	Color Draw	In this activity, students create random samplings with replacement to predict the color distribution of a bag of Color Tiles.	Problem Solving, Communication, Reasoning, Connections, Probability/Statistics	Sampling, Organizing and Interpreting Data, Making Predictions
94	True Blue	Students play a game in which they pick 2 Color Tiles from a bag containing 3 red and 3 blue tiles. Students predict the outcome of the game, compare experimental and theoretical probabilities to their predictions, and redesign the game to reach a different outcome.	Problem Solving, Communication, Reasoning, Connections, Number, Probability/Statistics	Experimental Probability, Theoretical Probability, Combined Probability