Exploration Learning Guide
Yes! It's Math! Gallery

✳DISCOVERY✳
MUSEUM
✳ science. nature. play.

Investigate **combinations**, the way in which things are grouped together, and **permutations**, the way in which a group of things can be ordered or arranged.

TRY THIS

Exhibit: Scoops

How many 2-flavor ice cream combinations can you "scoop" with the four flavors? How many different ways can you arrange the flavors on the cones? Are these two answers the same or different?

Explore a variety of **geometry** concepts, such as **2D** shapes, which are flat, and **3D** structures, which also have height or depth. Practice creating patterns and finding lines of **symmetry**.

TRY THIS

Exhibit: Magna-Tiles® Light Table

Identify each of the shapes represented. Use the 2D shapes to create 3D structures. How many different types of 3-dimensional shapes can you build?

Design a pattern based on:
- the shapes of the tiles (e.g., square, triangle, square, triangle)
- the color of the tiles (e.g., red, purple, green, red, purple…)
- both the color and shape of the tiles

Use multiple tiles to assemble a shape that has at least 1 line of symmetry. Can you make a shape that has 2 or more lines of symmetry? How is this similar to the shapes you can create using the Hinged Mirror?

Observe **probability**, the chance or likelihood of a particular outcome, in action.

TRY THIS

Exhibits: Probability Wall, Probability 1000, Plinko Probability

Using one ball at a time, predict where the ball will land. Once you have tried predicting where a few individual balls will land, guess where you think most of the balls will land. Release the rest of the balls and then observe where most of the balls land. Was your prediction correct?

Compare the "results" from the Probability Wall with the tabletop Probability exhibits. Is it easier to predict or control where a ball will land at Plinko, where you can make changes to the path?

Dig Deeper

Reflect and communicate

What was your favorite exhibit to explore? What did you like about it?

Make connections

Visit *Discovery Woods* to explore math in nature. Look for common shapes such as spirals, concentric circles (circles inside of circles), and stars. Find natural elements that display symmetry. Head to the *Sound Gallery* to create patterns with sound and music.

Explore more at home

Investigate together beyond the Discovery Museum. Continue asking questions, making observations, designing experiments, and predicting outcomes: Practice looking for shapes, patterns, and combinations in everyday objects. Try to find as many different shapes as possible, from squares to octagons, and triangles to stars. Can you find their lines of symmetry?

As you and your child engaged with the exhibits in the Yes! It's Math! Gallery *you may have explored concepts that are connected to the Massachusetts Mathematics Curriculum Frameworks and specifically taught in Pre-Kindergarten, Kindergarten, and Grades 1 through 7.*