

# Math Improv with Preschoolers

## Anytime, anywhere... make it math & make it fun!

Collect 4 to 6 things that go together in some way but no two exactly the same. You might ask your child to get out some “treasures” or simply pull things out of your bag when you’re on the go.

Learning math through play is the best way to help your child love math.

Your role: stop and look, ask questions, listen, share your ideas. Repeat often.

	<p><b>Sort into Groups</b></p> <p>Invite your child to sort a collection using attributes such as color, shape, size, texture, or function.</p> <p><b>Questions to ask:</b> <i>Why do these go together? What do you call your groups?</i></p> <p><b>Extension:</b> Play Guess My Rule. Sort the collection and have your child guess what defines the groups. Then, switch roles.</p> <p><b>Big Idea:</b> Defining sets is required for counting and comparing to figure out how many of what.</p>
	<p><b>Line Up by Size</b></p> <p>Have your child order a collection by size. You may want to start with 3 objects and then add more to the line.</p> <p><b>Questions to ask:</b> <i>Which is the biggest? Which one comes next? How are you comparing?</i></p> <p><b>Extension:</b> Ask your child to close their eyes and switch the order of two objects. Then, ask them to find the mix up and fix it.</p> <p><b>Big Idea:</b> All measure is comparison. There is no absolute “big” or “small”—it’s always relative to something else.</p>
	<p><b>Build a Tower</b></p> <p>Ask your child to stack objects from a collection into a tower. Different objects bring different challenges!</p> <p><b>Questions to ask:</b> <i>Which one will you put at the bottom? Why did you put that one on top? Can you build it another way? How many can you stack before it falls?</i></p> <p><b>Extension:</b> Take turns removing one object at a time from the tower without making it wobble or fall down.</p> <p><b>Big Idea:</b> Spatial reasoning includes turning, flipping, and sliding objects into place. With practice, children can visualize and rotate objects mentally.</p>



### **Make a Shape**

Challenge your child to use objects to form a shape. The goal is problem-solving, not a perfect shape!

**Questions to ask:** *Can you make a triangle/circle/ square? Do the sides meet? Do you need straight or curved sides?*

**Extension:** Play Shape I Spy and find the same shape in the world around you.

**Big Idea:** Shapes are defined by their attributes such as number and length of sides or the size of angles where sides meet.



### **Play a Hiding Game**

Start with a given number of objects such as 4 or 5. Ask your child to close their eyes while you hide some of the collection. Then, ask them to figure out how many are hiding.

**Questions to ask:** *How many are hiding? Are there more hiding or not hiding?*

**Extension:** Roll a single 6-sided die and have your child guess how many dots are hiding on the bottom face given the number of dots on the top face. (Hint: opposite faces of a die always total 7.)

**Big Idea:** Putting together and taking apart small quantities builds children's number sense and flexible thinking.

Making mistakes and trying to figure things out is part of doing math. Embrace the process and trust that your child will gain understanding over time by playing again and again.

Take advantage of small moments to talk and play math with your child.

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