

# PLAY with STEM

STEM play is fun for all ages. These ideas are simple enough for preschoolers and tons of fun for kinder children. STEM stands for science, technology, engineering and math. Sometimes called STEAM – it means the same thing. STEM learning activities can be introduced at any age. The main thing is to keep it simple and keep it fun. It doesn't have to cost a lot of money, just find things around the house or at the dollar store.

## Fun activities for preschool and kinder children

### Making bubbles

Learn the science of adding soap to water and how it can make bubbles. try making bubbles with home-made bubble blowers using pipe cleaners. There are free tutorials on YouTube to make your own giant bubble wand!

### Oobleck

A classic sensory experience. Cornstarch and water mixed together is a super fun STEM activity for preschoolers. When the mixture is played with it feels harder in texture, but as soon as it stops moving it turns to liquid.

### Indoor rainbow

You'll need a large glass of water, a small mirror to go inside, a flashlight and a white wall to see the rainbow. Make the room very dark, then shine the flashlight into the mirror and a rainbow will appear! Try changing the angle of the flashlight or mirror for different effects.

### Bug hunting

For this one you may need a few pieces of equipment from the dollar store such as a net, a plastic cup and a magnifying glass. You can also buy bug catchers for kids. Investigating different bugs outside is a fascinating science activity for young minds. Identify each bug they catch to learn more about insects and their natural habitat.

### Tin foil boat

This fun science and engineering experiment is one of the top STEM activities for toddlers. All you need is a large container for the water and some aluminium foil. Make a simple boat out of the foil and watch it float. See how many buttons or coins you can put on top before it sinks!

### Build a Fort

No expensive fort-building kit required to build a fort with a preschooler. Challenge them to create a fort using chairs, table and sheets, or even cardboard boxes. They can be as creative they like - use whatever is on hand. Colour the sheets or cardboard boxes. The only limits are space and imagination. Suggest a specific challenge or leave it as an open-ended activity.

### Exploring Magnetism

Magnet science experiment and play is one of the great STEM activities for preschool children. Simple games like learning what can stick to the magnet, or making things move using magnets can really spark an interest in how things work and inspire curious minds.



# STEM in PLAY

## Exploration Box

Open-ended activities are great for exploration. A creatively stocked tinker box provides a preschooler with an endless supply of resources he or she can build with or create with.

## Marshmallow Builders

Marshmallows and toothpicks, or spaghetti (not cooked), or straws make great building tools. Use them for making 2-d shapes like triangles and squares, as well as 3-d shapes like pyramids, cubes, and prisms.

## Planting & Growing

Growing plants and helping to care for them is an important part of life science and a great STEM activity for kids of all ages. Try saving the root ends of vegetables and planting them in a pot with soil, or experiment with different seeds like sunflowers or tomatoes so children can watch how they change every day with enough sunlight and water.

## Rainbow colours

Have fun creating your own water rainbow! All you need is a packet of skittles, a plate and some water. Line the edge of the plate with the colourful skittles, pour water in the middle and watch as the colours start drawing lines to the middle of the plate.

## Constellations

This is a fun way to explore astronomy and space science. Use a paper cup or plastic plate and poke holes through it, so that when a flashlight shines at it, a pattern is created on the ceiling. StarDate website helps identify constellations. Pick a few, talk about the stories behind them, and recreate them. Then make your own constellations and have a star show in a dark room and make up stories about the pictures.

## Bake Together

Baking incorporates math and chemistry. Children learn about volume and measurements through helping to gather ingredients. Children fill the measuring cups and spoons. Consider the way that the ingredients mix together and the importance of the different ingredients. Try a few different recipes to talk about what might happen with the different ingredients.

## Static electricity

Learning about static electricity is one of the top STEM activities for toddlers who love balloons! Simply blow up a balloon and rub it on the top of your hair and watch your hair stand up on end! It makes the kids laugh and it teaches them how to create static electricity.

## Story books

There are lots of great STEM learning books to read with toddlers such as *The Very Hungry Caterpillar*. This famous book is a great introduction to life sciences and is fun to read with colourful illustrations throughout the short story. *My Five Senses* is another great simple science-based book for preschool age.

