



>>> *Get Started Today* <<<

# PRESCHOOL STEAM

SCIENCE | TECHNOLOGY | ENGINEERING | ART | MATH

## RESOURCE GUIDE



# What is STEAM?



## STEM + ART = STEAM

STEAM represents the combination of Science, Technology, Engineering, Art and Math. The inclusion of adding Art to the STEM core subjects is essential to encouraging preschoolers creative and critical thinking skills.

STEAM activities support curiosity, creativity, and innovative thinking.

## INFLUENCE YOUR STUDENTS SUCCESS TODAY

**By the time preschoolers today enter the workforce, at least 65 % of the jobs don't even exist today.** STEAM activities can help prepare your students for an unknown future.

Scientists, mathematicians, engineers and business leaders all need to develop creative thinking, critical thinking and problems solving skills to be successful in creating new and unique solutions related to their field or industry.

**Teaching your students how to think creatively and how to solve problems is how you prepare your children for an unknown future.**

No matter what unknown technologies, industries or careers lay ahead, creative thinkers and problem solvers will be the future innovators and leaders.

## SAVE TIME & MONEY



Encouraging creativity through the use of STEAM activities does not require a lot of time, prep or fancy materials. Use common household items to stretch and grow your students natural curiosity.



# PRESCHOOL STEAM

STEAM activities are the combination of two or more subjects of Science, Technology, Engineering, Art and Math.

By drawing connections between these subjects and using the scientific process or engineer design process your child will learn to question, investigate, analyze, and evaluate. Through this process we can help foster a lifetime love of learning and discovering.

	<p><b>Science</b> is the process of learning about and understanding the natural world. Science activities include exploring water, sand, and other natural materials like rocks and soil.</p>
	<p><b>Technology</b> activities include computers but also can be tools and simple machines that are used to make jobs easier. Simple machines like scissors, gears, wheels, and pulleys are hands on ways to experience technology.</p>
	<p><b>Engineering</b> is the process of building and designing something to solve a problem. Engineering activities regularly happens with playing with blocks. As your child plans and design structures and buildings.</p>
	<p><b>Art</b> is the process of designing creative solutions to a problem. Open ended process art activities allow for new ways to develop self-expression and experiment.</p>
	<p><b>Math</b> is the process of understanding relationships among patterns, numbers, and shapes.</p>



# GET STARTED IN 5 STEPS

STEAM activities are really no different than doing other activities with your students. Follow our 5 step system to save time and maximize your child's learning.

## **STEP 1: PLAN THE STEAM ACTIVITY**

Start simple! You do not need fancy or expensive materials for STEAM activities. Preschoolers ask a lot of questions. Use your students' questions to start a STEAM investigation like, where did Dinosaurs live or why doesn't the ocean freeze?

## **STEP 2: PREP THE STEAM ACTIVITY**

If the activity is new to you, give it a try before introducing to your students. Make sure you have all the materials ready before introducing the activity to your students. Arrange the materials in an inviting way for your students to explore.

## **STEP 3: GIVE TIME TO EXPERIMENT**

Give time for your students to experiment and explore the materials. Give students time to try and figure it out how to use the materials without teacher instruction.

## **STEP 4: ASK QUESTIONS**

As your students are experimenting, ask them open-ended questions to prompt deeper thinking. The process or experience of the activity is more important than the final outcome.

## **STEP 5: OBSERVE AND REFLECT**

Reflect and evaluate the activity with your students. What did they like or not like about the activity? What did they learn? Did the activity prompt your students to ask new questions? Write down these reflections as they will help you plan your next STEAM activity.

# Science Tools

You don't need a fancy laboratory or expensive materials to get started with Science activities. You can do a lot with simple classroom materials you most likely already have available.

<b>SIMPLE SCIENCE TOOLS</b>	<b>SIMPLE SCIENCE MATERIALS</b>
Eye Droppers	Baking Soda
Pipettes (or Turkey Basters)	Vinegar
Magnifying Glass	Food Coloring or Liquid Watercolors
Tweezers	Water
Tongs	Salt
Plastic Tub	Ice
Plastic Cups	Soap
Measuring Cups	Baking Soda
Safety Glasses	Vinegar
Cookie Sheet/Plastic Tray	Corn Starch
Scale	Play Dough
Microscope	Nature Items

## Science focused STEAM Activities:

[Build a Bug Habitat](#)

[Science Rocks!](#)

[Easy Windy Art](#)

[Investigating Saturn's Rings](#)

[Shadow Superhero Signals](#)



# TECHNOLOGY TOOLS

Technology in reference to STEAM refers to the use of tools not just electronics. You do not need the latest computer, tablet, or app to encourage technological thinking for your students.

LOW TECH TOOLS	HIGH TECH TOOLS
Flash light	Computer
Electric Toothbrush	Tablet
Stop Watch/Timer	Smart Phone
Calculator	Digital Camera

## TECHNOLOGY FOCUSED STEAM ACTIVITIES

[How to Make a Digital Photo Number Book](#)

[Create a Digital Photo Alphabet Collage](#)

[Blast Off with a Digital Photo Collage](#)

[Build a Digital Rainforest](#)

[Digital Flower Still Life](#)



# ENGINEERING TOOLS

## PRESCHOOLERS ARE NATURAL ENGINEERS

Engineering is the process of building and designing something to solve a problem. Preschoolers are natural born engineers. Observe your students playing with blocks to see how you can extend and challenge their building skills.

	<b>Engineering Materials</b>		<b>Engineering Tools/Toys</b>
	Plastic Cups		Magnetic Tiles
	Craft Sticks		Cardboard boxes
	Toothpicks		Kid Size Tools
	Marshmallows or Grapes		LEGO Bricks
	String		Wooden Blocks
	Sliced Pool Noodles or cut sponges		Tinker Toys
	Recycled Materials (boxes, cardboard)		Foam Blocks
	Tape		Play Dough

## ENGINEERING FOCUSED STEAM ACTIVITIES

[LEGO Boat Engineering Challenge](#)

[Build a Cave Engineering Challenge](#)

[Build with Unconventional Materials](#)

[Build a Rain Shelter \(for a Toy\) Challenge](#)

[Easy DIY Kid-Made Water Wall](#)



# ART TOOLS

Art experiences allow your students to explore how to make marks in new ways. Process art or open-ended art allows your students to express their own creativity and how to visually communicate their own original idea.

<b>ART SUPPLIES</b>	
<b>DRAWING</b>	<b>PAPER</b>
Crayons	Printer Paper
Markers	Construction Paper
Chalk	Cardboard
Colored Pencils	<b>FUN STUFF</b>
Permanent Markers	Beads
<b>PAINT</b>	Pipe cleaners
Watercolor Paint	Feathers
Liquid Watercolors	Ribbon
Washable Tempera Paint	Scissors
Washable Finger paint	Glue

## ART FOCUSED STEAM ACTIVITIES

[DIY Art Bot Drawing Machine](#)

[Tissue Paper Painting](#)

[Pendulum Painting Made Easy](#)

[Build a Bug Habitat Challenge](#)

[Monoprinting for Kids](#)





# MATH PLAY

Math is an abstract subject but having “hands-on” objects to play with can help your students understand the concepts in a concrete way.

**Math is the process of understanding relationships among patterns, numbers, and shapes.**

	<b>COMMON MATH TOOLS</b>		<b>ADDITIONAL MATH TOOLS</b>
	Deck of Cards		Base Ten Blocks
	Coins, Play Money		Linking Cubes
	Counters (or a counting set)		Small Magnetic White Board
	Dice		Number Line and 100's Hundred Chart
	Ruler, Tape Measure		Pattern Blocks
	Clock		Geoboard

## **MATH FOCUSED STEAM ACTIVITIES**

[Smash Math](#)

[Apple Printmaking with a Math Twist](#)

[Geometric Shape Robot Pillow](#)

[“Add” to Your Garden Math Game](#)

[Build, Draw and Create with Shapes](#)

# For more STEAM activities

## JOIN THE COMMUNITY

The Preschool STEAM community is a monthly or annual membership to our exclusive STEAM activities to engage and challenge your young thinkers.

Using my seven years of experience teaching art to children I've done the work for you of selecting simple activities that do not require fancy or expensive art materials.

Save your self time from having to spend hours searching for the right activity by joining our membership community.

[Click here to learn more and enroll today.](#)

## VISIT THE BLOG

Take a peek at what STEAM activities we are currently working on and helpful resources by visiting the [Preschool STEAM blog](#).

## CONNECT WITH US

Check out behind the scenes photos and updates by connecting with us on social media. Find us on:

[Facebook](#)

[Instagram](#)

[Pinterest](#)

[Youtube](#)

[Twitter](#)



# About Me



**Hi, I am Jamie.**

Mom of 3 young thinkers ages 6,4, and almost 2.

I have seven years of experience teaching art to children in preschool to 12th grade,

As an art teacher, I connected what my students were learning in the art room with what they were learning in the classroom. It made sense to me to bridge the gap between art lessons and science, math and reading lessons.

My goal as an art teacher was not to create the next big name professional artist but rather to help **develop creative innovative thinkers and problem solvers.**

**And now I am blessed to inspire my 3 favorite young thinkers.**

My passion is to show how you can inspire and encourage your students' creativity through hands on learning and problem solving.

**You do not need to be an artist, scientist or mathematician to make learning fun and engaging for your students.**

With three young children myself, I know how busy life gets .



I've done the work for you of selecting simple STEAM activities that do not require fancy or expensive materials., making it easy for you to incorporate STEAM activities in the classroom.

