

Aman STEAM Academy



presents...

STEAM Home Fun

Disclaimer: This activity is appropriate for children ages 4 and older with adult supervision.

Materials Needed: ½ cup of warm water, 1 cup white Elmer's glue, ½ cup of liquid starch, food coloring, sandwich bag, spoon/popsicle stick (for stirring), copy of the scientific method, glitter (optional)

Time: 30-45 minutes

What is STEAM?

STEAM is an acronym that stands for Science, Technology, Engineering, the Arts, and Mathematics. STEAM is not a program or a class, but rather a framework for learning that bases its foundation on teaching science, technology, and engineering content through the creative process used by artists in various disciplines. By using the arts, the learning process becomes more engaging for students and more relevant to their real life, outside of school experiences. The goal is to develop learners that are not only aware of science and technology concepts, but also possess the creative problem solving skills that are needed to continue the innovation happening in our neighborhoods, country, and the world.



Oh, No! We Have A Problem!

Professor Kim S. Tree loves science and is having so much fun in her laboratory that she forgot she had a very important meeting to attend. If her science lab doesn't create a new invention soon, they are going to have to close their doors forever. Because money is tight, the only items Professor Kim S. Tree have are leftover glue, water, liquid starch from her mom's laundry room, food coloring from her brother's birthday cupcakes, a bag her lunch sandwich was in. Using these materials, help Professor Kim S. Tree save her science lab! You will not only create an invention, but you will also have to name it, explain what it does, and create a poster explaining why your invention is so important. Professor Kim S. Tree is depending on you for help!
Don't let her down!

USING THE

SCIENTIFIC METHOD



1 QUESTION

Ask yourself, "What do I want to learn more about?", or "I wonder what would happen if . . .?"

2 HYPOTHESIZE

Research to help you make an educated guess, or hypothesis, and then answer your question.

3 EXPERIMENT

Test your hypothesis by making a plan and conducting an experiment.

4 OBSERVE & RECORD

Make careful observations and write down what happens.

5 ANALYZE

Use your information to draw conclusions about your experiment. Was your hypothesis correct?

6 SHARE RESULTS

Explain your results by presenting your experiment, observations, and conclusions.

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These words will be helpful to learn and use throughout this activity.

Word	Meaning	Used in a sentence...
Scientific method	a process for experimenting that is used to make observations and answer questions	Scientists use the scientific method to help them solve problems.
Experiment	Something you do to answer a question	I did an experiment to figure out why my dog barks when someone rings the doorbell.
Hypothesis	A temporary prediction that is tested to prove whether it is true or not	My hypothesis is that water left in a bowl for a long time will eventually disappear.
Flubber	A special type of slimy goo that is made up polymers	We play with flubber in science class.
Polymer	A polymer is a substance made up of many smaller substances that are joined together	Glue is a polymer.

Doing the Activity

1. The purpose of an experiment is to answer a question or solve a problem. What problem are you trying to solve?
2. Read over the steps of the scientific method and explain that because you are scientists you are going to use the scientific method to help Professor Kim S. Tree.
3. With your child, look at the materials you have and make a guess about what will happen if you mix all of the materials together. Explain that their guess is what scientists call a hypothesis or prediction.
4. Begin to mix the materials together, being sure to show your child what is happening in each step. A real scientist would have a science journal that they were keeping these notes in.
5. After mixing this mixture well, ask your child what do they notice? What does it feel like? What can it do? What happens if you roll it or make it flat? Are they surprised by what they have?
6. Now it is time to name your invention and come up with three reasons it should be sold in stores.
7. Once you have the name and the three reasons, create a poster on either notebook paper or poster board.

Note: The mixture that has been created is actually a polymer named flubber. This is a safe product for children to play with. However, it is not properly stored, the mixture will break down into its original form and may become powdery. When not being used, place the flubber inside a sandwich bag or plastic container.





We want to hear about the fun your family had helping Professor Kim S. Tree create a new invention! Here's what you can do...

- 1. Take pictures of your fun and email them to us at info@amansteamacademy.org. In the subject line, simply put "STEAM Home Fun".**
- 2. Take a selfie with your invention or with your creative poster and give us a shout out on social media. Tag us using the hashtags #BuildingSTEAM and #iSupportAman.**
- 3. Create a video of yourself presenting your invention and your poster and share it on our social media pages:
 - a. Facebook: Aman STEAM Academy**
 - b. Twitter: @AmanSTEAMAurora**
 - c. Instagram: AmanSTEAMAurora****
- 4. Share your fun and experience with a friend and have them visit our website to download for their family's pleasure. Our website address is www.amansteamacademy.org.**