**STEAM Activities for Home**

Prepared by Ms. White

April 2020

**What is STEAM?**

STEAM Education is an approach to learning that uses Science, Technology, Engineering, the Arts and Mathematics as access points for guiding student inquiry, dialogue, and critical thinking.

On the next page I have listed some STEAM activities that you may want to try at home. (I have listed the materials you will need.) After you download the document to your computer, click on the links. The links will take you to a webpage that will provide a summary, materials, instructions, and follow-up plans for the activities.

I found these activities on: [sciencebuddies.org](https://www.sciencebuddies.org/)

This an excellent resource for science experiments. The students can view videos and find more information about STEAM fun they can have at home. This site also has resources on learning at home, STEM activities, science experiments, information on the Corona Virus.

The students can go to my blog page to share or ask questions.

|  |  |  |
| --- | --- | --- |
| [Walking Water](https://www.sciencebuddies.org/stem-activities/walking-water)   * [Odd number of clear glasses or cups (at least three)](https://www.sciencebuddies.org/stem-activities/walking-water) * [Water](https://www.sciencebuddies.org/stem-activities/walking-water) * [Food coloring](https://www.sciencebuddies.org/stem-activities/walking-water) * [Spoon](https://www.sciencebuddies.org/stem-activities/walking-water) * [Half-sheet paper towels (at least three)](https://www.sciencebuddies.org/stem-activities/walking-water) | [Make a Toy Sailboat](https://www.sciencebuddies.org/stem-activities/diy-toy-sailboat)   * Wine corks (3) * Rubber bands (2) * Toothpick * Several screws or nails * Craft foam, wax paper, or paper milk carton to make a sail * Aluminum foil * Sink, bathtub, or a large container you can fill with water. The container should be deeper than the length of your nails/screws. * Tap water | [The Colorful Tricks Eyes Play](https://www.sciencebuddies.org/stem-activities/afterimages-illusions#materials)   * Computer with a color monitor or a color printer and paper * Stopwatch or clock that shows seconds * Optional: Colored pencils and paper or a basic computer graphics program |
| [A Really Long Straw](https://www.sciencebuddies.org/stem-activities/long-straw)   * A package of plastic straws (at least one dozen), preferably those with a bendable part * Scissors * Ruler * Tape * Drinking glass * Water or juice * Level surface that can get wet (or if not, something to protect it) * Sturdy chair or table on which to | [Homemade Slushies](https://www.sciencebuddies.org/stem-activities/homemade-slushy)   * Water * Table salt * Measuring cups * Small mixing bowl * Four zipper-lock sandwich bags * Freezer * Gloves or a towel * Two smoothie shakers or 32 oz. food containers with lid, preferably translucent or transparent. * Fruit juice, e.g. orange, apple, or grape juice. Do not use a light version. * Optional: Food coloring * Optional: Thermometer that can go to -12°C or 10°F * Optional: Soda or fruit-flavored syrup. | [The Big Dig](https://www.sciencebuddies.org/science-fair-projects/project-ideas/EnvSci_p010/environmental-science/what-materials-are-biodegradable)   * Shovel * Backyard or other place to bury items * Soil * Popsicle sticks * Permanent marker * Different products and materials to test:   + Diapers: cloth, Huggies, etc.   + Plates and cups: paper, plastic, Styrofoam, plastic...   + Paper: notebook paper, gift wrap, magazine, construction paper, cardboard...   + Wood: redwood, pine, bamboo, fir...   + Bags: paper bags, plastic grocery bags, garbage bags, sandwich baggies...   + Any other consumer product made by different brands or materials! |
| [A Really Long Straw](https://www.sciencebuddies.org/stem-activities/long-straw)   * A package of plastic straws (at least one dozen), preferably those with a bendable part * Scissors * Ruler * Tape * Drinking glass * Water or juice * Level surface that can get wet (or if not, something to protect it) * Sturdy chair or table on which to stand | [Stretchy Balloon Science](https://www.sciencebuddies.org/stem-activities/stretchy-balloon#materials)   * New balloons, identical in size and material * Permanent marker * Freezer * Skewer * Lip balm or petroleum jelly | [Foaming Fake Snow](https://www.sciencebuddies.org/stem-activities/foamy-white-snow" \l "summary)   * Two large plastic or glass containers * Measuring cup * Baking soda * Measuring spoons: a teaspoon and a tablespoon * Sticky note * Pen or pencil * Dishwashing soap * Vinegar * Small waterproof items to decorate your creation (optional) |
| [Candy Rainbow](https://www.sciencebuddies.org/stem-activities/candy-rainbow-diffusion)   * Hard-shelled colored candies, such as M&Ms® or Skittles® * Small plate * Glass or measuring cup * Warm tap water * Dish towel or paper towels * Spoon * Sugar * Workstation than can tolerate spills and color dyes * Food coloring (optional) | [Is the Egg Raw or Cooked?](https://www.sciencebuddies.org/stem-activities/egg-cooked-raw)   * At least six chicken eggs similar in size and color * Sauce pan * Stove (Use caution and ask an adult to help you use the stove and handle hot items in this activity.) * Water * Timer * Slotted spoon * Pencil * Two small plates * Sheet of paper | [How Well Do You Wash Hands?](https://www.sciencebuddies.org/stem-activities/hand-washing)   * Sink * Washable paint * Soap * Hand towel   [How Far Can a Sneeze Travel?](https://www.sciencebuddies.org/stem-activities/how-far-can-your-sneeze-go" \l "summary)   * Spray bottle * Water\ * Newspaper |
|  |  |  |
| [How to Make Slime](How%20to%20Make%20Slime)   * Washable PVA school glue (like Elmer's®) * Water * Baking soda * Contact lens solution (must contain both boric acid and sodium borate in ingredients) * Food coloring (optional) * Measuring spoons * Measuring cup * Mixing bowl * Spatula * Resealable plastic bags or food storage containers | [Robot Make Me a Sandwich](https://www.sciencebuddies.org/stem-activities/robot-make-sandwich)   * Bread * Peanut butter * Jelly * Knife * Plate * Paper towels * Volunteer * Pencil and paper * Surface that can tolerate a little bit of mess | [Make a Paper Plane Launcher](https://www.sciencebuddies.org/stem-activities/paper-airplane-launcher)   * Paper * Rubber bands * Pen or pencil * Paper clips * Tape or stapler * Construction materials to build a paper airplane launcher. You can use whatever materials you have available. Examples include cardboard, building toys such as LEGO® or K'NEX®, or wood. * Open area to launch paper airplanes (without wind or strong drafts) |
| [Sweet Earthquake](https://www.sciencebuddies.org/stem-activities/soil-and-earthquakes)   * Butcher paper or newspaper * Wax paper * Damp cloth * Starburst® candy or sugar cubes (40 or more) * No-stir peanut butter or a substitute, such as soy butter or sunflower seed butter * Spoon or butter knife * Cornstarch * Water * Measuring cup * Shallow box * Marbles or any small balls identical in size (1 to 2 dozen) * Shallow tray that is a few inches smaller than your shallow box. (Aluminum cake-trays work well.) * Fork * Optional: Yellow food coloring | [Best Wand for Big Bubbles](https://www.sciencebuddies.org/stem-activities/big-bubble-wand)   * Two dowel rods (at least ½" diameter works best.) * Two screw eyes (a closed loop with a threaded base) that can screw onto the dowel rods * Yarn or baker's twine (at least 18 feet or 6 meters) * A washer * Bubble solution (Optional [make-your-own bubble solution](https://www.sciencebuddies.org/stem-activities/big-bubble-wand#bubble-solution) ingredients are listed below.) * A bucket or large container to hold bubble solution * Outdoor area with space to run! * An adult helper * One or two measuring tapes (a total length of at least 3 meters) * Scissors | [What Materials Can Catch a Bubble?](https://www.sciencebuddies.org/science-fair-projects/project-ideas/MatlSci_p045/materials-science/materials-catchbubbles)   * Bubble solution. You can buy some or make your own at home by mixing 1 cup of water with 2 tbsp of dish soap and 1 tbsp of glycerin or light corn syrup. * Bubble wand and small bowl or other container to hold your bubble solution * Different horizontal materials/surfaces to test, such as: paper, aluminum foil, wax paper, the floor (wood, tile, carpet, etc.), tables/countertops, etc. You can try any material or surface that you can find around your house—just make sure it is large and flat enough that you can easily blow bubbles onto it. * Lab notebook |