



School Age Science Activities

Leak Proof Bag Experiment (Kindergarten - 6th grade)

Fill a Gallon Size storage bag about half full of water. Then poke a pencil straight through the bag, in one side and out the other. Much to everyone's surprise the bag won't leak. Explain after the experiment that is because the bag is made of polymer, which are long flexible chains of molecules. When you poke the pencil through the bag, the molecules spread and seal themselves around the pencil. (This can be done with multiple pencils.)

Lava Lamp Experiment (3rd - 6th grade)

Things that are needed are vegetable oil, food coloring, water, and Alka seltzer tablets. Start with coloring about $\frac{1}{2}$ the cup of water with food coloring. Take the Alka seltzer tablets and break them into 2 or 3 pieces and place them into a small cup or container. Then fill a cup about $\frac{3}{4}$ full with vegetable oil. Grab the colored water and pour it into the cup of oil up to about 1-2 inches from the top. It shouldn't overflow. Finally let the children add the Alka Seltzer tab into the cup. The experiment works because water and oil don't mix and the oil doesn't change color because the food coloring is soluble. The Alka Seltzer reacts with the water to make bubbles of carbon dioxide. The bubbles attach themselves to the blobs of colored water and bring them to the top of the glass. When the bubbles pop the blobs of colored water fall back to the bottom.

Making Structures (Kindergarten - 6th grade)

Students can create structures with things that around them. Left over cardboard boxes, Styrofoam, and toilet paper rolls can be used for building. Tape or glue can be used in order to keep things together and from moving.

Science Rainbow Ice (Kindergarten - 6th grade)

Fill ice cube trays with water and food coloring. Mix primary colors to create new colors. Freeze until hard, and put in a large container with a smaller container containing warm water. Also include tongs, hammers, tongs and turkey basters. As the ice cubes melt discuss what is happening, colors mixing, and temperature of the water. Compare if warm or cold water melts the ice cubes faster. To add a gross motor activity; ask children if they know how water moves, it dances, and when it stops dancing it freezes. Do a quick round of freeze dance before or after this activity.

Melted Crayon (Kindergarten - 6th grade)

Adult supervision will be needed. You will need aluminum foil, card board or card stock, paint, paintbrushes, crayon, and a cheese grater. Each child will need card board or card stock. Then have the students paint the cardboard any design that they want. While the paint is drying, prepare the crayons by peeling the wrappers off. Grate the crayons in the cheese grater to create the shavings that you will need for the project. Sprinkle the crayon shavings all over the painting, leaving some space around the edges. Finally, place the art work in the oven for 5 minutes at 200 degrees. Have students observe how the colors pool together and harden within seconds after they are out of the oven.

Invisible Ink (Kindergarten - 6th grade)

You will need 2 tablespoons of pure lemon juice, colored construction paper, and Q-tips. Soak the Q-tips in the lemon juice so they are fully covered. Then have students write their names on the colored construction paper. When heat is added to the invisible writing, the students will be able to see their



names on the colored papers. Things like candles or lighters can be used to heat up the writing on the papers.

Center of Gravity (Kindergarten - 6th grade)

You will need a dollar bill and a wall. Have students stand with their feet together and heels against the wall. Put the dollar bills on the floor 12 inches in front of your feet. Tell the students to pick up the dollars without bending their knees or moving their feet. It's impossible! When you are standing against the wall, your gravity is centered over your feet. If you bend, you have to move your center of gravity forward to keep your gravity.

Erupting Ice Chalk (Kindergarten - 6th grade)

Things that you will need are cornstarch, baking soda, water, food coloring, ice cube trays, vinegar, and squeeze bottles. The measurement does not have to be exact. Use 1/4 cup of each, squirted some liquid watercolor paint on the mixture, then topped it off with 1/2 cup of water. I mixed well with a spoon then poured the erupting paint mixture into an ice cube tray and stuck the trays in the freezer until today when we had time to paint. The beauty of ice chalk on a hot day is that even without intentionally painting, the colors melt and mark the ground beautifully. If the weather is not hot, use other forms of heat that can be used to melt. Once the ice chalk has sufficiently melted and mixed, it's time to bring out the squeeze bottles of vinegar. If you don't have squeeze bottles you can use spray bottles, cups, bowls, or really any container. Squeeze bottles are just so dang fun, and they have the added benefit of boosting fine motors skills.

Cloud dough (also known as moon dough or moon sand) (Kindergarten - 6th grade)

This is a silky and mold-able dough and takes just two ingredients to make. It's an amazing sensory dough! You will need 1 cup of baby oil and 8 cups of flour. Simply add the [baby oil](#) to 8 cups of flour. Stir well. I used a pastry cutter to mix ours, but a spoon or whisk would be fine. Then you can transfer it to some type of container where your students can access the dough. Let the exploration begin!

Oobleck (Kindergarten - 6th grade)

Read [Bartholemew and the Oobleck](#) by Dr. Suess, before doing this activity with your students, then you're familiar with this fascinating substance. If you haven't, let me enlighten you. Oobleck is a [non-newtonian fluid](#) that changes from liquid to a solid and back again when handled. When you squeeze Oobleck or exert any pressure on it, it seizes up, the substance becomes hard and crumbly mass. When you release the pressure, it morphs into an ooey, gooey, goopy liquid. It's mesmerizing to play with. You will need cornstarch, cold water, and a shallow pan. Start by dumping a generous amount of cornstarch onto a baking sheet. Then pour about a cup of water onto the tray, and I had the kids mix it together with the cornstarch with their hands. Then I poured about a cup of water onto the tray, and have the kids mix it together with the cornstarch with their hands. You'll know the consistency is right when you get there. Your Oobleck will become solid when you squeeze it or push it around on the tray, and it will transform back into an oozing liquid when you release it.

The Look-and-Learn Backyard Scavenger Hunt (Early Education - 2nd grade)

Go outdoors to search for a stone, a flower, a worm, grass, soil, a weed, a branch, a leaf, an evergreen—even an herb or veggie growing in a pot or garden. Use a small pail or bucket for toting items. You can also make picture card sheets of five to ten items maximum to search for. Then mark the items off the sheet as you find. You can challenge yourself to find one or two unfamiliar items—a mossy

Action for Children



patch, an ant colony, or anything else thrilling. Display your finds on a large blanket or picnic table. Celebrate with an outdoor lunch or snack.