FIZZLE BUBBLE POP AND WOW!

Simple Science With Young Children

Here are many of the activities that will be shared with you by Lisa Murphy, M.Ed.

Bubbling Eruption: In a pitcher, mix ½ cup of dish soap, 1 cup of water, ¾ cup of vinegar, & a squirt of liquid watercolor. In a clear bottle put a ½ cup baking soda. Using a funnel, slowly pour the vinegar liquid into the baking soda bottle! Watch what happens!

> *CARBON DIOXIDE GAS! DISH SOAP EXTENDS THE REACTION TIME AND THICKENS THE LAVA*!

Film Canister Pop: Fill a clear film canister about ½ full with water. Drop in an alka seltzer tablet and quickly put the top of the canister back on. Watch it EXPLODE and shoot into the air! When it does, say "Fire in the Hole!"

> *CARBON DIOXIDE GAS FORMED BY THE ALKA SELTER TABLET CREATES ENOUGH PRESSURE TO FORCE THE TOP OFF IN A SMALL EXPOLOSION!*

Cork Lift Off: Pour ¼ cup vinegar into a small bottle. Quickly pour 1 tsp of baking soda into the bottle and top with a tight fitting cork. Aim the cork away from people as you watch the lift off!

> *PROPULSION! VINEGAR AND BAKING SODA CREATES CARBON DIOXIDE GAS AND THIS PRESSURE PROPELLS THE CORK INTO THE AIR!*

Lava Light: Fill a clear plastic cup 1/3 full with water. Add a 1 inch layer of oil. The oil will stay on top of the water. Drip drop a few drops of liquid watercolor into the cup and notice how the colors stay in the layer of oil. Pour some salt into the center of the cup and watch as the colored salt moves through the layers of oil and water!

> *DENSITY! WATER IS HEAVIER (MORE DENSE) THAN OIL, BUT SALT IS HEAVIER THAN OIL AND WATER! THE OIL CLINGS TO THE SALT AS IT SINKS. THE SALT DISSOLVES WHEN IT COMES IN CONTACT WITH THE WATER AND THE OIL IS RELEASED TO FLOAT BACK TO THE TOP OF THE CUP!*

Ooblick: Mix equal parts of cornstarch and water to create this fun gooey suspension!

> *CORNSTARCH AND WATER WILL MIX TOGETHER BUT WILL NOT DISSOLVE – THIS IS A SUSPENSION. BY DEFINITION, A SUSPENSION IS A SUBSTANCE WHICH HAS THE PROPERTIES OF A SOLID AND LIQUID AT THE SAME TIME.*

Rainbow Layers: In a clear plastic cup pour a layer of each of the following liquids: colored green water, blue dish soap, cooking oil and some pink shampoo. Watch as the layers separate out into the same pattern no matter which order you poured them into the cup!

DENSITY! ALL OF THE INGREDIENTS ARE OF A VARYING DENSITY. HEAVIEST (MORE DENSE) LIQUIDS WILL FALL TO THE BOTTOM AND THE LIGHTEST (LESS DENSE) WILL ALWAYS FLOAT ON THE TOP!

Strength Test: Hold a raw egg over a bucket (just incase). Place the egg in the palm of your hand and wrap your fingers around the egg. Squeeze it as hard as you can! What happens?

WHEN WE CRACK AN EGG WE TAP IT ON THE CORNER OF SOMETHING TO GET IT TO BREAK. HOWEVER, WHEN YOU SQUEEZE AN EGG IN THE MANNER STATED ABOVE, THE FORCE AND PRESSURE OF YOUR SQUEEZE IS BEING SPREAD OVER THE WHOLE SURFACE OF THE SHELL AND THEREFORE, IT DOESN'T BREAK!

Best Bubble Solution: The formula is 6 cups water to 2 cups dish soap. Simple and easy! Try blowing bubbles with any or all of the following: tp rolls, berry baskets, 6-pack rings, PVC pipes with some cheesecloth on the end, even your hands!

BUBBLES ARE THE BEST EXAMPLE OF SURFACE TENSION! SURFACE TENSION CAUSES THE SURFACE OF A LIQUID TO PULL TOGETHER AND CREATE A "SKIN" ON THE SURFACE OF THE LIQUID. BUBBLES ARE ACTUALLY THIN BALLS OF LIQUID THAT HAVE AIR TAPPED IN THE CENTER AND ARE HELD TOGETHER VIA SURFACE TENSION

Coffee Filter Science: Using a black marker, draw a big dot in the center of the coffee filter. Fold it over (three times) to make a triangle. Now place the colored tip of the triangle into a small baby food jar that has some water in the bottom. Watch the water flow up the coffee filter and see how the colors separate!

COFFEE FILTERS ARE VERY ABSORBANT AND WATER TRAVELS VERY QUICKLY THROUGH THEM. BLACK MARKERS ARE MADE UP OF MANY PIGMENTS. THE FILTER SOAKED UP THE WATER AND CARRIED THE INK PIGMENTS WITH IT. COLORED PIGMENTS ALL HAVE DIFFERENT RATES OF SOLUABILILTY SO THE VARIOUS COLORS WHICH "MAKE UP" BLACK SEPERATE OUT AND BECOME VISABLE AT DIFFERENT POINTS ON THE FILTER!

Magic Touch Bags: In a large Ziploc bag combine: 5 TBS of cornstarch, ½ cup of water and a few drops of liquid watercolor. Mix it all together. Now add ½ cup of oil, reseal the bag and lay flat on a table for touch exploration! I like to tape it to the table so it stays in one place!

OIL, WATER AND CORNSTARCH WILL MIX AND SEPARATE, THEY WILL NOT STAY TOGETHER. ESSENTIALLY THIS IS ANOTHER EXAMPLE OF A SUSPENSION – HAVING THE PROPERTIES OF A SOLID AND A LIQUID AT THE SAME TIME.

NEW AND IMPROVED FLUBBER RECIPE

1. Mix 2 cups water and 1 cup of glue in a big bowl.
2. Add a squirt of liquid water color and then stir it up.
3. In a separate small bowl mix together: 2 cups water and 4 TBS Borax.
4. After it's completely dissolved, pour the Borax mixture *slowly and a little at a time* into the glue and water mixture. Pour a little, mix it a little, pour a little, mix a little. Mix with your hands or a sturdy wooden spoon. As you mix, it will become a flubber ball! *NOTE: You might NOT need to use all this Borax Solution!!!!!*
5. Store it in an airtight container or ziploc for a few weeks. When it begins to flick apart or when it gets too hard, it is time to make a new batch! Play with it, explore it, try to get it to blow a bubble with a straw! Watch it stretch as you hold it!
6. Vinegar takes it out of clothes, carpet and fabric. Mayo will take it out of hair!

Exploding Colors: Pour a layer of evaporated milk on the bottom of a pie tin. Drip drop some food colors into the milk. Now dip a toothpick into some dish soap (I like Dawn) and touch the soapy toothpick into the center of the drop of color! WOW!

WHEN THE SOAP TOUCHES THE MILK IT BREAKS THE SURFACE TENSION! THIS ALLOWS THE COLOR DROPLETS TO BE INSTANTLY DISPERSED THROUGHOUT THE LIQUID.

Paper Holds Water: Fill a paper cup about ½ way with water. Cover it with a 3x5 card. Press to make a seal. Now, as 1 hand holds the bottom of the cup and 1 hand holds the paper, turn the cup upside down! The paper will seal the water inside the cup!

THERE IS MORE AIR PRESSURE OUTSIDE OF THE CUP THAN INSIDE THE CUP, SO EVEN WHEN UPSIDE DOWN THE WATER WILL REMAIN IN THE CUP!

Balloon Blow Up: Put 1-tsp baking soda into a balloon. Pour ¼ cup of vinegar into a 10-oz. bottle. Now attach the balloon to mouth of bottle… the baking soda in the balloon will slowly fall into the vinegar at the bottom of the bottle! Amazing!

THE CARBON DIOXIDE GAS RISES AND INFLATES THE BALLOON!

T-Shirt Science: You will need rubbing alcohol, sharpie markers, T-shirts, canisters and rubber bands. Draw on the shirts with the markers and drip drop rubbing alcohol over the designs to watch the patterns emerge!

THIS IS A LESSON IN SOLUBILITY, COLOR MIXING AND THE MOVEMENT OF MOLECULES. PERMANENT MARKERS ARE NOT SOLUABLE IN WATER, BUT THEY ARE IN RUBBING ALCOHOL! RUBBING ALCOHOL ACTS AS A SOLVENT AND MOVES THE INK THROUGH THE FABRIC.

Getting the Egg in the Glass: You need the following: a plastic cup, water (to weigh the cup down & to catch the egg!), toilet paper tube, raw eggs (or a small ball), and a pie tin. Put the pie tin on top of the cup. Stand the TP tube in the center of the pie tin and put the raw egg (or ball) on top of the TP tube. Hold the cup with your non-dominant hand to keep it in place, then with your other hand SMACK the pie tin. Your hand will knock the pie tin out from under the TP tube, the TP tube will fly off and the egg (or ball) will drop into the cup of water.

INERTIA! PHYSICS! YOUR HAND ACTS AS AN EXTERNAL FORCE WHICH CAUSES THE PIE TIN AND TP TUBE TO MOVE. HOWEVER, THE EGG IS AT REST AND STAYS AT REST – IT JUST FALLS DOWN INTO THE CUP OF WATER WHILE THE PIE TIN AND TP TUBE FLY OFF THE TABLE!

Things you need to do many of these suggested activities:

3x5 index cards
Alka Seltzer tablets
Baby food jars
Baking soda
Balloons
Black markers
Bottles
Bowls
Broom
Candles
Coffee filters
Cooking oil
Cork
Cornstarch
Cotton t-shirts
Cups
Curling ribbons
Dish soap
Evaporated milk
Film canister
Food coloring
Funnels
Gallon sized baggies
Handkerchief
Hardboiled eggs
Liquid watercolors
Matches
Measuring cups
Measuring spoons
Newspaper
Pie tins
Pink shampoo
Pipettes
Raw eggs
Rubbing alcohol
Salt
Pepper
Sensory tubs
Sharpie markers
Toothpicks
TP tubes
Vinegar
Water
Wooden spoons

Want more? Check out Lisa's book of the same title:
Fizzle Bubble Pop and WOW! Simple science for young children!

STALKERS WELCOME!

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Instagram: @OoeyGooeyLady

Twitter: @OoeyGooeyLady

YouTube: OoeyGooeyLady

Podcast: "Child Care Bar and Grill" (free wherever you like to listen

DVDs and BOOKS: All of Lisa's materials are available from Redleaf Press (800) 423-8309 https://www.redleafpress.org/Search.aspx?k=lisa+murphy

Where do they get that stuff??

We know there are lots of places to get cool stuff! Here are some suggestions if you aren't sure of where to find certain materials and supplies!

Art Supplies: *www.discountschoolsupply.com*
www.lakeshorelearning.com

CANADA: *www.teachers.scholarschoice.ca* (800) 265-1095 and *www.wintergreen.ca* (800) 268-1268

Bubble Wrap Local packing Supply Stores or try Uline Shipping
https://www.uline.com/BL_470/Uline-Economy-Air-Bubble

CANADA: *https://www.uline.ca/BL_470/Uline-Economy-Air-Bubble*

Chalk Spinners *https://kodokids.com/product/chalk-spinner-blue/*

Coffee Filters Amazon: search for "18-inch coffee filters" (or larger!)

Discount School Supply *www.discountschoolsupply.com*
(800) 627-2829 They call them TEXAS FILTERS

CANADA: Wintergreen sells them *www.wintergreen.ca*
(800) 268-1268

Canadian Restaurant Supply *http://www.crs-online.ca/home.php*

Glue We get our Glue from Discount School Supply (800) 627-2829
www.discountschoolsupply.com

CANADA: *www.teachers.scholarschoice.ca* (800) 265-1095 and *www.wintergreen.ca* (800) 268-1268

Liquid Watercolor Discount School Supply *https://www.discountschoolsupply.com/arts-crafts/paint-paint-tools/watercolor/colorations-classic-colors-liquid-watercolor-paints-8-oz---set-of-13/p/117* (800) 627-2829

CANADA: Scholars Choice sells it ON LINE:
https://www.scholarschoice.ca/8-oz-237ml-colorations-liquid-watercolour-paint.html
Phone: (800) 265-1095

Magnet Marbles/Wands Try a local school supply store or educational toy store.
Discount School Supply *www.discountschoolsupply.com*
(800) 627-2829

CANADA: *www.teachers.scholarschoice.ca* (800) 265-1095

Paint (Tempra) Discount School Supply *www.discountschoolsupply.com*
(800) 627-2829 I use **Simply Washable Tempra**

CANADA: Scholars Choice *https://www.scholarschoice.ca*
(800) 265-1095 and Wintergreen *www.wintergreen.ca*
(800) 268-1268 both sell various types of paint *but I cannot vouch for the true washability of their tempras!*

Paper Discount School Supply *www.discountschoolsupply.com*
(800) 627-2829

CANADA: Scholars Choice *https://www.scholarschoice.ca*
(800) 265-1095 and Wintergreen *www.wintergreen.ca*
(800) 268-1268

Pasta (to color) Local grocery stores and bulk stores such as: Sam's Club, BJ's, CostCo, or Smart and Final. Check out your local restaurant supply store too.

CANADA: if you can't find large quantities locally check out:
www.bulkfoods.com

Pipettes Amazon sells them, or you can try ULINE in either the USA or Canada. They are typically called LIQUID TRANSFER PIPETTES.