

# Oil and Water Experiments

\*\*One of our absolute favorites from last year!!!

\*\*

- Materials:
  - Cups or test tubes
  - Water
  - Oil
  - Food coloring
  - Sugar, salt, flour, corn syrup, vanilla,
- Steps:
  - Fill cups with water and then a layer of oil
  - Experiment with different items and see what happens when you add them on top
    - Which ones float? Sink? Release bubbles?
    - Try shaking up the tubes and seeing what happens afterward



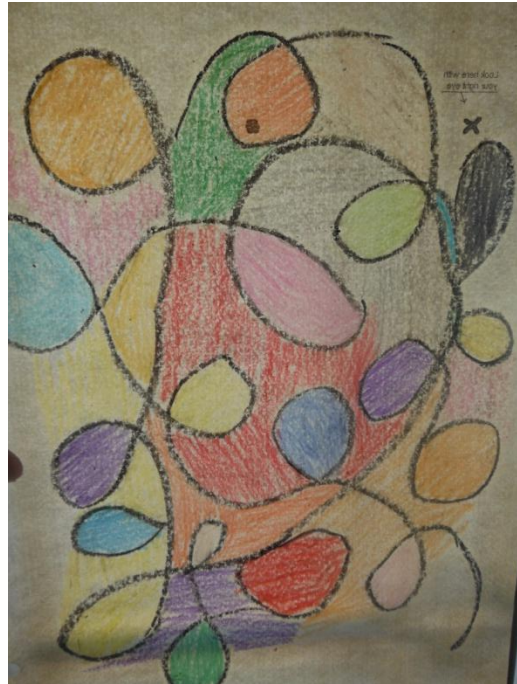
# Gak!

- Messy, slimy, slippery..what's more fun?!
- Materials:
  - Bowl
  - Glue
  - Liquid starch
  - Food coloring
- Steps:
  - In a bowl mix together equal parts of glue and starch.
  - Add food coloring if desired.
  - Play with Gak and discuss its properties.
    - What does it look like? Feel like?
    - Can you form shapes?

# Crayon Stained Glass

- Materials:

- Crayons
- Oil
- Cotton balls
- Paper



- Steps:

- Draw a picture using thick black outlines and colored in with crayon
- On the back dip a cotton ball in cooking oil and run it over the whole surface
- Hang your picture in the window!

# Ivory Soap

- Materials:

- Ivory Soap
- Microwave
- Plate
- Paper towels
- Water



- Steps:

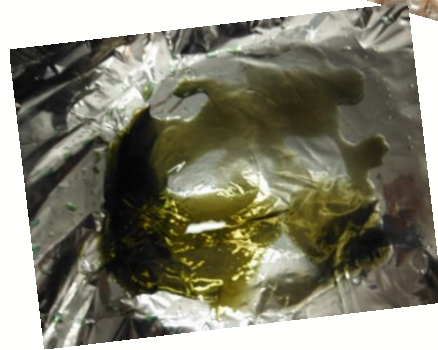
- Microwave Ivory Soap for no longer than 2 minutes
  - What happens? The soap has a lot of air mixed in, do you think this is why?
- After cooling, touch the soap
  - What does it feel like?
- Mix soap, some torn up paper towels and a little water to create a fun dough from the soap!



# Tug O' War

- Materials:

- Water
- Foil
- Rubbing alcohol
- Dropper
- Food coloring



- Steps:

- Drop a **very** thin layer of water on the aluminum foil. (Less messy version: use a foil sheet pan with foil laid in it)
- Add food coloring in any combination as long as it is dark
- Put rubbing alcohol in small cup and use dropper to see what happens when it touches the water
  - It pulses! See if you can split the water!
  - The pictures do not do it justice- its very cool to see in person

# Sticking Cup

- Looking for a cool party trick: Challenge your friends to see if they can get a cup to stick to a balloon!

- Materials:

- Balloon
- Cup



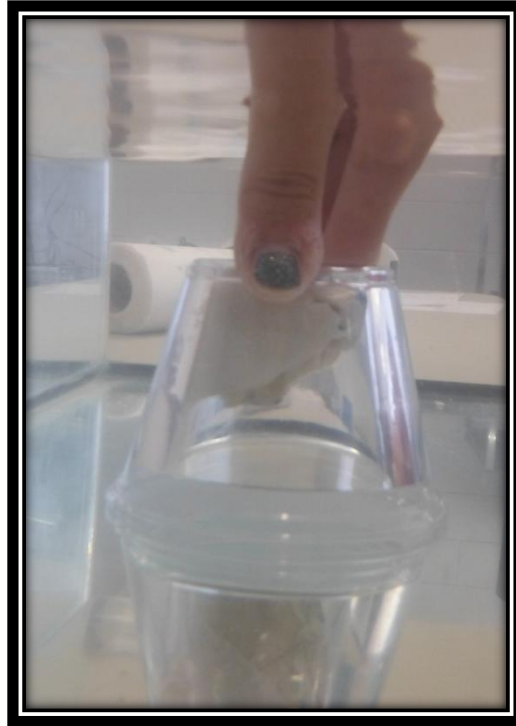
- Steps:

- Blow up the balloon about 1/3 of the way
- Stick the cup and hold on with one hand
- Blow up the balloon the rest of the way!

# Invisible Shield

- Materials:

- Cup
- Papertowel
- Tub
- Water



- Steps:

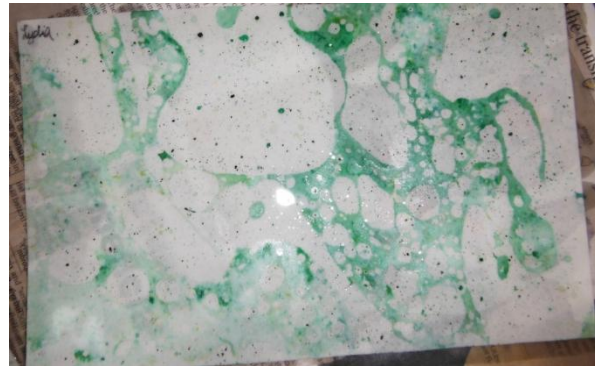
- Bunch up papertowel in bottom of cup (if necessary use tape)
- Fill tub up with water
- Flip cup **straight** upside down and dunk in water!
  - What happened to papertowel?
  - It didn't get wet because there is air in the cup – the water

# Oil and Water on paper

- A fun craft mixed with science?!

- **Materials:**

- Food coloring
- Water
- Oil
- Tub
- Paper



- **Steps:**

- Fill tub  $\frac{1}{2}$  way with water. Add food coloring to desired color
- Put oil in a separate cup. Mix in food coloring as well.
  - What does it look like? What happens when you mix it?
- Put some oil in the water. Using a fork or toothpick to mix it.
- Lay the paper on top until you see the bubbles and then lift it off. Put it on newspaper to dry.





# Density Tower

- Students play a huge role in this science investigation!  
😊

- **Materials:**

- Test tube, water bottle, or glass
- Dish soap
- Syrup
- Honey
- Water
- Rubbing alcohol
- Food coloring
- Cooking oil



- **Steps:**

- Dye the water and rubbing alcohol two different colors so they are easily visible.
- Put the different liquids in the container in any order you choose
  - What do the levels look like?
  - Which ones are above water? Which ones are below?
- What happens when you add salt to the top
  - Did you see bubbles? Where does the salt settle?

# Color Dance

- Materials:

- Milk
- Shallow pan
- Food coloring
- Q-tips
- Dish soap



- Steps:

- Fill the pan a little bit up with milk.
- Add food coloring in different spots in the milk
- Dip a toothpick in dish soap and put it in the middle of the milk.
  - What happens?
  - Try it on the side- what happens then?

# Glowsticks



- Materials:
  - Glow sticks
  - ADULT HELP
- Steps:
  - We examined what was inside a glowstick. 2 different liquids- a clear and a tube with another liquid.
    - The liquids combine when you break a glowstick
  - We put the 2 liquids in 2 separate cups then mixed them together. We experimented with mixing colors!
  - Glowsticks should only be handled by adults- most are non-toxic but carefully read the instructions and wear gloves when handling.
    - I mixed glowsticks with Harry Potter potion, its like a glowing lava lamp!

# Baking Soda and Vinegar

- Great for younger ages, or anyone that LOVES to play!
- Materials:
  - Dropper
  - Vinegar
  - Food coloring
  - Baking soda
  - Pie pan
- Steps:
  - Put a layer of baking soda in the bottom of the pan.
  - Fill some cups with a little vinegar and add different colors of food dye
  - Use droppers to put vinegar on baking soda and watch what happens!



# Painting with M&Ms

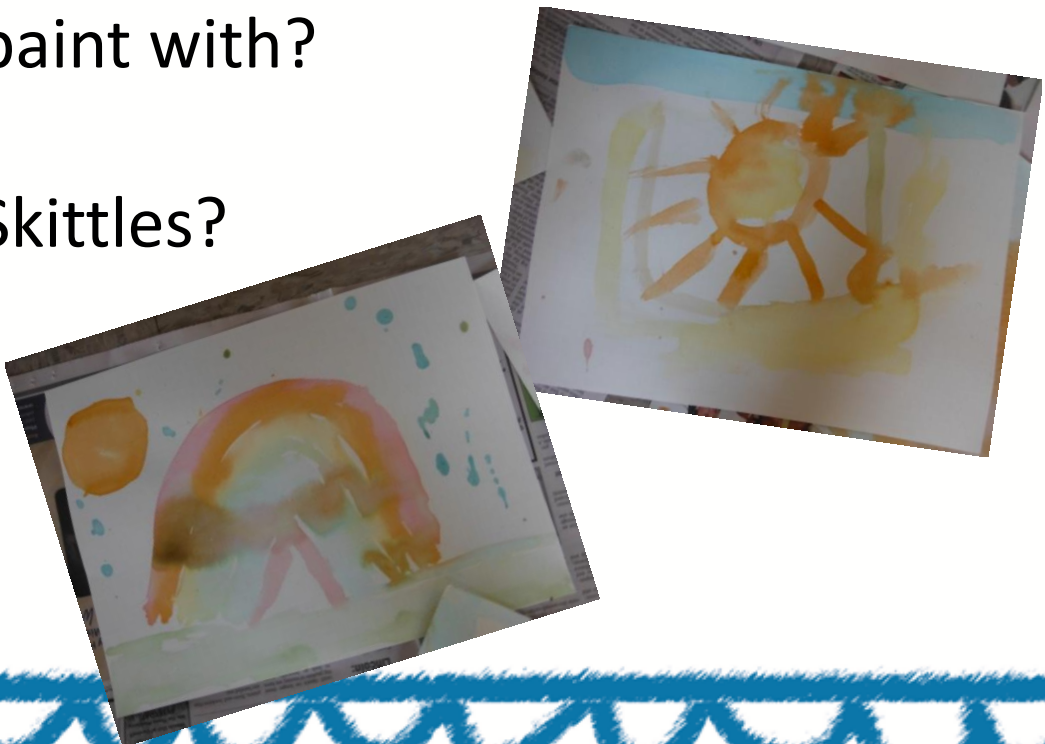
Put M&Ms in a little bit of Water and use paintbrushes to Paint.



It gives your paintings a nice shine

What other candies could you paint with?

Skittles?



# Static Electricity Experiments

- 1. Charge a balloon and see which of these things you can pick up:
  - Cornstarch
  - Salt and pepper (together)
  - Cinnamon
  - Rice Krispies
  - Anything other lightweight you want to try
- 2. Charge a comb or balloon and see if you can bend a stream of water
- 3. Charge balloons and use them to race aluminum cans without touching



# Glow in Dark Slime

- Materials:

- Borax
- Water
- Bowls
- Food coloring
- Glow in Dark Paint
- Glue



- Steps:

- Solution 1: 1 tsp Borax and 1 cup warm water
- Solution 2: ½ cup water and ½ cup glue + food coloring or paint
- Mix 2 solutions together, first with spoon and then by hand
- Turn off the lights and enjoy!

# Oil Bubbles



- Layer rubbing alcohol (colored) over water. See how one stays on top of other.

- Using a dropper layer in some oil...where does it go?

It stays in the droplet form and looks pretty cool



# Naked Egg Experiment

- Materials:

- 2 eggs
- Vinegar
- Water
- Cups



- Steps:

- Fill 2 cups with water and vinegar.
- Drop eggs in! Leave for a couple days
  - Make observations every day
  - What other liquids would you like to test?
  - What happens to the egg in vinegar- its shell dissolves and it becomes a little bouncy

# Lava Lamps

- Materials:

- Oil
- Water
- Baby food jar
- Food coloring
- Alka Seltzer Tablets



- Steps

- Fill botter  $\frac{1}{2}$  way with oil and the other half with water
- Add food coloring
- Drop in Alkasetzer tablets and watch the bubbles

