

GET ACTIVE BOOKLET: SCIENCE

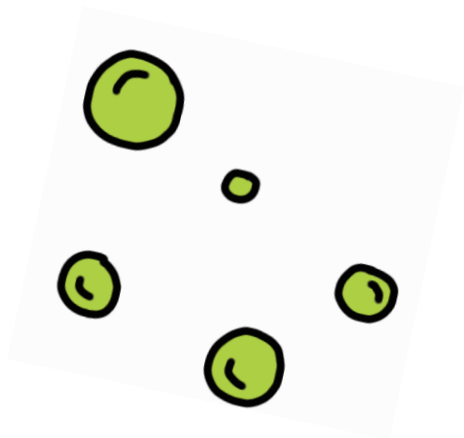


Filled with intriguing experiments for
ages 4-6+

Skip the electronics and find new ways to have fun!

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Girl Scout Gold Award Project
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Please enjoy these quick and easy activities for
kids AND parents!

These activities require little prep work and
easily accessible materials.

Take a break from technology with these ex-
periments and learn something new and take
the time to **make new memories!**



How Do Whales Stay Warm?

Ever wonder how animals that live in the freezing cold ocean stay warm?

Materials

- Large bowl
- Crisco
- Cold water
- Ice



Well, they have a thick protective layer of fat called blubber!



What else can blubber do?

- Store energy they need to keep warm
- Help them float like a raft



??
GUESS WHAT? ??

Blubber can be as thick as **ONE FOOT!**



Lets see how blubber works!

STEP 1: Place your hand in a bowl of cold water.

How long can you keep your hand in there?



STEP 2: Cover your finger in Crisco and place it in the bowl of ice water.

How long can you keep it in there now?



Why can I keep my hand in the water longer with the Crisco on it?

The Crisco acts like a water proof blanket, keeping your finger warm. A big word for this is an insulator.



How Do Clouds Make Rain?

Materials

- Clear cup
- Shaving cream
- Food coloring

STEP 1: Fill cup with water about 1 inch from the top.

STEP 2: Cover the top of water with shaving cream. It will look like a cloud. :)



STEP 3: Drop food coloring slowly on the shaving cream until the color starts to bleed through the “cloud” and fall like rain.



Extension:
Try with different colors and make a rainbow!!



? ? ?
Guess What?

Fog is a cloud close to the ground!



Next time it rains. . . .



Jump in a puddle!



Look for worms!



Race boats in the water!



DID YOU KNOW?

Water is as old as dinosaurs!

Pepper Burst!

What could make boring pepper flakes fun?

LET'S FIND OUT!

Materials

- Water
- Dish Soap
- Pepper
- Bowl/or Pie tin

STEP 1: Fill bowl or pie tin with an inch of water.



STEP 2: Shake some pepper on the water.



STEP 3: Dip your finger in soap.



STEP 4: Gently touch the surface of the water with your soap covered finger.



What happens?

The pepper darted away from the soap, right?!



But Why?

Water is like the surface of a trampoline, and how much it goes down when you jump on it.

Touching the water with soap creates little waves on the surface, carrying the pepper flakes across the surface of the water to the sides of the bowl.



DID YOU KNOW?

Dawn soap helps remove oil off of birds!

Deep Diving!

What is it like to dive deep
into the ocean?
To see stunning colorful
animals?

Materials

- Ketchup Packet
- Water Bottle
- Water

STEP 1: Find ketchup packet.

STEP 2: Place in a glass of water to see if it floats.



STEP 3: Fill up a water bottle with water.



STEP 4: Place the ketchup packet inside.

STEP 5: Twist the cap on tightly.



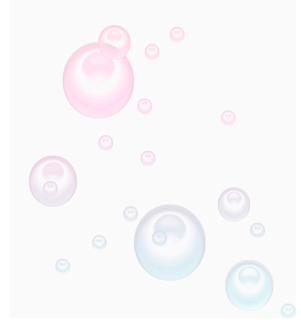
STEP 5: Squeeze the water bottle.

STEP 6: Watch what happens!



What happens?

The ketchup packet floats down to the bottom of the bottle when you squeeze it, right?!



But Why?

There is an invisible secret air bubble inside the packet. Like blowing up a balloon, air takes up space!



Extension:

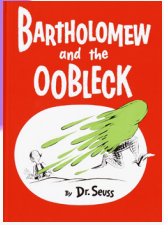
What do you think would happen with a mayo packet?
Or TWO ketchup packets?
What would happen if you squeeze the bottle **really** fast?



DID YOU KNOW?

Ketchup can polish pennies to make them sparkly and new!

Oobleck



Get ready for some eewey
gooey messy fun with
some Dr. Seuss Oobleck

Materials

- 1/2 cup of water
- 1 cup of corn starch
- bowl/container

STEP 1: Put the corn starch in the bowl.

STEP 2: Using your hands, slowly mix in water, until all the cornstarch is wet.

STEP 3: Mix in food coloring!



Now, time to experiment with your oobleck!

Store in a ziplock bag for later fun!

Experiment!

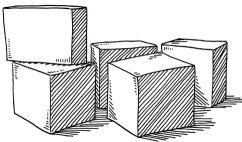
What happens when you squeeze it?
what happens when you poke it?

Solid or Liquid?



So which is it? Solid? or Liquid?

SOLID



LIQUID



WHAT NOW?

Find more about oobleck from Dr. Seuss in his book:
[Bartholomew and the Oobleck](#)

Be Sly Like a Spy

Be sly like a spy and learn to write invisible messages!

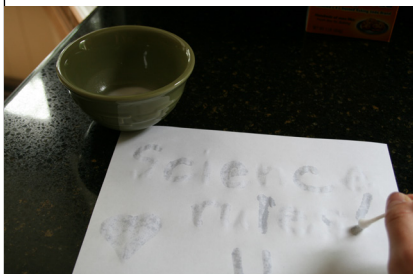
Materials

- Baking Soda
- Rubbing Alcohol
- Turmeric
- Paper
- Bowl
- Q-tip

STEP 1: Stir 1 Tbsp of baking soda and 1 Tbsp of water in a bowl.



STEP 2: Dip Q-tip into mixture.



STEP 3: Write spy message on paper.

STEP 4: Let paper dry.

STEP 5: Brush off excess baking soda.

STEP 5: Mix 3 Tbsp of Rubbing Alcohol and 1/2 tsp of Turmeric in bowl.



STEP 6: Paint mixture over paper to reveal message



Reveal the secret messages!

Another way to make a secret message is to hide it with a code

Each number represents a letter in the alphabet. To find the secret message, write down the letter that each number matches up to.

$\frac{W}{23}$ $\frac{E}{5}$ $\frac{\quad}{12}$ $\frac{\quad}{3}$ $\frac{\quad}{15}$ $\frac{\quad}{13}$ $\frac{\quad}{5}$
 $\frac{\quad}{19}$ $\frac{\quad}{16}$ $\frac{\quad}{25}$ $\frac{\quad}{11}$ $\frac{\quad}{9}$ $\frac{\quad}{4}$ $\frac{\quad}{19}$!

Try it out with this message using the key below!

CHALLENGE: Write your own secret message with the key

First: Write your message.

Second: Match each letter to the number on the key.

KEY

A	B	C	D	E	F	G	H	I	J
1	2	3	4	5	6	7	8	9	10

K	L	M	N	O	P	Q	R	S	T
11	12	13	14	15	16	17	18	19	20

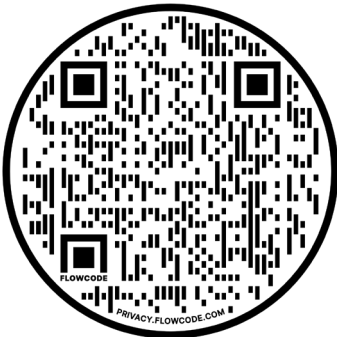
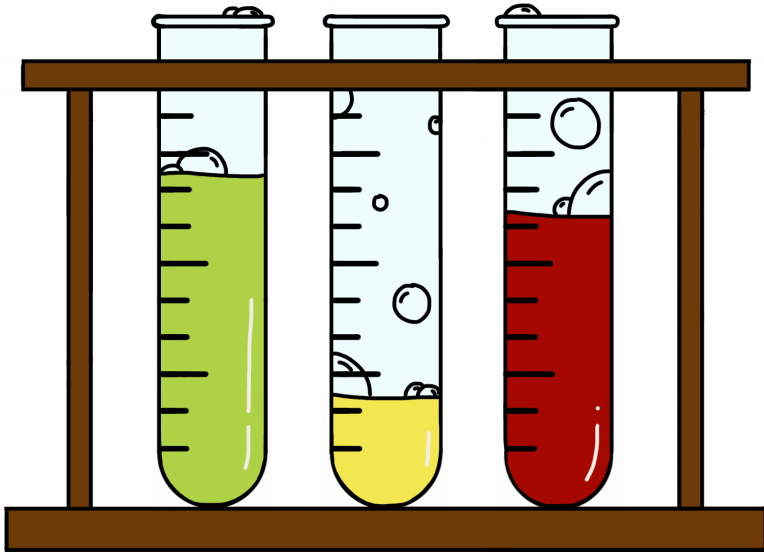
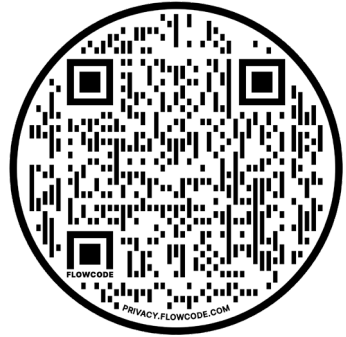
U	V	W	X	Y	Z
21	22	23	24	25	26

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