

# Are you sick of using your science textbook? Chances are your students are bored, too! Give students opportunities for hands-on fun!

Don't spend any more time planning, searching, or brainstorming. Everything you need is in this easy to use download!

Which liquid allows the gummy bears to grow the most?

**Materials**

- 3 gummy bears (same color)
- Three bowls
- 1 cup of water
- 1 cup of salt water
- 1 cup of soda

**Procedure**

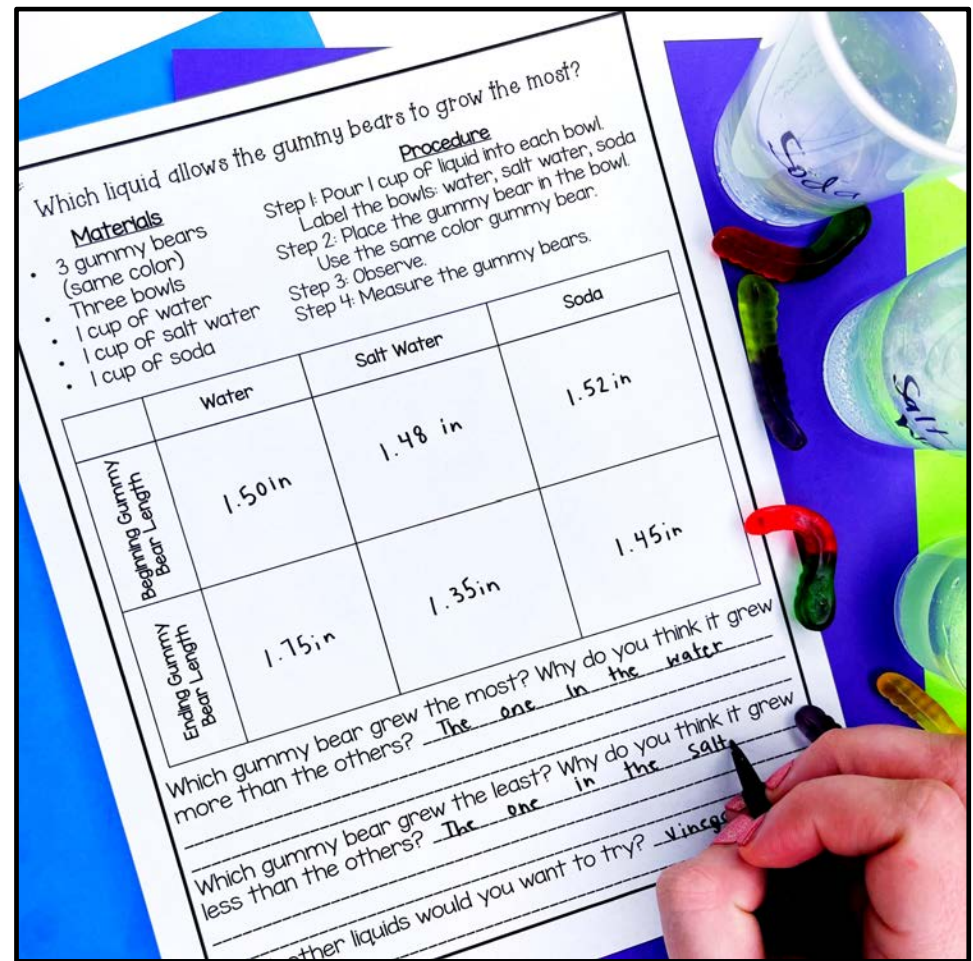
Step 1: Pour 1 cup of liquid into each bowl  
Label the bowls: water, salt water, soda  
Step 2: Place the gummy bear in the bowl.  
Use the same color gummy bear.  
Step 3: Observe.  
Step 4: Measure the gummy bears.

	Water	Salt Water	Soda
Number of Gummy Bears	1.50 in	1.48 in	1.52 in
Number of Gummy Bears	1.75 in	1.35 in	1.45 in

Which gummy bear grew the most? Why do you think it grew more than the others? The one in the water

Which gummy bear grew the least? Why do you think it grew less than the others? The one in the salt

Other liquids would you want to try? Vinegar



# Apple Volcanoes

## Materials

- Baking soda
- Vinegar
- Dish or container to catch the fizz
- Knife to cut center from apple
- Apples (green and red)

## Procedure

- Step 1: Cut a hole in the top of each apple.
- Step 2: Put equal amount of baking soda in each apple.
- Step 3: Pour vinegar into each apple and watch it fizz.

Sketch	Red Apple	Green Apple

Which apple reacted more?  
What would happen if you put more baking soda in the apple?



# Science Experiments and Activities for:

- Beginning of School Year
- Halloween
- Thanksgiving
- Christmas
- Winter
- Year Round
- 100<sup>th</sup> Day of School
- Valentine's Day
- St. Patrick's Day
- Easter
- Summer

Which liquid allows the gummy bears to grow the most?

**Materials**

- 3 gummy bears (same color)
- Three bowls
- 1 cup of water
- 1 cup of salt water
- 1 cup of soda

**Procedure**

- Step 1: Pour 1 cup of liquid into each bowl.  
 Label the bowls: water, salt water, soda.  
 Step 2: Place the gummy bear in the bowl.  
 Use the same color gummy bear.  
 Step 3: Observe.  
 Step 4: Measure the gummy bears.

	Water	Salt Water	Soda
Beginning Gummy Bear Length	1.50 in	1.48 in	1.52 in
Ending Gummy Bear Length	1.75 in		1.45 in

Which gummy bear grew the most? Why do you think it grew more than the others? The one in the water

Which gummy bear grew the least? Why do you think it grew less than the others? The one in the salt.

Other liquids would you want to try? Vinegar, juice




# Tips for Implementing Hands On Science Experiments in Your Class

- Tip #1: Give students time to explore materials. This will cut down on play time during the experiment.
- Tip #2: Have small group sizes. Everyone will be involved and take an active role in the experiment.
- Tip #3: Try the experiment ahead of time.
- Tip #4: Choose the right activity for your students. You don't have to do every experiment. Pick the ones that fit your class.
- Tip #5: Assign roles to students such as a recorder, materials manager, etc.

Name: \_\_\_\_\_

What liquid cleans pennies the best?  
What liquid do you predict will clean pennies the best? Why do you think that? Vinegar because it is acidic

	Liquid #1	Liquid #2	Liquid #3	Liquid #4
Before Sketch	Vinegar 	Soda 	Vinegar & Baking Soda 	Water 
After Sketch				

What cleaned pennies the best?  
Soda

Why do you think it cleaned pennies the best?  
It creates a reaction.

and baking

pennies the best?  
and was

# Teachers Like You Say:

★★★★★ "As a first time teacher of science, I was so happy to find this resource with simple activities using everyday household items that I could easily find to implement in the classroom with my students for science hands on experiments."

★★★★★ "The students LOVE the days we do one of these experiments!"

Baking Soda

Great For Baking, Cleaning & Deodorizing

NET WT 16 OZ (1 LB) 454g

# Exploding Baggies!

Name \_\_\_\_\_

## Materials

- Zipper storage baggies (sandwich size)
- Vinegar
- 3-4 squares of toilet paper
- Baking Soda

## Procedure

- Step 1: Put 1 tablespoon of baking soda in the center of the toilet paper. Fold the sides of the toilet paper in to make a "time-release packet".
- Step 2: Pour 1/2 cup of vinegar into the baggie and set it aside.
- Step 3: Read all of this step BEFORE you do it. You need to drop the time-release packet into the vinegar and zip the bag closed before the fizzing gets crazy. You can do this a couple of ways: zip the bag partially closed, throw in the packet, then zip the rest of way closed OR you can put the time-release packet into the mouth of the bag, hold it out of the vinegar by pinching the sides of the bag, zip the bag, then let the packet drop into the vinegar.

What happened to the baggie when you dropped the baking soda into the vinegar? It began to fizz and expand

What would happen if you put more baking soda in the baggie? The reaction would be larger.

What was created when you put the baking soda into the vinegar? chemical energy



# WHICH GLUE STICK BRAND WORKS THE BEST?

- Procedure:
1. In order for this experiment to be valid, you'll want to make sure you keep as many variables the same as possible. You'll want to use the same paper, the same amount of glue, the same places you place the glue, etc.
  2. Place glue in the four corners + together. Repeat for all the papers
  3. Leave in one place to dry together the
  4. Once the papers are together the



- Materials:
- 3 Different Glue Stick Brands
  - Paper

ive stuck  
low.

Brand #3:

Cra-z-art

ages

ra

+



Name:

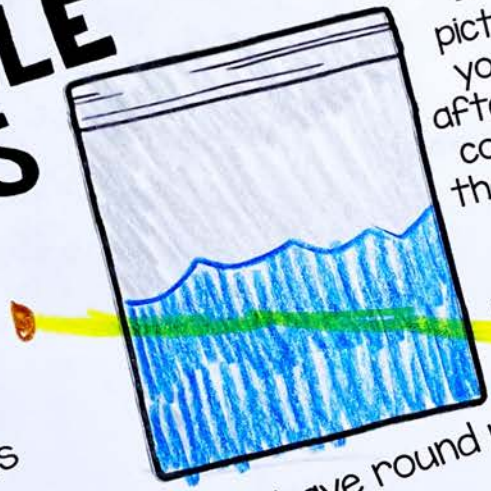
# UNPOPPABLE BAGGIES

## Materials:

- Water
- Ziploc Baggies
- Sharp, round pencils

## Procedure:

1. Before beginning, make sure you have round pencils that have been sharpened.
2. Fill a Ziploc Baggie half way with water. Seal the bag closed.
3. STOP! Make a prediction. What do you think will happen when you push a pencil through the bag of water?  
I predict water will come out of the bag.
4. Hold the top of the bag with one hand. Push the pencil right through one side and halfway out the other. Be careful not to push the pencils all the way through the holes or you'll end up with a mess on your hands!
5. If you are feeling brave, try this with as many pencils as possible.



Draw a picture of your bag after you've completed these steps!

observe happen? The pencil went  
bag, but water did not  
to an experiment?

Name: \_\_\_\_\_

# TALLEST AND STRONGEST CUP TOWERS

## Materials:

- Cups
- Measuring Tape
- Textbooks

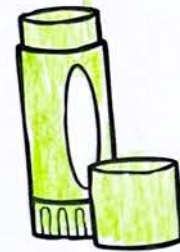
## Procedure:

1. Your goal is to create two different towers. First, you'll build the tallest tower possible using the cups given to you. Then, you'll take those same cups and create a tower that can hold the most weight.
2. Before beginning, take a few minutes to draw a plan for each of the towers below. Remember, you can't use tape, scissors, or any other supplies.
3. You'll now have 10 minutes to create the tallest tower. If it doesn't exactly match your plan, that's okay. You may need to make adjustments as you go. If you finish before time is called, try to make the tower even taller.
4. Measure and record the height of the tower. Also, draw a quick sketch of what your tower actually looked like at the end of the building time.
5. Now, you'll take those same cups and build a tower that can hold the most weight. Your tower needs to be more creative than just leaving the cups stacked. You'll have 10 minutes to create the strongest tower. Draw a quick sketch of the tower once it's finished.
6. Once time is called, set textbooks (one at a time) on top of your tower. Record the number of books that your tower could hold before crashing.

	Tallest	Strongest
Plan for Tower		
Final Tower		
	How tall was your final tower? _____	How many books could your tower support? _____
	What was the height of the tallest tower in your class? _____	How many books could the strongest tower in your class hold? _____

Name: \_\_\_\_\_

# WHICH GLUE STICK BRAND WORKS THE BEST?



## Procedure:

1. In order for this experiment to be valid, you'll want to make sure you keep as many variables the same as possible. You'll want to use the same paper, the same amount of glue, the same places you use the glue, etc.
2. Place glue in the four corners to glue two papers together. Repeat for all three brands.
3. Leave in one place to dry.
4. Once the papers are dry, observe which ones have stuck together the most. Record your observations below.

## Materials:

- 3 Different Stick Brands
- Paper

	Brand #1: <u>Scholastic</u>	Brand #2: <u>Elmer's</u>	Brand #3: <u>Cra-z-art</u>
Observations	pages were stuck together, but some separation	no separation	pages separated a lot

What glue stick brand will you want to use in the future?

Elmer's Why? It is the strongest

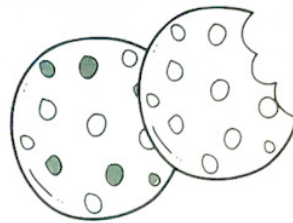
What do you think causes the differences?

Their ingredients.

What control variables did you keep experiment? \_\_\_\_\_

Name: \_\_\_\_\_

## What Cookie Will Dissolve First in Milk?



### Materials

- 3 cups
- Milk
- 3 Different Types of Cookies
- Timer

### Procedure

- Step 1:** Pour the same amount of milk in the three cups.
- Step 2:** Place one cookie in each cup at the same time and start the timer.
- Step 3:** Record your observations below.

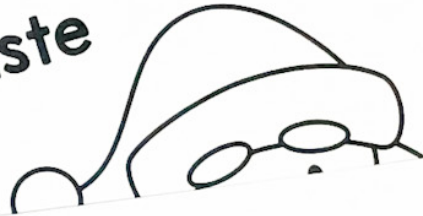
What cookie do you think will dissolve first in the milk? Why?

	Cookie #1	Cookie #2
Observations		
Time + Dissolved		

What cookie dissolved the fastest in the milk? Why do you think that happened?

Which cookie would you want to dip in milk? Why?

# Santa's Toothpaste



Name: \_\_\_\_\_

## Create Your Own Edible Ornament!



### Materials

- ½ cup of hyd
- 1 tablespoon
- 3 tablespoon
- Green food
- 1 tablespoon
- 2-Liter bo
- Small cup
- Measuring

### Materials

- 1 ½ tablespoons of butter
- 2 cups of miniature marshmallows
- 3 cups of Rice Krispies Cereal
- Candy
- Saucepan
- Stovetop Burner
- Measuring Cups & Tablespoon

### Procedure

- Step 1: Add
- Step 2: Ad
- Step 3: Ir
- Step 4: F

### Procedure

- Step 1: In a large saucepan, melt butter over low heat.
- Step 2: Add marshmallows and stir until completely melted.
- Step 3: Remove from heat.
- Step 4: Add cereal. Stir until well coated.
- Step 5: Using wax paper, evenly press mixture into a pan coated with cooking spray. Let it cool. Write your observation below.
- Step 6: Roll Rice Krispies into a sphere shape and decorate your Rice Krispies Ornament with candy!

Observations (Remember to use your senses, but not taste):  
\_\_\_\_\_  
\_\_\_\_\_  
\_\_\_\_\_ combined the

**Baking Soda**  
Great For Baking,  
Cleaning & Deodorizing  
NET WT 16 OZ (1 LB) 454g

Name: \_\_\_\_\_

# CREATE A GHOST BALLOON

## Materials:

- White balloon
- Black sharpie
- Empty water bottle
- Vinegar
- Baking Soda

## Procedure:

1. Draw eyes on the white balloon using the black sharpie.
2. Add 2 tablespoons of baking soda to the balloon.
3. Add 1 cup of vinegar to the empty water bottle.
4. Secure the balloon on top of the water bottle, but be sure to not let any of the baking soda fall out of the balloon yet.
5. Quickly lift up the balloon, shaking out the baking soda into the vinegar in the bottom of the water bottle. Be sure to keep the balloon attached to the water bottle, though.



What did you observe happen? The balloon inflated

Turn this into an experiment? Try different  
soda and vinegar



Name: \_\_\_\_\_  
**Create Your Own Edible Ornament!**



- Materials:**
- 1 ½ tablespoons of butter
  - 2 cups of miniature marshmallows
  - 3 cups of Rice Krispies cereal
  - Candy
  - Saucepan
  - Stovetop Burner

**Process:**

1. In a large saucepan, melt butter over low heat.
2. Add marshmallows and stir until completely melted.
3. Remove from heat.
4. Add cereal. Stir until well coated.
5. Using wax paper, evenly press mixture into pan coated with cooking spray. Let it cool. Write your observations now.
6. Roll Rice Krispies into sphere shape and decorate your Rice Krispie Ornament with candy!

**Observations:**

The consistency & appearance changed

How did the mixture change after you mixed the ingredients?  
 It became sticky & malleable

Could you change this investigation into an \_\_\_\_\_  
 \_\_\_\_\_ cereals



# LIQUID WILL DISSOLVE LUCKY CHARM MARSHMALLOWS THE MOST?

Procedure:  
 Label the cups to match the liquid that you'll put in them.  
 Place one marshmallow in each of the three cups.  
 Pour ½ cup of liquid in each cup to match the label.  
 After 5, 10, and 15 minutes, use the spoon to pick up the marshmallow. Carefully place the marshmallow back in the container and wipe off the spoon. Record your observations in the chart below.

4. Repeat for each marshmallow.

- Materials:
- 3 different liquids
  - 3 clear cups
  - 3 marshmallows
  - Spoon
  - Timer
  - Paper Towels

	Liquid #1: <u>Vinegar</u>	Liquid #2: <u>Salt water</u>	Liquid #3: <u>Water</u>
5 minutes	partially dissolved	partially dissolved	partially dissolved
10 minutes	completely dissolved	almost completely dissolved	almost completely dissolved
15 minutes		completely dissolved	completely dissolved

In which liquid did the marshmallows dissolve the most?  
 Why do you think it dissolved more there?  
 because it is acidic.  
 Which liquid would you use to clean up a spill?



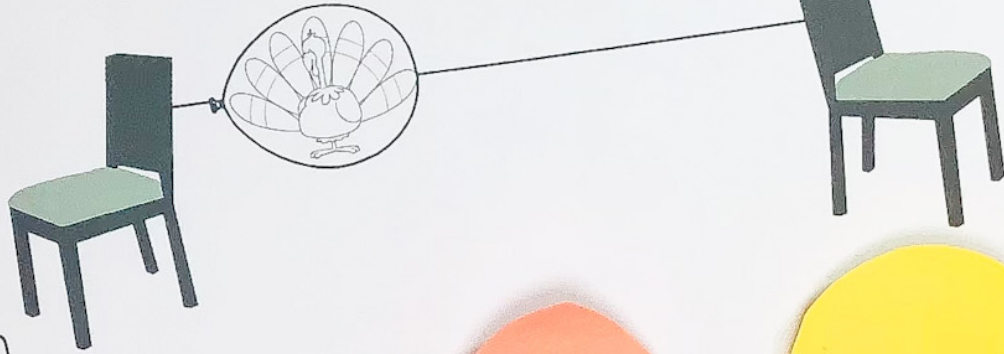


Name: \_\_\_\_\_

# Turkey Balloon Rockets

## Materials

- Yarn
- Balloons
- plastic Straw
- Tape
- Scissors
- 2 Chairs
- Construction Paper
- Feathers



## Procedure

1. Create a turkey with construction paper.
2. Tie or tape the yarn to the back of the first chair and the straw onto the other side of the yarn on the second chair. Make sure the turkey is in the middle.
3. Attach the turkey to the straw.
4. Inflate the turkey balloon.
5. Pull the turkey to the straw. Watch it fly!

Does the air travel?  
travels? \_\_\_\_\_

How can you change this?  
\_\_\_\_\_

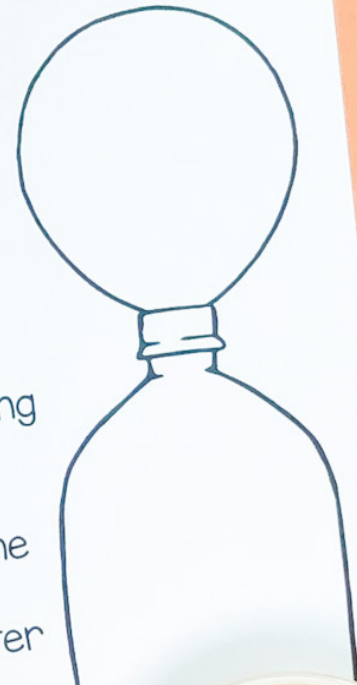
How can you revise your  
\_\_\_\_\_

Name: \_\_\_\_\_

# CREATE A PARADE FLOAT

## Materials:

- Balloons
- Colored Sharpies
- Empty Water Bottle
- Vinegar
- Baking Soda



## Procedure:

1. Create your own parade float by drawing on the balloon using colored Sharpie markers.
2. Add 2 tablespoons of baking soda to the balloon.
3. Add 1 cup of vinegar to the empty water bottle.
4. Secure the balloon to the top of the water bottle, but not letting any of the baking soda fall into the bottle yet.
5. Quickly lift the water bottle, shaking out the baking soda into the vinegar. Be sure to keep the bottom of the water bottle at the bottom of the water. Keep the balloon at the top of the water bottle, though.

What did you observe during the experiment?

How could you change the experiment?


# Snowball Catapult

Name: \_\_\_\_\_



## Task:

Using the materials on the table, you will create a snowball catapult. Plan with your team how you will use the materials, build the catapult, test it, discuss strengths and weaknesses, then revise the catapult.

Sketch	Brainstorm	Final Catapult
		

What are the strengths of the catapult you built?

What are the weaknesses of the catapult you built?

How can you revise your catapult to make it stronger?

If you were given a chance to do this again with your team, what would you do differently?

Name: \_\_\_\_\_

## Melting Hands



### Task:

You have been given a frozen hand. It is your job to melt the ice without touching it with your hands. Use the stopwatch to time how long it takes you.

	Strategies That Worked	Strategies That Didn't Work
Observations		

How long did it take you to melt the hand? \_\_\_\_\_  
How could have using your own hands helped you melt the hand even faster?  
\_\_\_\_\_

If you were given a chance to do this again, what would you do differently?  
\_\_\_\_\_

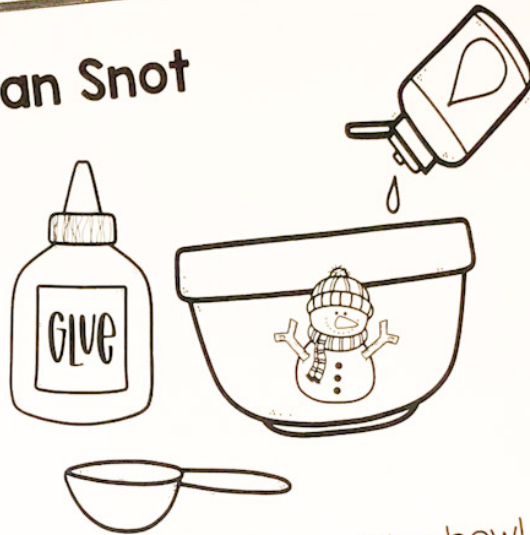
How could you turn this into an experiment?  
\_\_\_\_\_

Name: \_\_\_\_\_

## Snowman Snot

### Materials

- ¼ cup of water
- ¼ cup of white glue
- ¼ cup of liquid starch
- Green food coloring
- Mixing bowl
- Spoon
- ¼ Cup Measuring Cup



### Procedure

Step 1: Pour all of the glue and water in the mixing bowl.

Step 2: Stir the glue and water together.

Step 3: Add 6 drop of food coloring to the mixture.

Step 4: Stir in the liquid starch into it.

Step 5: Play with the snot. As you play, it will become more stretchy and sticky.

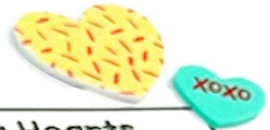
Step 6: Put the snot into separate baggies.

Step 7: Take the snot home!

Observations: \_\_\_\_\_  
your senses, but not taste):  
\_\_\_\_\_

How can you use this experiment to science?  
\_\_\_\_\_

What would happen if you put the snot in a baggie?  
\_\_\_\_\_



Name: \_\_\_\_\_

### Disappearing Hearts

**Materials:**

- Candy Hearts
- 3 Types of Liquids
- Water
- 4 Cups
- ¼ Cup Measuring Cup
- Sticky Notes/Marker

**Procedure:**

1. Pour ¼ cup of each type of liquid (including water) into different cups. Label them with sticky notes.
2. Put one candy heart into each cup at the same time.
3. Record your observations in the table below.

	Water	Liquid #2	Liquid #3	Liquid #4
Time Check #1: _____ Minutes	The heart sank but is not disappearing	Showed a little sign that it's slowly disappearing	Did not sink. Immediately began to fizz!	Same results as water.
Time Check #2: _____ Minutes				
Time Check #3: _____ Minutes				
Time Check #4: _____ Minutes				

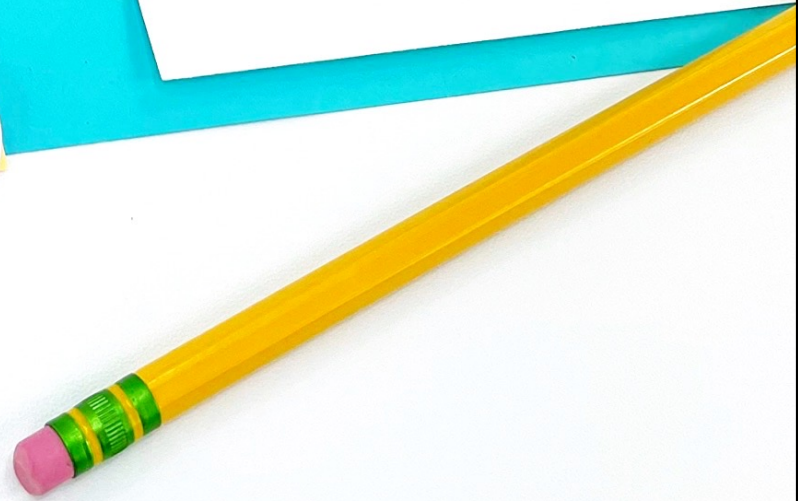
What liquid made the candy heart disappear? \_\_\_\_\_  
Why do you think that happened? \_\_\_\_\_

What liquid allowed the candy heart to disappear? \_\_\_\_\_  
do you think that happened? \_\_\_\_\_



Sprite

White vinegar



# HALLOWEEN SCIENCE

# BACK TO SCHOOL SCIENCE

# 10 SCIENCE ACTIVITIES

# Valentine's Day Science Station



# ST. PATRICK'S DAY SCIENCE

# EASTER SCIENCE

# SUMMER SCIENCE

Name: \_\_\_\_\_ Date: \_\_\_\_\_

### Secret Messages

Materials:

- White Paper
- Baking Soda
- Water
- Paint Brush
- Small Spray Bottle
- Small Bowl
- Fruit Juice (Lemon, Grape, Blend)

Process:

- In a small bowl, mix 3 teaspoons of water and 2 teaspoons of baking soda. Using the mixture, paint your name on a piece of white paper and let it dry. You may use extra baking soda after it has dried.
- Spray your fruit juice onto the paper.

Observations:

What fruit juice shows the secret message? \_\_\_\_\_

Which do you think it works better? \_\_\_\_\_

Name: \_\_\_\_\_

### BALLOON TOWERS

Materials:

- Balloons
- Tape

Task:

Create the tallest, free-standing balloon tower using only tape and balloons.

Before building, draw a plan.

Draw a sketch of your completed balloon tower.

Name: \_\_\_\_\_

### OUTDOOR CHALK PAINT

Materials:

- Cornstarch
- Water
- Food Coloring
- Small Plastic Cups
- Paintbrushes
- Mixing Bowl
- Spoons

Procedure:

Draw your house on a piece of paper.

Use the cornstarch and water to make a thick paste. Add food coloring to make different colors.

Use the paintbrushes to paint your house with the cornstarch paint.

Let the paint dry for 24 hours.

Take your house outside and see how it reacts to water.

Name: \_\_\_\_\_

### RUBBER BAND PADDLE BOATS

Materials:

- Cardboard
- Scissors
- Duct Tape
- Rubber Bands
- Tub of Water

Procedure:

Draw your house on a piece of paper.

Use the cardboard to make a square. Cut out the square.

Use the scissors to cut out the square.

Use the duct tape to attach the rubber bands to the cardboard.

Place the boat in a tub of water.

Use the rubber bands to launch the boat.

Observe how the boat moves.

Name: \_\_\_\_\_

### WILL DISSOLVE MARSHMALLOW PEEPS THE MOST?

Materials:

- 3 different liquids
- 3 clear cups
- 3 marshmallow peeps
- Spoon
- Timer
- Paper Towels

Procedure:

Place a marshmallow peep in each of the cups.

Use the spoon to add the liquid to the cups.

Use the timer to measure the time it takes for the peep to dissolve.

Record your observations.

Name: \_\_\_\_\_

### JELLY BEAN TOWER

Materials:

- Jelly Beans
- Marshmallows
- String

Procedure:

Use the string to connect the marshmallows.

Use the jelly beans to build a tower on top of the marshmallows.

Observe how the tower stands.