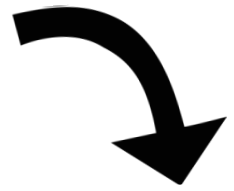


# MATTER



# DEFINITION POSTERS



## Matter

Anything that has mass and takes up space.



## Solid

A state of matter that has a definite shape and definite volume.



## Liquid

A state of matter that has no definite shape, but has a definite volume.



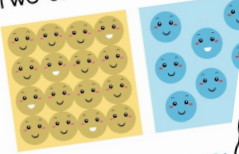
## Gas

A state of matter that has no definite shape or volume.



## Molecules

A single particle of matter made up of two or more atoms joined together.



SOLID

LIQUID

## Volume

The amount of space that an object takes up.



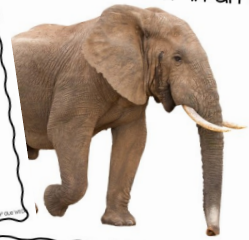
## Capacity

The amount a container or something can hold.

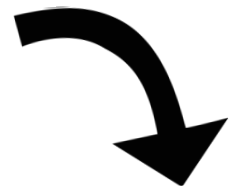


## Mass

The amount of matter in an object.



# POWERPOINT & POSTERS



## The Properties of Matter



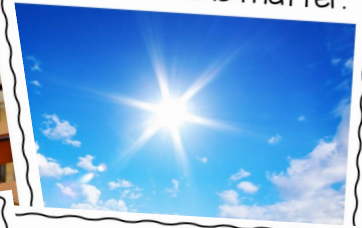
Everything around you is matter.



Your desk is matter.



The air you breathe is matter.



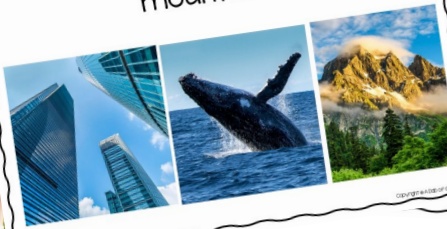
The water in the ocean is matter.



And you are matter.



Some matter looks big like skyscrapers and whales and mountains.



Some matter is so small you need a microscope to see it.



A DAB of  
**GLUE**  
will do



# 10 PROPERTIES OF MATTER EXPERIMENTS & ACTIVITIES


### Buoyancy Station

Have the kids predict if the object will sink or float before they drop it into the jar.

Explaining buoyancy is tricky unless hands-on station where they can what will sink or float for their

**SUPPLIES**

- Light objects (ball of foil, feather, balloon, cork etc.)
- Heavy objects (toy car, rock, crabs, beans, mini eraser, etc.)
- Large jar



**QUESTIONS TO ASK**

- What objects fall the fastest?
- What objects have the greatest buoyancy?
- Are the results the same if other are used (oil, syrup, etc.)?

**THE SCIENCE BEHIND IT**

Buoyancy is the power of a fluid to upward force on an object placed in hold up an object so it doesn't sink. Objects that contain more air or fat more surface area on the water are buoyant and objects with a smaller

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

### Buoyancy Station

Before you drop in each item, make a prediction. Then drop in your item and record your observation.

	PREDICT: Will it be buoyant?	RECORD: Was it buoyant?
Object 1:	yes no	yes no
Object 2:	yes no	yes no
Object 3:	yes no	yes no

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

### Buoyancy Station

Before you drop in each item, make a prediction. Then drop in your item and record your observation.

	PREDICT: Will it be buoyant?	RECORD: Was it buoyant?
Object 1:	yes no	yes no
Object 2:	yes no	yes no
Object 3:	yes no	yes no

### Coloring Mix

Connect art with science when you mix primary colors to make secondary colors.

**SUPPLIES**

- Red, blue and yellow washable tempera paint or watercolor paints
- Paint brushes for each color
- Paper towels or wipes to clean between colors.
- Worksheet

**DOING THE ACTIVITY**

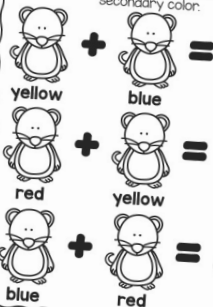
- Remind your students that one way scientists describe matter is by describing its color.
- Give each student their paint supplies and have them paint the first mouse red and the second mouse blue.
- Then have them add a dab of yellow to the first mouse and a dab of blue to the second mouse to make green.
- Encourage them to write or copy the word "green" on the line below the mouse.

- Continue with the next set of primary colors and have your students paint the first mouse red and the second mouse yellow.
- Then have them add a dab of red and a dab of yellow to the third mouse and mix the two colors to make orange.
- Encourage them to write or copy the word "orange" on the line below the third mouse.
- Continue this process for the third set of primary colors to make a purple mouse.
- Explain how red, blue and yellow are primary colors because we need them to make all the other colors and orange, green and purple are secondary colors because they can only be made by mixing together primary colors.

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

### Color Mixing

Mix two primary colors together to make a secondary color.



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

### Texture

Your students will explore different textures as a way to describe matter.

**SUPPLIES**

- Textured items, 1 for each student:
  - Soft items: feather, cotton balls, etc.
  - Hard items: paperclips, popsicle sticks, etc.
  - Smooth items: ribbons, google eyes, etc.
  - Rough items: Velcro, sandpaper, etc.
  - Bumpy items: Beads, beans, etc.
- Glue
- 5 Brown lunch bags
- Worksheet


**DOING THE ACTIVITY**

- Remind your students that one way scientists describe matter is how the object feels, or the texture of the object.
- Put one of the objects in a brown lunch bag and ask the students to feel it without looking and then describe what it feels like: soft, hard, smooth, rough, or bumpy.

3. Once they describe the object's texture, pass out one of each object to your students and have them glue it to the correct box.

4. If you are using the worksheet version that has no labels, have your students write or copy the texture under the object.

5. Continue with all 4 of the other objects by following the

TEXTURE	soft	hard
by: 		
	smooth	rough bumpy

# POWERPOINT & POSTERS

## Matter: Solids, Liquids and Gases



There are several forms of matter: solids, liquids, and gases.

Gases are all around us and are often invisible. Some gases can be smelled even if you can't see them. We can move through a gas without even feeling it.

do not take up space and shape. But some gases can be put inside a solid object to help us see the gas.



Some types of gas can move through a liquid. Helium inside balloons can move through a liquid like water from a teapot, and we can breathe underwater.



Liquids can move and take the shape of their container. Liquids do not have a fixed shape, but take on the shape of their container. They're everywhere.



Liquids can be thin and pour easily like milk or juice or they can be thick and pour slowly like syrup or honey.



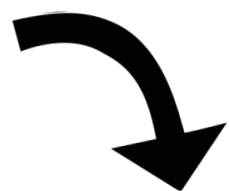
They can move through a liquid and we have to push the liquid out of the way with our bodies.



A DAB of GLUE will do



# EMERGENT READER



**What's the Matter?**

**Who M...**

All things are made of matter.

All things are made of matter.

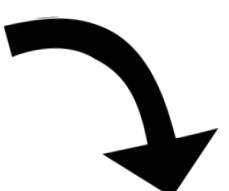
Your desk is made of matter.

Your desk is made of matter.

... is made of matter.

And water is made of matter.

# PICTURE SORT



**solid**

**liquid**

**gas**

Fog

Bubbles in So

Helium Balloon

Smoke

Air

Steam

Car Exhaust

Air in Hot Air Balloon

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

**Solid, Liquid, or Gas?**

Solid	Liquid	Gas

steam

teddy bear

glue

yarn

balloon

rock

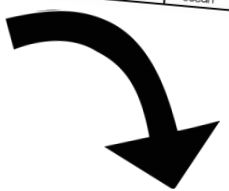
lemonade

car exhaust

igloo

ocean

# EXPERIMENTS



**Juicy States of Matter**

This delicious science allows kids to see how liquid juice turns into a solid and then back into a liquid again!

**SUPPLIES**

- Craft sticks
- Small cups (paper or plastic)
- Aluminum foil
- Juice
- Freezer

**DOING THE EXPERIMENT**

Fill your cups halfway with orange juice (or any other liquid). Cover each cup with aluminum foil. Poke a craft stick through the center of each foil cover. This will hold the stick in place as it freezes.

Place in the freezer overnight, or at least for 4 hours.

The next day, pop the popsicles out of the molds and take them outside. Show how the popsicles melt faster in the sun than they do inside.

Let the kids determine why the popsicles melt faster.

**QUESTIONS TO ASK**

- How long does it take the popsicles to turn back into liquid when it's a solid?
- Does juice or water melt faster?
- Does the shape of the popsicle change how fast it melts in the sun?

**THE SCIENCE BEHIND IT**

Temperature determines what happens to liquids and changes in temperature can change a liquid to a solid and a solid to a liquid. In this case, at warm temperatures, juice remains a liquid. But when it is placed in the freezer, it turns into a solid within a few hours. On a cold day, the juice will remain frozen and solid outdoors. But when the solid juice is placed in the hot sun, the juice melts and returns to a liquid state.

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

**Juicy States of Matter**

If we freeze the liquid juice, I predict this will happen: \_\_\_\_\_

Draw a picture of your juice:

As a liquid: \_\_\_\_\_

As a solid: \_\_\_\_\_

Explain what happens to your juice (the frozen juice) when you put it in the sun: \_\_\_\_\_

