

## States of Matter-Gas



### **Supplies needed:**

2 balloons

Tape

Ruler

### **To Begin:**

1. Tape a non-inflated balloon to each end of a ruler.
2. Move your finger along the under side of the ruler to find the point where it will balance. Mark this spot on the ruler and record the measurement.
3. Set the ruler down. Remove one of the balloons and inflate it.
4. Predict what might happen when the inflated balloon is taped back in place.
5. Reattach the inflated balloon to the end of the ruler.
6. Place your finger under the ruler at the same point as before.
7. Discuss what this tells us about gas?
8. Record your findings in your journal.

## **Ice Sculptures-Liquid & Solid**

**Supplies Needed:** Student ice sculptures

### **Helpful Hint:**

1. As homework have the students fill a container with water and then place it in the freezer. They can put food coloring or objects into the water to make it fun. Encourage them to be creative.
2. Schedule a day when everyone will bring their sculptures to school.

### **To Begin:**

1. Pick a safe place on the school grounds for your creations to stay without being disturbed.
2. Go outside and remove the ice sculptures from their containers. Don't worry if some of the sculptures cannot be removed from their containers. Simply place them in a position that allows the water to drain as they melt.
3. Stack all the sculptures into one cool mega sculpture and record the start time.
4. Check on the class sculpture frequently throughout the morning and record the times.
5. Once the ice sculpture has completely melted turn the event into a fun story problem. Take this opportunity to discuss elapsed time.
6. Brainstorm the properties of liquids, solids, and gasses and record them in your journal.

## Matter has properties that are suited for different purposes



### **Supplies Needed:**

Raw egg  
Vinegar  
Jar with a lid.



### **To Begin:**

1. Discuss whether a raw egg is a liquid or a solid. What is the purpose of the shell?
2. Place the raw egg gently into the jar.
3. Pour vinegar into the jar until it covers the egg.
4. Put the lid on the jar and let it sit over night.
5. Journal the changes that occur.
6. Continue to journal any changes that occur over the next few days.
7. When the shell has completely dissolved, discuss whether the egg is a liquid or a solid. How would we transport eggs if they didn't have a shell?
8. Brainstorm any "I wonder..." questions that this experience evoked in the students and add them to a chart. This chart can offer some great continuations or extensions for future lessons.

## Ice Cream



### **Supplies Needed:**

- 1 cup Half & Half
- 2 tablespoons sugar
- 1/2 teaspoon vanilla
- 1 cup rock salt
- 1 gallon ziplock baggie
- 1/2 full of ice
- Quart ziplock baggie
- Sandwich ziplock baggie
- 5 oz. paper cup
- Spoon

**Warning:** This is an outdoor activity.

### **Helpful Hints:**

1. Fingers can get cold and tired, so using a box to vigorously shake the baggies back and forth and side to side between two people is a modification.
2. Unfortunately some of the baggies will have holes, if you notice the liquid mixture running into the ice you will want to start the process over.

### **To Begin:**

1. Pour 1 cup half & half, 2 tablespoons sugar, and 1/2 teaspoon of vanilla into the sandwich size ziplock.
2. Seal it securely and place the sandwich baggie into the quart size ziplock baggie.
3. Securely seal the quart size baggie and place it into the gallon size ziplock baggie that is 1/2 full of ice.

4. Pour the 1 cup of rock salt into the gallon baggie to mix with the ice.
5. Securely seal the gallon baggie and have a partner help you shake the four corners of the baggie.
6. Shaking needs to continue for 10 minutes or until the mixture turns to ice cream.
7. Use a spoon to scoop 1/2 of your creation into a cup to share with your partner and enjoy some delicious ice cream.

