

# Ooey Gooley Gloop

Grades: K-3

Duration: 30 Minuets

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## Program Description

Students will use math and science skills to make a take back to school polymer.

Louisiana GLE:

### **Kindergarten:**

#### **Science**

1. Ask questions about objects and events in the environment
2. Pose questions that can be answered by using students' own observations and scientific knowledge
4. Use the five senses to describe observations
6. Select and use developmentally appropriate equipment and tools and units of measurements to observe and collect data
15. Create and separate mixtures (create only)

#### **Math**

10. Use operational vocabulary

#### **English Language Arts**

*Speaking and Listening*

*Standard 4*

33. Initiate and sustain normal conversation on a specific topic
35. Give and follow one- and two-step verbal and nonverbal directions without interrupting
41. Participate in designated roles within activities

### **1<sup>st</sup> Grade:**

#### **Science**

1. Ask questions about objects and events in the environment
2. Pose questions that can be answered by using students' own observations and scientific knowledge
5. Use the five senses to describe observations
7. Select and use developmentally appropriate equipment and tools and units of measurements to observe and collect data
16. Observe and describe common properties of solids, liquids, and gas
17. Sort and classify objects by their state of matter (Ask did we make a solid?)

#### **Math**

24. Measure capacity using cups (allow students to measure own water and glue)

#### **English Language Arts**

*Reading and responding*

*Standard 7*

25. Apply basic reasoning skill

*Speaking and Listening*

*Standard 4*

45. Speak clearly at a speed and volume appropriate for purpose and setting

46. Follow classroom procedures and teacher directions

48. Ask questions to clarify directions

52. Use active listening strategies

54. Listen and orally respond to information presented in a variety of media

**2<sup>nd</sup> Grade:**

**Science**

1. Ask questions about objects and events in the environment

2. Pose questions that can be answered by using students' own observations and scientific knowledge

6. Use the five senses to describe observations

8. Select and use developmentally appropriate equipment and tools and units of measurements to observe and collect data

14. Classify objects as bendable or ridged

**Math**

17. Measure capacity using appropriate tools

**English Language Arts**

*Reading and Responding*

*Standard 7*

20. Apply basic reasoning skills

*Writing*

*Standard 2*

21. Use a greater variety of action and descriptive words

*Speaking and Listening*

*Standard 4*

38. Adjust speaking tone and volume to suit purpose and audience

42. Deliver informal presentations that demonstrate an understanding of a topic

44. Use active listening strategies, including asking for clarification and explanations

**3<sup>rd</sup> Grade:**

**Science**

1. Ask questions about objects and events in the environment

2. Pose questions that can be answered by using students' own observations and scientific knowledge

6. Use the five senses to describe observations

19. Select the appropriate **metric system** and US system tools for measuring length, width, temperature, volume and mass

**Math**

25. Compare U. S. and metric measurements using approximate reference points without using conversions

**English Language Arts**

*Reading and Responding*

*Standard 7*

22. Apply basic reasoning skills

*Speaking and Listening*

*Standard 4*

38. Give and follow precise directions and instructions

42. Use active listening strategies

43. Assume the role of contributor and active listener

## Key Terms:

**Polymer:** a natural or synthetic compound that consists of large molecules made of many chemically bonded smaller identical molecules. Starch and nylon are polymers.

**Chemical reaction:** (process involving changes to substances) a process that changes the molecular composition of a substance by redistributing atoms or groups of atoms without altering the structure of the nuclei of the atoms

**Capacity:** a measure of the amount that can be held or contained

## Connections to Permanent Exhibits:

**Units of Volume:** How many blue squares fit in the front clear box? What is the relationship between the back two boxes?

**Volume Table:** Calculate the volume of the cube and the cylinder? How do they relate?

**Giant Tape Measure:** How many cm in a foot? How many cm in 3 feet?

## Web Resources:

**Kids' Macrogalleria:** Explains what a polymer is, what it's used for, and how we can make things out of them. This is an interactive site with teacher and student activities.

<http://www.pslc.ws/mactest/kidsmac/>

## Pre-Visit Activities

Experimenting activity

## Post-Visit Activities

Make a mixture

Freezing Fluids

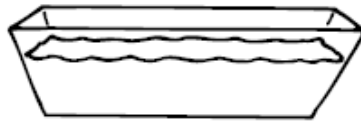
Name \_\_\_\_\_

# Experimenting

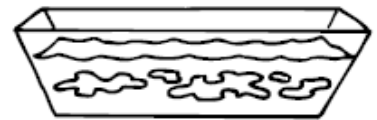
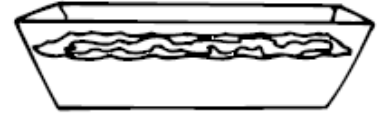
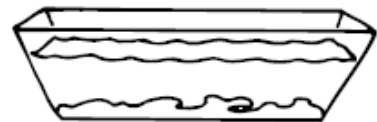
Circle.



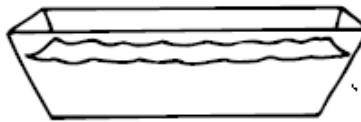
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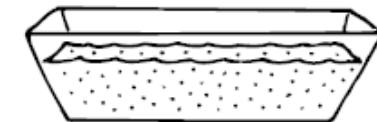
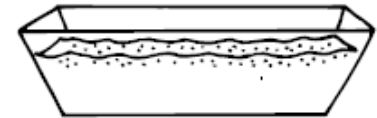
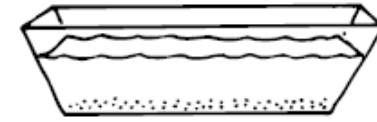
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**Notes for Home** Your child circled pictures to show what he or she thinks will happen if oil or sugar is added to water.

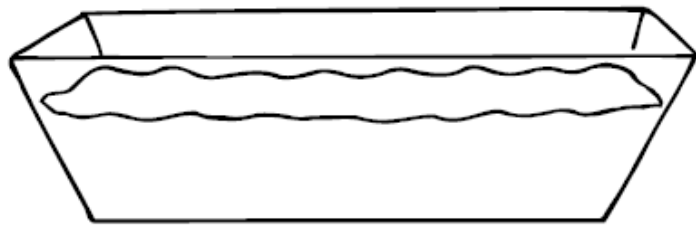
**Home Activity:** Ask your child what he or she thinks will happen if you add one tablespoon of a liquid, such as syrup, to a cup of water. Experiment to find out.

Name \_\_\_\_\_

**Science  
Process Skill**

## Practice Experimenting

Draw.



**Notes for Home** Your child drew pictures to show what happened when he or she added sugar to water.

**Home Activity:** Ask your child to predict what will happen if salt is added to water. Discuss why, then experiment to find out.

Name \_\_\_\_\_

## Make a mixture.



Write what each material feels like and looks like.  
Draw a picture of each material.

Material	Description	Picture
Glue		
Starch		
Mixture		

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Notes for Home: Your child learned how to make a mixture with glue and liquid starch.  
Home Activity: Help your child find solids and liquids in your home.

## Freezing Fluids

**Science** Salt lowers the temperature at which water freezes.

**Stuff** Marker; 5 Styrofoam® cups;  $\frac{1}{2}$  cup measuring cup; water; teaspoon; salt; 4 spoons or stirring sticks; 20 ice cubes; thermometer; watch or clock; paper towel



1 teaspoon

### What to Do

1. With the marker, label the cups "2 teaspoons," " $1\frac{1}{2}$  teaspoons," "1 teaspoon," " $\frac{1}{2}$  teaspoon," and "none." Pour  $\frac{1}{2}$  cup of cool water into each cup.
2. Into each cup pour the labeled number of teaspoons of salt. Do not put any salt in the "none" cup. Place a spoon or stirring stick in each cup. Stir the water in each cup until the salt is dissolved.
3. Put four ice cubes into each cup. You may have to break the ice cubes if they are too big for the cup. The ice cubes should be crowded and may even be above the water level.
4. Stir the water in each cup for one minute, alternating stirs among the cups. Record the temperature of the water in each cup, starting with the "none" cup. Dry the thermometer with a paper towel. Wait another minute, and record the temperatures again. Continue to record the temperature every minute until it seems to stay the same.

### What's Going On Here

Adding salt to water lowers the freezing temperature of the water. When you add ice to regular water, the coldest the water can get is 32°F or 0°C. The ice continues to melt as the cold water warms up from the air surrounding the cup. Since salt water lowers the freezing temperature of water, the salt water solution gets lower than 32°F or 0°C. In fact, the more salt that is in the

water, the lower the temperature. Salt is used to keep water from freezing on roads when the temperature dips below the freezing point of water. The more salt that is put on the road, the lower the outside temperature can drop before water freezes to ice on the roads. But salt damages cars, and used in large quantities it is not cheap, so road workers can't put too much on the road.

