

Pop Fizz

Grades: Pre-K – 2nd

Duration: 30 minutes

Program Description

Students will observe chemical reactions and discover some combinations that create “pops” and “fizzes”. Students will also be introduced to different states of matter such as solid, liquid, and gas.

Louisiana GLE:

Science:

Pre-K

1. Ask questions about objects and events in the environment (e.g., plants, rocks, storms) (PK-CS-I1) (SI-E-A1)
2. Pose questions that can be answered by using students' own observations and scientific knowledge (PK-CS-I1) (SI-E-A1)
3. Use the five senses to describe observations (PK-CS-P3) (SI-E-A3)
7. Identify and use appropriate safety procedures and equipment when conducting investigations (e.g., gloves, goggles, hair ties) (PK-CS-I4) (SI-E-A7)
9. Sort objects using one characteristic (PK-CS-P2) (PS-E-A1)
13. Compare the properties of different solids and liquids through observation (PK-CS-P1) (PS-E-A4)
14. Identify components of simple mixtures (e.g., salt/water, rice/beans, iron filings/sand) (PK-CS-P1) (PS-E-A5)
17. Identify different sounds as soft or loud (PK-CS-P3) (PS-E-C1)

Kindergarten

1. Ask questions about objects and events in the environment (e.g., plants, rocks, storms) (SI-E-A1)
2. Pose questions that can be answered by using students' own observations and scientific knowledge (SI-E-A1)
3. Predict and anticipate possible outcomes (SI-E-A2)
4. Use the five senses to describe observations (SI-E-A3)
9. Identify and use appropriate safety procedures and equipment when conducting investigations (e.g., gloves, goggles, hair ties) (SI-E-A7)
11. Identify objects by using the senses (PS-E-A1)
13. Sort objects based on their properties (e.g., size, weight, texture) (PS-E-A1)
15. Create and separate mixtures (e.g., oil/water, rice/beans) (PS-E-A5)
19. Demonstrate and identify sounds as soft or loud (PS-E-C1)

1st Grade

1. Ask questions about objects and events in the environment (e.g., plants, rocks, storms) (SI-E-A1)
2. Pose questions that can be answered by using students' own observations and scientific knowledge (SI-E-A1)
3. Predict and anticipate possible outcomes (SI-E-A2)
5. Use the five senses to describe observations (SI-E-A3)
10. Identify and use appropriate safety procedures and equipment when conducting investigations (e.g., gloves, goggles, hair ties) (SI-E-A7)
13. Sort a group of objects by using multiple characteristics (PS-E-A1)
16. Observe and describe common properties of solids, liquids, and gases (PS-E-A4)
17. Sort and classify objects by their state of matter (PS-E-A4)
18. Demonstrate how sound is made in a variety of ways (e.g., singing, whispering, striking an object) (PS-E-C1) 1,2,3,5,10,13,16,17,18;

2nd Grade

1. Ask questions about objects and events in the environment (e.g., plants, rocks, storms) (SI-E-A1)
2. Pose questions that can be answered by using students' own observations, scientific knowledge, and testable scientific investigations (SI-E-A1)
4. Predict and anticipate possible outcomes (SI-E-A2)
6. Use the five senses to describe observations (SI-E-A3)
11. Identify and use appropriate safety procedures and equipment when conducting investigations (e.g., gloves, goggles, hair ties) (SI-E-A7)
18. Observe, describe, and record the characteristics of materials that make up different objects (e.g., metal, nonmetal, plastic, rock, wood, paper) (PS-E-A3)

Key Terms:

Pop: a sharp, quick, explosive noise.

Fizz: to release or give off many small bubbles.

Connections to Permanent Exhibits:

Exploring Space Cluster

Rocket Fuel: How is the hydrogen and oxygen produced? Is this a chemical or physical change?

Web Resources:

Internet Chemistry

Kapi'olani Community College

<http://library.kcc.hawaii.edu/external/chemistry/>

Oxidation-reduction reactions have many far-reaching applications in our lives. Some of these applications are so common, that we take them for granted.

Changing Matter

Utah State Office of Education

<http://www.usoe.k12.ut.us/curr/science/core/8thgrd/sciber8/matter/html/intro.htm>

Utah Department of Education

A list of explanations and experiments to help students understand chemical and physical changes.

The ChemCollective

Carnegie Mellon

<http://www.chemcollective.org/applets/vlab.php>

Online Resources for Teaching and Learning Chemistry: Carnegie Mellon This website allows the teacher to download an exciting interactive chemistry program called Virtual Lab Simulation. The Virtual Laboratory allows students to select from hundreds of standard reagents and manipulate them in a manner that resembles that of a real lab. It allows students to design and perform diverse experiments in

acid-base chemistry, thermochemistry, solubility, and redox chemistry. This comes in Windows and Mac versions.

Creative Chemistry

'Creative Chemistry' Nigel Saunders

<http://www.creative-chemistry.org.uk/index.htm>

Great high school interactive website with games like balancing equations and puzzles to build vocabulary skills. There are also great teacher resources here like how to do fire writing and urine analysis.

Mixtures Lab

Harcourt School Publishers

<http://www.harcourtschool.com/activity/mixture/mixture.html>

,An interactivity that allows students to choose tools to separate mixtures and then choose the characteristic of the material that allowed the separation.

Home Experiments

Scifun (University of

Wisconsin-Madison Chemistry Professor Bassam Z. Shakhashiri)

<http://scifun.chem.wisc.edu/HOMEEXPTS/HOMEEXPTS.html>

Simple experiments that can be done in the classroom and at home. This websites outlines using cabbage juice indicators, polymers, bubbles, chemiluminescence, polymers and density.

WebElements Periodic Table

University of Sheffield

<http://www.webelements.com/>

An interactive periodic table. Just click on an element and find out the name, symbol, atomic number, atomic weight, the number of isotopes, the group number, the group name, and the period number. It also provides a brief description, a picture of the element, and how it can be isolated.

MDeA's Chemistry Fun Page

Angel Fire Science Humor Webring

<http://www.angelfire.com/md2/chmfunpage/>

This is a list of fun high school, chemistry jokes. Students could be given the jokes and asked to explain the chemical concepts behind them.

Quia Shared Activities

Quia

<http://www.quia.com/shared/chem/>

There is a huge diversity of interactive chemistry activities on everything from elements to compounds. Some of these are vocabulary builders and others test the understanding of chemistry concepts.

Pre-Visit Activities

Powerpoint presentations

PETE'S POWER POINT STATION

<http://science.pppst.com/matter.html>

Download and view powerpoint presentations on solids, liquids and gas.

Bitesize

British Broadcasting Corporation

<http://www.bbc.co.uk/schools/ks2bitesize/science/activities/gases.shtml>

Have students visit this website and complete the online interactive activity

What Can the Matter Be? : The States of Matter
Elementary School- Chicago, Illinois. USA Curriculum

Stephen K. Hayt

http://collaboratory.nunet.net/hayt/curriculum/matter/state_of_matter.html

Visit the website and complete 3 of the activities with your class.

Post-Visit Activities

Scifun (University of Wisconsin-Madison Chemistry Professor Bassam Z. Shakhashiri)

<http://scifun.chem.wisc.edu/HOMEEXPTS/FIZZFOAM.html>

With just a few household chemicals you can turn a glass of colored liquid into a froth that overflows its container. Do this experiment In front of the class or small groups

View websites in the web resources section and complete some of the activities with your students.