

ABSENT LAB REPORT: ToyChem

This rubric will be used to grade the absent laboratory.

Your Name: _____ Period: _____

Name of Take Home Lab Packet: Flubber

PURPOSE OF LAB: Write a brief statement of what you are attempting to do. (Both lines below need to be filled in completely for full credit)

/10 points

PRE-LABORATORY QUESTIONS: Copy, complete and attach the question sheet found in the packet. Each packet has a "Word to Know" section that involves a word search, a crossword puzzle, or unscramble work activity. If you don't have a printer, match the word with the definition & attach that sheet.

/15 points

PROCEDURE: Summarize the directions in a numbered format (All 5 steps must be filled in for full credit)

/15 points

- 1.
- 2.
- 3.
- 4.
- 5.

OBSERVATIONS: As you are completing the lab write observations (All 4 steps must be filled in for full credit)

/10 points

1. What do they look like? _____
2. How are they similar & different? _____
3. What is happening to the two liquids? _____
4. How far can it be stretched? _____
5. Can it bounce? _____ What else can you do with Flubber? _____

PICTURE OF EXPERIMENT: Using your phone or a digital camera, attach 2 pictures of the home experiment.

PICTURE #1

PICTURE #2

/5 points

/5 points

EXPERIMENTAL SOURCES OF ERROR: Ask yourself what you would do differently if you were to repeat the experiment and wanted to obtain better results.

/10 points

CONCLUSION: Make a simple statement concerning what you can **conclude** from the experiment.

/10 points

THEORY:

1. Describe the **theory** demonstrated in the experiment.

/10 points

2. Was the **purpose** of the experiment fulfilled?

Circle: Yes or No

3. Why or why not was the purpose of the experiment fulfilled?

/10 points

Total Points: /100 points

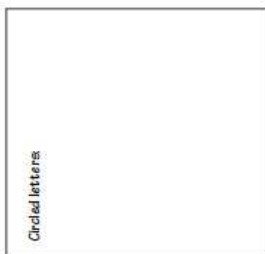
Concepts

Chemicals naturally occur in our food. These chemicals can be used for testing household chemicals or making new chemicals.

Words to know

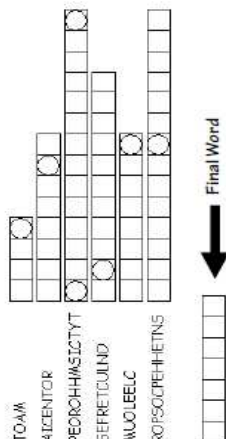
- atom—a very, very small particle that makes up all matter
- chemical reaction—when two substances combine to create a new substance; often characterized by fizzing, color change, change in temperature, or reaction of light.
- dissolve—when the molecules of a solid separate and become completely surrounded by the molecules of a liquid.
- fluorescent—glows when light is shined on it
- molecule—a group of at least two atoms held together in a definite arrangement.
- phosphorescent—glows when light is shined on it and continues to glow after light is removed
- photochemistry—chemical reactions that use light
- polymer—a large molecule that is made of many smaller molecules linked together
- solution—a completely uniform mixture

© 2007 OMSI



1. Unscramble each of the clue words.
2. Write down each of the letters that appear in a circle in the box above.
3. Unscramble these letters to discover the final word.

Unscramble words from the Words to Know list to solve the double puzzle.



Chem Lab
Take-Home Activities



Chemistry of Toys

Flubber

Make a polymer!

Materials:

- Container 1
1/2 cup warm water
2/3 cup glue
food coloring (a few drops)



- Container 2
1/3 cup warm water
1 teaspoon borax



To do and notice:

1. Mix the ingredients in each container completely.
 - What do they look like?
 - How are they similar and different?
2. Pour the contents of container 2 into container 1. Gently stir the mixture, lifting and turning until only about a tablespoon of liquid is left.
 - What is happening to the two liquids?
3. The Flubber will be sticky at first. Continue to work with the Flubber until it becomes more firm.
4. Try these experiments with the Flubber.
 - How far can it be stretched?
 - Can it bounce?
 - What else can you do with Flubber?

Helpful Hint

Vinegar dissolves Flubber from clothing, hair, carpet and furniture.

A closer look:

Glue is made from long molecules called polyvinylacetate. It is a polymer because it is made of repeating units of smaller molecules. When you add the borax solution, the borate ions from the borax connect to different places on each glue molecule. This forms a network of glue molecules called cross-linking. The cross-linked glue molecules are not as liquid as the regular glue, but they can still stretch apart and stick back together. This forms the thick, sticky substance called Flubber.