

# Physical Science Unit Schedule: Weeks 1-3

Unit	Chapter(s)	Essential Questions:
Science Skills	1	-What is science? -What is the Scientific Method? -How do we use measurement in science? -What types of observations can we use in science?
Properties of Matter	2	-What is matter? -How can we classify matter? -What are chemical and physical changes in matter?
States of Matter	3	-What are the differences between states of matter? -What is necessary to change between different states of matter?

## Timeline:

Date	In Class	Activities	Homework
Week 1	Chapter 1 Pretest  Discuss Chapter 1  Correct ?'s #1-8 p.6, 1-8 p. 11, 1-6 p. 20, 1-6 p. 25	Lab Safety Discussion  Lab: Measuring the Density of Paper	Turn in Signed Parent Letter and Syllabus  Read Chapter 1 Do ?'s #1-8 p.6, 1-8 p. 11, 1-6 p. 20, 1-6 p. 25  Read Lab: "Measuring the Density of Paper" and write procedure
Week 2	Chapter 2 Pretest  Discuss Chapter 2  Correct ?'s # 1-8 p. 44, 1-9 p. 51, 1-8 p. 58	Units of Measurement Worksheet  URANIUM OXIDE Lab  Do ?'s #23-28, 30 p. 30	Units of Measurement Worksheet  URANIUM OXIDE Lab  Do ?'s #23-28, 30 p. 30  Read Chapter 2  Do ?'s # 1-8 p. 44, 1-9 p. 51, 1-8

			p. 58 Chapter 2 Pretest  Read Lab: "Physical and Chemical Properties" p. 26 <i>Addison-Wesley Chemistry Laboratory Manual</i>
Week 3	Discuss Chapter 2	Lab: "Physical and Chemical Properties" p. 26 <i>Addison-Wesley Chemistry Laboratory Manual</i>	Study for Chapters 1 and 2 Test  Lab Report: "Physical and Chemical Properties"
Week 4	Test: Chapters 1 and 2  Chapter 3 Pretest	Correct ?'s # 1-8 p. 74, 1-8 p. 81, 1-8 p. 91	Read Chapter 3 Do ?'s # 1-8 p. 74, 1-8 p. 81, 1-8 p. 91 Chapter 3 Pretest

## Uranium Oxide Lab

### Directions

**Directions:** Follow the steps below to design and implement an experiment in which you use the scientific method to find the secret of URANIUM OXIDE.

**Materials:**

- Slips of paper with URANIUM OXIDE typed on them
- Round test tubes with different color (blue, red, green, orange, etc.) of water in them
- Round test tubes with clear water in them
- Square-sided dropper bottles

**To Start the Experiment:**

Hold the **blue** test tube 3 centimeters above one of the sheets of paper with URANIUM OXIDE typed on it. Fill out the "Observation", "Hypothesis", and "Experiment" sections of the

chart below to design your experiment. When you have **completed** the chart, carry out your experiment, record your data, and write your conclusion. If your hypothesis was **rejected**, **start at the beginning of the scientific method and design a new experiment.**

## Scientific Method

Step	Description
Observations	What did you observe?
Hypothesis	Write a hypothesis.
Experimental Steps	Describe an experiment to test your hypothesis. Identify your <b>control</b> .
Conclusion	Was your hypothesis <b>supported</b> or <b>rejected</b> ? Why or why not? If your hypothesis was <b>rejected</b> , go back to the beginning and design a new experiment.

Name :

# Lab 1: Paper Density

## Pre-lab

Density is a measure of how compact or tightly packed something is. The density of an object is equal to its mass divided by its volume. This can be expressed using the following formula:  $d = \frac{m}{V}$ . For this lab, we will measure mass in grams, and volume in  $\text{cm}^3$ . This means that density will be in units of  $\frac{\text{g}}{\text{cm}^3}$ . These questions will help you get used to how density is calculated.

1. A rock has a mass of 25 g and a volume of 10  $\text{cm}^3$ . What is the density of the rock?
2. A bucket of water has a mass of 1200 g and a volume of 1000  $\text{cm}^3$ . If the bucket weighs 200g, what is the density of the water?
3. If objects A and B have the same volume, but object B is more massive, which has the higher density?
4. If objects C and D have the same mass, but object C has a larger volume, which has the higher density?

## Lab

**Purpose:** To find the density of paper

**Materials:** Paper, Meter stick, Scale

**(Hint: To find the density, you need to know the mass and the volume)**

**Procedure:**

**Observations:** Mass:

Volume:

Density of paper:

**Questions:** 1. What was difficult about this lab?

2. Look at the answer of another lab group. How different is it from yours? Express your answer as a percentage difference. For example, if your answer was 7, and the other group's answer was 6, the percentage difference is  $\frac{7-6}{7} = 0.14 = 14\%$  different.

3. What are some possible sources of error in your measurements?

4. If you did this lab again, what could you do better?