PHYSICAL SCIENCE EXPLORED

STUDENT GUIDEBOOK

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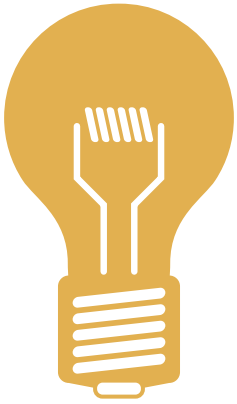


WELCOME TO PHYSICAL SCIENCE EXPLORED

This Student Guidebook was designed for students in the Physical Science Explored online course. Simply follow along with the weekly lecture videos and fill in the blanks as you go. Sections for extra notes have been provided as well: use these to draw helpful diagrams or take extra notes you find particularly useful during the lecture. At the beginning of each lesson, you'll find a list of terms that might be unfamiliar to you. Be sure to familiarize yourself with these terms and use them as you spend time studying each week.

Along the way, you'll also find study guides for the quarterly exams. Each exam covers material from that quarter only, and these study guides will provide you with terms, questions, and concepts you should be familiar with before taking your exams.

We're excited to have you join the adventure as we explore the world God made!

We'll see you inside the course!

Trisha Gilkerson

LESSON 4

CLASSIFICATION & PROPERTIES OF MATTER

For millennia, human beings have been fascinated with what exactly makes up the universe. And today, we know more than ever about the matter that makes up the world. We study matter and the changes it undergoes in the field of chemistry.

Vocabulary

Atom	Heterogenous mixture	Molecule
Chemical change	Homogenous mixture	Physical change
Chemical properties	Mass	Physical properties
Compounds	Matter	Pure substance
Elements	Mixture	Weight

OUTLINE & NOTES

LESSON 4 : CLASSIFICATION & PROPERTIES OF MATTER

I. Matter, Mass, & Weight

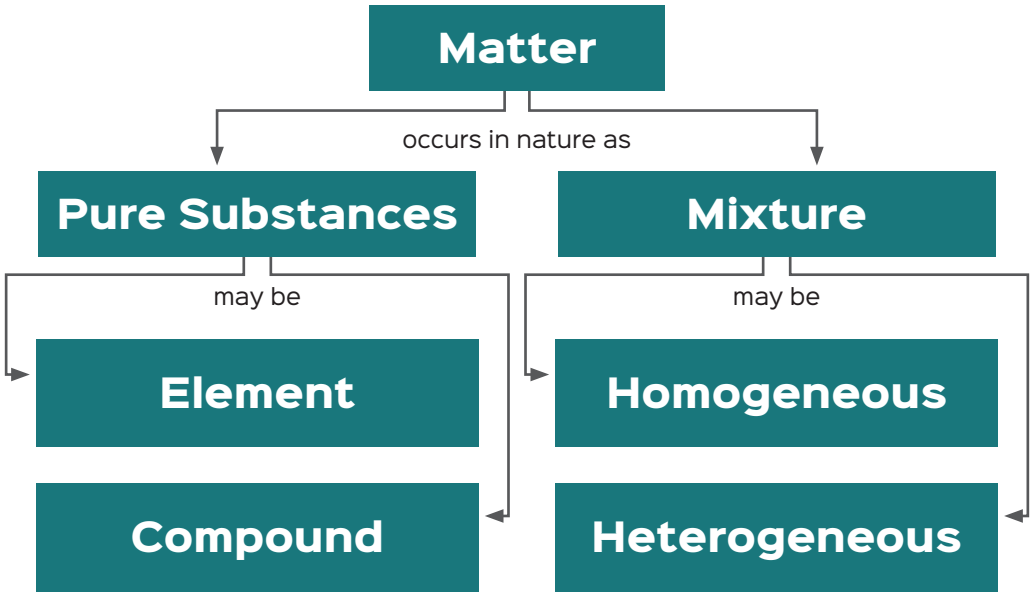
A. Matter is anything that has _____ and takes up _____

B. Mass is the _____ of the amount of _____ in an object

Mass	Weight

C. Space is measured as _____ (solids are measured in _____ , liquids are measured in _____)

II. Types of Substances



A. Pure substance: a _____ of matter that cannot be separated by _____ means

1. Single _____
    a. Elements are the _____ of matter
    b. _____ known elements organized on the _____
    c. Smallest unit of an element is called _____
2. _____
    a. Elements _____ together _____ to form compounds
    b. Smallest unit of a compound is called a _____

B. Mixture: _____ substances that are not _____ , but _____

1. _____ mixtures
    a. Have _____ but look the _____ throughout
    b. Particles are _____ , so you can not easily separate the different parts
    c. Example: _____
2. _____ mixtures
    a. Does _____ throughout
    b. You can easily _____ the different parts
    c. Example: _____

III. Changes & Properties of Matter

A. Physical vs. chemical _____

1. _____ properties
    a. Properties that can be measured without _____ of a sample of matter
    b. Examples: _____ _____

2. _____ properties

   a. Properties that can only be measured by _____ of the substance

   b. Examples: _____ , _____ , _____

B. Physical vs. chemical _____

1. _____ changes

   a. Changing of one or more of the _____

   b. Does not change the _____ of the substance

2. _____ changes

   a. Changing the _____ of the material

   b. _____ of chemical change

      (1) _____ change

      (2) Formation of a _____

         (a) _____ appearing in a liquid

         (b) A new _____

      (3) Formation of a _____

         (a) A precipitate is a _____ formed from combining two _____

         (b) If two liquids are mixed and it becomes _____ or there are _____ floating around in the liquid, a precipitate has formed

      (4) Release or absorption of energy

         (a) A substance changes _____

         (b) Produces _____ or _____