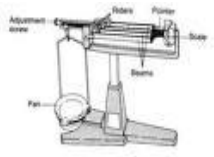
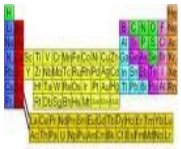
Matter Essential Questions/Test Review



Name: _____ Class Hour____ Due: ___ Score: ____/40

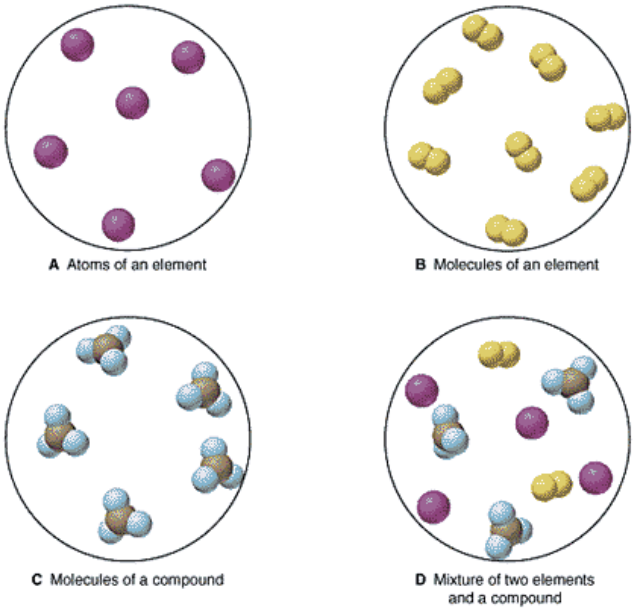


Directions: The following essential question/test review gives you the opportunity to reflect on what you have learned or need to learn. It is made of only key points and questions. Each practice question will ask to recall something you **should know** or ask you to **demonstrate how to do something.**

Question 1: Atoms are too small to see with the normal human eye. Review your **FLOW MAP** that you made earlier and do some additional research on google to find at least 2 new things about this theory that you did not know. Write your two new things in the space provided below.

1. 2.

Question 2: Study the graphic below. Explain how the atoms in pictures A, B, C and D form the particles pictured in each picture. You can write your answers next to each picture or at the bottom all the pictures on this question.



Question 3: What do scientists call the smallest unit of matter that has its own recognizable identity? _____

Question 4: What do scientists call a substance that is made of two or more atoms bonded together? _____

Question 5: Draw an example of an atom and a molecule below.

Atom **Molecule**

Question 6: Draw a picture of the arrangement of particles in the physical states of matter. Please write one summary sentence to describe the motion of particles in each phase.

Solid **Liquid** **Gas**

1. Solid Summary Sentence: _____

2. Liquid Summary Sentence: _____

3. Gas Summary Sentence: _____

Question 7:
Explain how a person could use the following formula in 1 paragraph below.

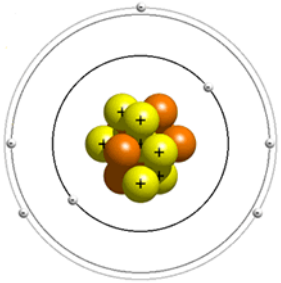
_____

_____

_____

_____

Question 8: In what ways is this drawing of the atom **correct and incorrect?**



Correct:	**Incorrect:**
1.	1.
2.	2.

Question 9: Describe at least two general limitations or problems with using models to represent

1. 2.

Question 10: In 1808, a man named Dalton proposed that matter is made of atoms. About 90 years later, Thompson created the "plum pudding" model of the atom, which was later abandoned. In the early 1900's, Rutherford performed an experiment that gave evidence that atoms have a nucleus. Later, Bohr proposed a model that explains how electrons may orbit the nucleus.
What does this show about current knowledge of atoms?

a. These scientists built upon previous knowledge and ideas about atoms.
b. These scientists each had their own ideas about atoms that were unrelated to previous information.
c. These scientists could only contribute scientific knowledge if they got the model of the atom completely right.
d. It takes more than 100 years to make major discoveries in science.

Question 11: Ancient people thought matter was made of earth, wind and fire. What do we now know matter is made of?

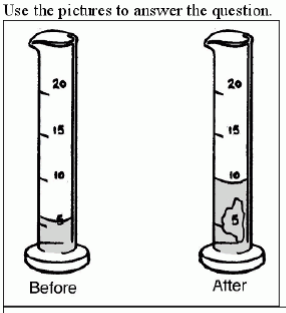
Question 12: Early scientists thought the parts of the atom were spread evenly throughout the atom. How has the model changed? We now know……

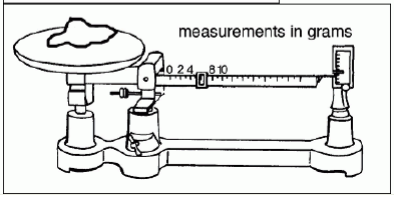
A. that it is shaped like a cube.
B. it has most of it's mass in the center
C. most of the atoms' particles are in the outer layer.
D. atoms are holding still.

Question 13: Which answer below best describes the future of models of the structure of atoms?

a. Models will probably change because scientists like to change things.
b. Models will probably change because new technology will provide better information about the structure of atoms.
c. Models will probably stay the same because scientists have learned all there is to know about the structure of the structure of atoms.
d. Models will probably stay the same because scientists don't like to create new models

Use the pictures to answer the question.





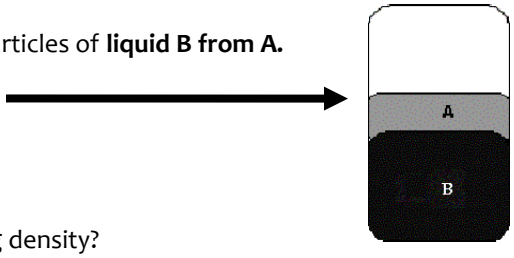
Question 14: What is the **mass, volume** and density of the rock?

Mass =_____

Volume = _____

Density = _____

Question 15: Why is liquid B on the bottom? What is different about the particles of **liquid B from A.**



Question 16: What is the correct (written in words) formula for calculating density?
A. Volume times mass B. Mass times weight C. Volume divided by mass D. Mass divided by volume

Question 17: If the mass of a cube is 48 g and the volume 24 cm^3; what would the density be?
A. .5 g/ cm^3 B. 2 g/ cm^3 C. 4 g/cm^3 D. 6 g/cm^3

Question 18: What did the classroom demonstration of adding red corn syrup, green water, yellow cooking oil, and air to a graduated cylinder help you learn?

Question 19: Read the experiment description and chart of results below. What was the variable being tested in this experiment? Which beaker in the experiment did the food coloring spread out the fastest? Why?

A student added a drop of red food coloring to 4 beakers of water. Each beaker contained 100 ml of different temperature water. The student recorded how long it took each beaker to mix completely (without stirring). The following table shows her results:

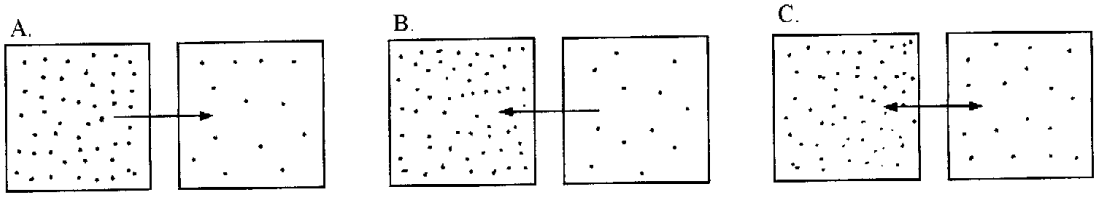
#1	10 C	120 sec
#2	25 C	55 sec
#3	40 C	40 sec
#4	80 C	23 sec

Question 20: What did the classroom demonstration of heating the metal ball to see if it could continue to fit through the metal ring help you learn?

Question 21: When the temperature of a substance increases, what happens to the speed of the molecules?

Question 22: What happens to the volume (size) of most substances when the temperature gets hotter?

Question 23: Which diagram is the best depiction of the direction of flow of diffusion? The dots represent molecules of food coloring. (Circle your answer)



Question 24: Students placed a balloon filled with air in a freezer and left it there for several hours. What will they observe when they take the balloon out?

Question 25: One of the best ways to weaken the bonds holding particles together is by
a. adding heat b. grinding c. creating movement d. applying pressure

Question 24: Windows in houses are designed to never fit tightly into the frame of the house. Why might that be?

Question 25: What was your favorite part of this unit? Explain