UNIT TEST:

Name: _____

Safety

1. Review your safety rules.

2. Review the symbols. Label the following symbols:

Physical & Chemical Properties

3. What physical or chemical property (term) is
    described by each of the following statements?

    a) Salt dissolves in water. _____
    b) Molasses pours out of a container very slowly. _____.
    c) Aluminum foil can be folded around baking dishes. _____.
    d) Another word for flammable_____
    e) The liquid is cloudy _____
    f) Object shatters easily _____.
    g) Observation that involve using your senses_____.
    h) Observation that use numbers like mass or volume _____.

Physical and Chemical Changes

4. Define physical change:

5. What are the 5 clues to a chemical change?

    _____   _____   _____

    _____   _____

6.

Changing states of matter

- Draw particle diagrams for the difference states of water.
- Label the arrows to indicate the different phase changes.

Particle diagram	Particle diagram	Particle diagram
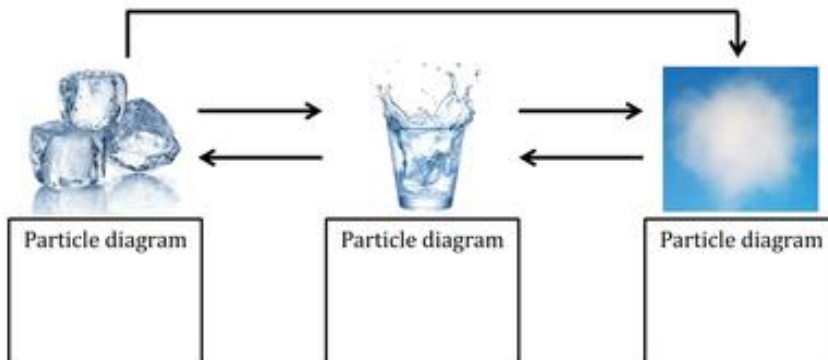
7. Classify each of the following as a chemical or physical change and give a reason why.

	Physical or chemical	evidence?
Ice cube melting		
boiling an egg		
a fire burning		
dissolving salt in water		
iron rusting		

Particle Theory of Matter
8. Define Matter:

9. List the 5 principles of the Particle Theory of Matter

P	
I	
A	
S	
M	

10. <u>Why do you have to sometime let air out of a bicycle tire in the summer?</u> (Remember how air particles behave when heat is taken added. What will happen to the spaces, attraction and movement of particle?)

The spaces in the tire will _____

The attraction between the particles will _____

The movement of the particles will _____

11. Two types of pure substances are: (Write definitions and examples)

    Elements: _____

    examples: carbon, _____, _____

    Compounds: _____

    examples: H_2O, _____, _____

12. Two types of mixtures are: (Give definitions and examples)

    Homogeneous mixture: _____

  Heterogeneous mixture: _____

13. Name each type of mixture (heterogeneous or homogeneous):
  a) ice tea: _____
  b) trail mix: _____
  c) kool-aid: _____
  d) italian salad dressing: _____

Chemical Symbols and Elements

14. Fill in the table

Symbol	Name	Symbol	Name
H		Cl	
He		K	
Li		Al	
B		C	

15. List **5 characteristics/descriptions** of metals and non-metals and give **3** examples of each in the last box.

Metals	Non-metals
1.High Melting Point	1. Low melting point
2.	2.
3.	3.
4.	4.
5.	6.
Examples: Cu	Examples:

16. What do you call elements that have properties of both metals and non-metals? _____. An example of this that we looked at in the lab is _____ with the symbol Si.

17. Use the periodic table to determine the family/group that each of the elements belongs to. You should also include the name of these elements.

Element Symbol	Family
K	
Ar	
Fe	

Gas Tests

17. Complete the table

Gas	Test	Result
Oxygen		
Hydrogen		
Carbon Dioxide		

Compounds

18. Count the number of atoms in each of the following molecules:

a)

$4CO_2$

Type of atom	# of atoms
Total Atoms	

b)

$6Ca(OH)_2$
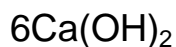
Type of atom	# of atoms
Total atoms	

Parts of an Atom

Standard Atomic Notation

<u>Remember:</u>
- ➢ Atomic mass number= # of protons + # of neutrons
- ➢ Atomic number = number of protons = number of electrons
- ➢ # of neutrons = atomic mass – atomic number

19. Complete the table for the following elements.

Element	Symbol	Atomic #	Atomic Mass	# of Protons	# of Electrons	# of Neutrons
sulfur						
		99				

20. Draw Bohr-Rutherford Diagrams for the following elements: (you need to use your periodic table)

   a) oxygen   b) neon

21. Complete the following density calculations / question.

1. Object A   has a length = 6cm, width = 3cm, height = 1cm and mass = 36g
Calculate the volume and density of object A.

2. **Object B** Use the water displacement method to determine the density of object C (silly putty). The initial water level in graduated cylinder = 25ml
The final water level after placing silly putty into graduated cylinder rises to 29ml. The mass of the silly putty=8g. What is the density of the silly putty?

3. Which of the following materials will float on water (density 1 g/ml)?

corn oil = .93 g/cm3 corn syrup =1.38 g/cm3   wood = .85 g/cm3   rubber = 1.34 g/cm3

4. Assuming the materials don't mix, show how the materials in 3 would "stack up" in a graduated cylinder

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