

PHUHS CHEMISTRY CYCLE 1 ASSESSMENT STUDY GUIDE

THE NATURE OF SCIENCE

- 1) **Beaker** – sketch and give a use for this piece of lab equipment
- 2) **Control group** – be able to identify examples (give one example for this review)
- 3) **Dependent variable** – be able to identify examples (give one example for this review)
- 4) **Electronic balance** – sketch and give a use for this piece of lab equipment
- 5) **Erlenmeyer flask** – sketch and give a use for this piece of lab equipment
- 6) **Evaporating dish** – sketch and give a use for this piece of lab equipment
- 7) **Experimental design** – list the main parts from the notes
- 8) **Experimental group** – be able to identify examples (give one example for this review)
- 9) **Graduated cylinder** – sketch and give a use for this piece of lab equipment
- 10) **Hotplate** – sketch and give a use for this piece of lab equipment
- 11) **Independent variable** – be able to identify examples (give one example for this review)
- 12) **Inference** – how does it differ from observation; identify examples (give one example for this review)
- 13) **Law of Conservation of Energy** – state the law (give one example for this review)
- 14) **Law of Conservation of Mass** – state the law (give one example for this review)
- 15) **Observation** – how does it differ from inference; identify examples (give one example for a **direct observation** and one example of an **indirect observation** for this review)
- 16) **Ruler** – sketch and give a use for this piece of lab equipment
- 17) **Stirring rod** – sketch and give a use for this piece of lab equipment
- 18) **Variables** to be held constant – be able to identify examples (give one example for this review)

SCIENTIFIC CALCULATIONS

Be able to interpret **charts, diagrams, and graphs**.

- 19) **Density** – what is it; be able to solve math problems (give one example for this review)
- 20) Be able to do **metric conversions** using KHDUDCM. What does KHDUDCM stand for?
Write all the prefixes and their numerical values.
- 21) **Scientific notation** – be able to convert from standard to scientific notation and scientific to standard notation (give one example for this review)
- 22) List the **SI base units** from the notes.

STATES OF MATTER

- 23) **Chemical change** – what is it; be able to identify examples (give one example for this review)
- 24) **Chemical properties** of matter – define; be able to identify examples (give one example for this review)
- 25) **Physical change** – what is it; be able to identify examples (give one example for this review)
- 26) **Physical properties** of matter – define; be able to identify examples (give one example for this review)
- 27) **Separation of a mixture** – identify three different methods of separation from the notes

ATOMIC STRUCTURE

- 28) Contrast **atomic mass** and **mass number**.
- 29) Contrast **atomic mass** and **atomic number**.
- 30) **Aristotle** – who was he; what did he believe about the existence of atoms
- 31) **CRT**– what is it, explain the experiment
- 32) **Dalton's atomic theory** – summarize
- 33) **Democritus** – who was he, what did he believe about atoms
- 34) **Electron**– give the charge and relative mass in amu; importance in identifying an element
- 35) **Isotopes** – define; identify examples and characteristics (give two examples for this review)
- 36) **JJ Thompson** – who was he, what experiment did he do
- 37) **Neutron** – give the charge and relative mass in amu
- 38) **Periodic table** – be able to identify all parts of an element “box” from the table: **atomic mass, atomic number, element symbol** (give one example for this review)
- 39) **Proton** – give the charge and relative mass in amu; importance in identifying an element
- 40) **Rutherford's gold foil experiment** – how did it work, what did he conclude