1.

CHEMISTRY REVIEW

1. Refer to Pg. 511, to indicate what each symbol means

Symbol	Description	Symbol	Description
	Biohazardous Material		Flammable
	Dangerously Reactive		Poisonous
	Compressed Gas		Corrosive
	Poisonous & Infectious → other Toxic Effects		Explosive

/2

Refer to Pg. 576 to answer questions # 2 - 6

2. a) Write the full name of the element beside each symbol

Symbol	Element Name	Symbol	Element Name
Cl	chlorine	Ca	calcium
C	carbon	Mg	magnesium
Ne	neon	Si	silicon
N	nitrogen	S	sulphur

/4

b) Write the correct symbol next to the name of each element.

Element Name	Symbol	Element Name	Symbol
sodium	Na	gold	Au
lithium	Li	silver	Ag
aluminum	Al	copper	Cu
boron	B	cobalt	Co

/6

3. a) How many periods does the periodic table have? 7

b) How many groups does the periodic table have? 18

4. a) Where are the metals found in the periodic table? (L or R) Left

b) Where are the non-metals found? (L or R) Right

1/3 5. Which elements are found around the Astaircase@? Metalloids

6. Which non-metal is found in the metal Aarea@ of the periodic table? hydrogen

MATTER

* anything that has mass and takes up space
* exists in three states:

1/3

STATE	SHAPE (definite or indefinite)	VOLUME (definite or indefinite)
Solid	definite	definite
Liquid	indefinite	definite
Gas	indefinite	indefinite

Changes of State

1/2

	Change of State	Endothermic or Exothermic *	Volume Increases or Decreases	Example
S | L		endothermic	increases	
L | S	Solidification			
L | G				
G | L				
S | G	Sublimation			
G | S				

* Endothermic - requires heat Exothermic - removal of heat

* In general, the volume will increase with the addition of heat. Mass doesn't change.

/8

Properties & Change

Physical Property - physical characteristics

a) Qualitative - properties that are observed by the senses
b) Quantitative - properties that are measured

1

Chemical Property - characteristics of a substance when it is with other substances reacting

* Identify each of the following properties of sodium chloride (common salt) as either physical or chemical. Indicate whether the physical properties are qualitative or quantitative.

a) it possesses a distinctive salty taste — physical - qualitative
b) it melts at 801 °C — physical - quantitative
c) it is soluble in water — physical - qualitative
d) it has a density of 2.2 g/cm^3 — physical - quantitative

2

Physical Change

* a substance changes form (physically), but is still the same substance (chemical composition)
* molecules are rearranged
* eg. wax, chalk, change of state

1

Chemical Change

* a new substance is formed
* indicators:
  1. change in colour
  2. change in smell or texture
  3. light or sound produced (burning or fireworks)
  4. precipitate produced (new solid)
  5. gas produced (bubbling)
  6. heat released or absorbed (temp. change)

3

Classify the following as physical or chemical changes

a) the frying of an egg — Chemical
b) the lighting of a cigar — Chemical
c) the burning of a candle — Chemical
d) the melting of wax — Physical
e) the crushing of stones — Physical

5

12

ANSWERS 4.

23

Review of Grade 9 Chemistry
SNC2D

Refer to p. 140 – 148.

/ 1. Matter is anything that has mass and takes up space.

2. Classify each of the following properties as either physical (P) or chemical (C):

P	colour	P	boiling point	C	flash point
C	flammability	P	malleability	P	solubility
P	state	C	reaction with water	P	conductivity

/3 ⅓ each

3. Match each of the following terms to its definition:

C	compound	A. matter made up of only one kind of particle - atoms or molecules
E	element	B. a mixture that looks the same throughout
F	heterogeneous mixture	C. a pure substance made from two or more elements
B	homogeneous mixture	D. a homogeneous mixture of a substance in a liquid
H	mixture	E. a pure substance made from only one kind of atom
A	pure substance	F. a mixture in which different parts are visible
D	solution	G. a cloudy liquid mixture in which particles may be seen i
G	suspension	H. a combination of pure substances

/4 ½ each

4. Complete the following table:

Atomic Particle	Symbol	Mass (amu)	Charge	Location
Proton	p^+	1	+1	nucleus
neutron	n^o	1	0	nucleus
electron	e^-	0	-1	in shells surrounding the nucleus

/3

5. Explain what determines the atomic number of an element:

the number of protons

Explain what determined the atomic mass number of an element:

/1 protons plus the neutrons

10 11

6. Complete the following table:

Name	Symbol	Atomic Number	Atomic Weight	Number of Protons	Number of Electrons	Number of Neutrons
Carbon	C	6	12	6	6	6
Sodium	Na	11	23	11	11	12
Fluorine	F	9	19	9	9	10
Hydrogen	H	1	1	1	1	0
Neon	Ne	10	20	10	10	10
Aluminum	Al	13	27	13	13	14
Magnesium	Mg	12	24	12	12	12
Argon	Ar	18	40	18	18	22
Silicon	Si	14	28	14	14	14
Potassium	K	19	39	19	19	20
Lithium	Li	3	7	3	3	4
Calcium	Ca	20	40	20	20	20
Chlorine	Cl	17	35	17	17	18
Phosphorus	P	15	31	15	15	16
Gold	Au	79	197	79	79	118

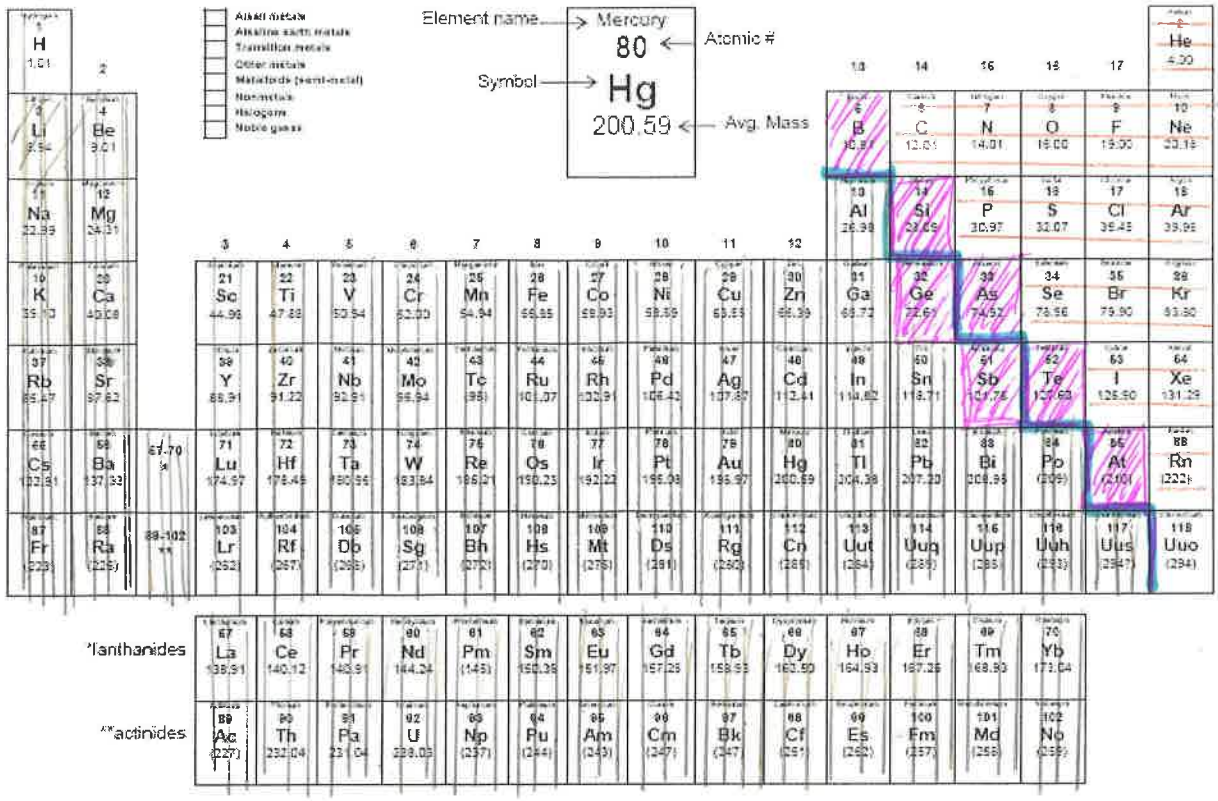
13

Note: You *can* have a different number of neutrons in the nucleus without changing the type of element; these atoms with different numbers of neutrons are called *isotopes*.

13

7. In the periodic table below, colour the metals green, the metalloids purple, and the non-metals yellow.

The Periodic Table of the Elements



8. Metals may be found on the left side of the periodic table.

Non-metals may be found on the right side of the periodic table.

The horizontal rows of the periodic table are called periods

Elements in the same row have the same number of energy levels

The vertical columns of the periodic table are called groups or families.

Elements in the same column have the same number of valence electrons

Which column contains the most reactive metals? What is the name for these elements?

Group 1 (Column 1) - alkali metals

Which column contains that most reactive non-metals? What is the name for these elements?

Group 17 (Column 17) - halogens