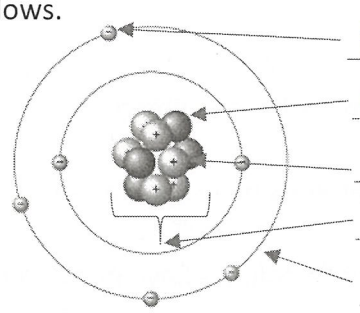
Chemistry Review From Grade 9 Name: Key

Block:

Work individually or in groups to answer the questions below. Some might be easier than others, but the point is you start to remember the Chemistry you learned from last year.

1. Label the following parts of the atom with the words on the right. Then complete the table that follows.



electron (e^-)
neutron (n^o)
proton (p^+)
nucleus
shell (energy shell)

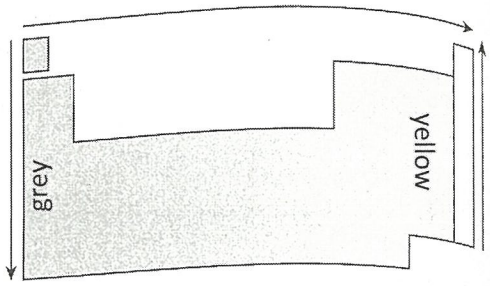
Word bank

Proton, Neutron, Electron, shell, nucleus

Name of subatomic particle	Location in atom	Charge	mass
Proton	nucleus	+1	1
Neutron	nucleus	0	1
Electron	in shells (outside)	-1	0

2. Look at the symbols and atomic numbers of the elements.
   a. What is the atomic number of helium? 2
   b. What is the atomic number of gold? 79
   c. What is the symbol of the element with atomic number 22? Ti
   d. What is the symbol of the element with atomic number 33? As
3. Look at the atomic masses of the elements.
   a. What is the atomic mass of aluminum? 27.0 amu
   b. What is the atomic mass of silver? 107.9 amu
   c. What is the symbol of the element with atomic mass 40.1? Ca
   d. What is the symbol of the element with atomic mass 83.8? Kr
4. What is the difference between an element's atomic number and its atomic mass?
   Atomic # = # of protons, Atomic mass = # of p + # of neutrons
   What is the significance of the atomic number in terms of the periodic table?
   Top to bottom increase / organizes the elements
   Left to right increase / from lowest to highest

5. Use the diagram below to answer the questions that follow.



a. What physical properties do the grey-shaded elements have in common?
metal, positive charge

b. What physical properties do the yellow-shaded elements have in common?
non metal, negative charge

c. What physical properties do the elements in the white column have in common?
no charge

6. Elements 1, 3, 11 and 19 are in the first column of the periodic table.

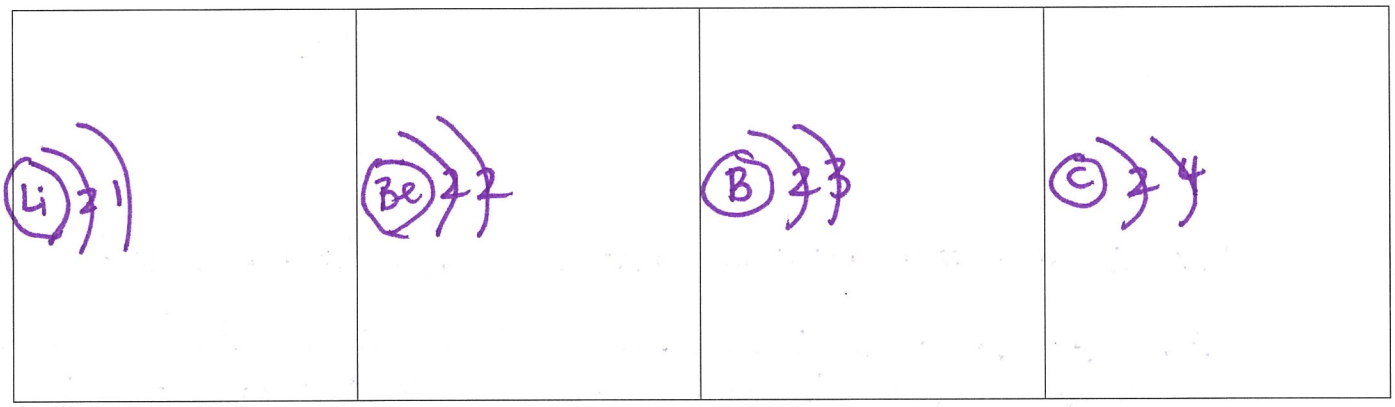
a. Draw Bohr diagrams for these elements (electron arrangement 2, 8, 8, 18, 18, 32, 32..)

b. How is the electron arrangement in these elements similar?
2,8,8, | 1 electron in outer-most shell

c. How many electrons would you expect there to be in the outer energy shell of the elements Rb and Cs? Explain. 1. → if it follows the same pattern.

7. Look at the elements 3 to 10.

a. Draw the Bohr Diagrams for these elements. (for this question, you can write the number of electrons in each shell instead of actually drawing them)



(N) 2 5	(O) 2 6	(F) 2 7	(Ne) 2 8

b. Compare your diagrams. How are they the same? Different?

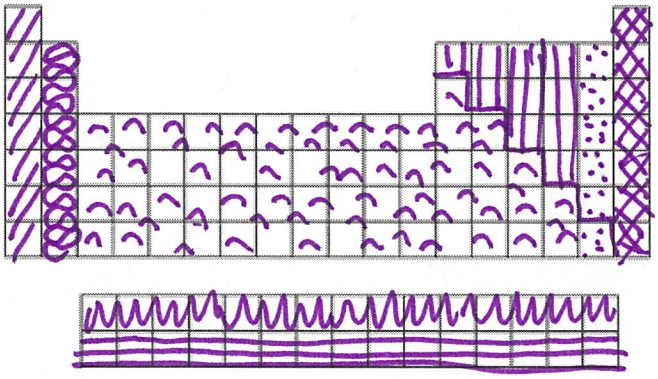
Same number of shells, number of e⁻ in second shell increases by 1

c. What period do these elements belong to? 2

d. What is the relationship between period number and occupied energy shells?

each period is the number of shells it has

8. Colour the periodic table below labelling the families. What are the characteristics of each family? (you may not "remember" this from last year, so do a quick google search)



Colour	Family	Characteristics
	Alkali metal	soft, metalic, shiny, conductive, extremely reactive
	Alkaline earth metal	metalic, shiny, harder than alkali metals reacts with water but less extremely than ↑
	noble gasses	stable, non-reactive,
	halogens	reactive non-metals, high electron affinity
	Transition metals	hard, shiny, high thermal and electric conductivity.
	non-metals	negative charge, poor conductors, brittle as solids
	Lanthinides	not good conductors, soft metals, positive charges, high density.
	Actinides	high density