SI Worksheet

2/10/22

Agenda:

Kahoot on parts of periodic table

Worksheet

1. Write the corresponding name or symbol

|  |  |
| --- | --- |
| Name | Symbol |
| Boron |  |
|  | Be |
| Carbon |  |
|  | F |
|  | H |
| Helium |  |
|  | Li |
|  | N |
|  | Ne |
| Oxygen |  |

|  |  |
| --- | --- |
| Name | Symbol |
|  | Si |
| Sulfur |  |
|  | P |
|  | Na |
|  | Mg |
|  | K |
| Chlorine |  |
|  | Ca |
|  | Ar |
| Aluminum |  |

1. Is the following elements cations or anions? Did they lose/gain electrons or protons?

Na+ O2- Mg2+ F-

C4+ Br-  P3-

1. Fill in the table

|  |  |  |  |  |  |  |  |  |
| --- | --- | --- | --- | --- | --- | --- | --- | --- |
| Element Symbol | Shorthand Representation  AX | X-A | AX | Atomic Number | Mass Number | # of protons | # of neutrons | # of electrons |
|  |  |  |  | 9 |  |  | 10 |  |
| Ca |  |  |  |  | 40 |  |  |  |
|  |  |  |  |  |  |  | 15 | 14 |
| Au |  |  |  |  | 197 |  |  |  |
| Mg | 25Mg2+ |  |  |  |  |  |  |  |
|  |  |  |  | 8 | 16 |  |  | 9 |

1. Calculating atomic weight
   1. Naturally occurring europium (Eu) consists of two isotopes. 151Eu (atomic mass of 150.919) amu) has an abundance of 48.03% and 153Eu (atomic mass of 152.921) has an abundance of 51.97%. What is the atomic weight of europium?
   2. Nitrogen is made up of two isotopes, 14N (atomic mass 14.00 amu) and 15N(atomic mass of 15.00). Given nitrogen's atomic weight of 14.007, what is the percent abundance of each isotope?
   3. Silicon consists of 3 isotopes, 28Si, 29Si and 30Si, whose atomic masses are 27.9769, 28.9765 and 29.9738 amu respectively. The most abundant isotope is 28Si which accounts for 92.23% of occurring silicon. Given that the observed atomic weight of silicon is 28.0855 calculate the percentages of 29Si and 30Si.