**Name: \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_ Class: \_\_\_\_\_\_\_\_\_**

|  |  |
| --- | --- |
| **Week 1:** | **Atomic structure and electronic configuration**  |

|  |  |  |  |  |  |  |  |
| --- | --- | --- | --- | --- | --- | --- | --- |
|  |  |  |  |  |  |  |  |
| Name | **Lithium** | Name | **Beryllium**  | Name | **Boron** | Name | **Carbon** | Name | **Nitrogen** | Name | **Oxygen** | Name | **Fluorine** | Name | **Neon** |
| Atomic Number | 3 | Mass Number  | 7 | Atomic Number | 4 | Mass Number  | 9 | Atomic Number | 5 | Mass Number  | 11 | Atomic Number | 6 | Mass Number  | 12 | Atomic Number | 7 | Mass Number  | 14 | Atomic Number | 8 | Mass Number  | 16 | Atomic Number | 9 | Mass Number  | 19 | Atomic Number | 10 | Mass Number  | 20 |
| P | 3 | N | 4 | E | 3 | P | 4 | N | 5 | E | 4 | P | 5 | N | 6 | E | 5 | P | 6 | N | 6 | E | 6 | P | 7 | N | 7 | E | 7 | P | 8 | N | 8 | E | 8 | P | 9 | N | 10 | E | 9 | P | 10 | N | 10 | E | 10 |
| Group | 1 | Period | 1 | Group | 2 | Period | 1 | Group | 3 | Period | 1 | Group | 4 | Period | 1 | Group | 5 | Period | 1 | Group | 6 | Period | 1 | Group | 7 | Period | 1 | Group | 8 | Period | 1 |
| Config | 2.1 | Config | 2.2 | Config | 2.3 | Config | 2.4 | Config | 2.5 | Config | 2.6 | Config | 2.7 | Config | 2.8 |
|  |  |  |  |  |  |  |  |
| Name | **Sodium** | Name | **Magnesium** | Name | **Aluminium** | Name | **Silicon** | Name | **Phosphorus** | Name | **Sulphur**  | Name | **Chlorine** | Name | **Argon** |
| Atomic Number | 11 | Mass Number  | 23 | Atomic Number | 12 | Mass Number  | 24 | Atomic Number | 13 | Mass Number  | 27 | Atomic Number | 14 | Mass Number  | 28 | Atomic Number | 15 | Mass Number  | 31 | Atomic Number | 16 | Mass Number  | 32 | Atomic Number | 17 | Mass Number  | 35.5 | Atomic Number | 18 | Mass Number  | 40 |
| P | 11 | N | 12 | E | 11 | P | 12 | N | 12 | E | 12 | P | 13 | N | 14 | E | 13 | P | 14 | N | 14 | E | 14 | P | 15 | N | 16 | E | 15 | P | 16 | N | 16 | E | 16 | P |  | N |  | E |  | P | 18 | N | 22 | E | 18 |
| Group | 1 | Period | 2 | Group | 2 | Period | 2 | Group | 3 | Period | 2 | Group | 4 | Period | 2 | Group | 5 | Period | 2 | Group | 6 | Period | 2 | Group | 7 | Period | 2 | Group | 8 | Period | 2 |
| Config | 2.8.1 | Config | 2.8.2 | Config | 2.8.3 | Config | 2.8.4 | Config | 2.8.5 | Config | 2.8.6 | Config |  | Config | 2.8.8 |

Answer the remaining questions:

1. State the number of electrons in the outermost shell of lithium, sodium, and potassium.
2. State the group number of lithium, sodium, and potassium.
3. State the number of electrons in the outermost shell of boron and aluminium.
4. State the group number of boron and aluminium.
5. State the number of electrons in the outermost shell of fluorine and chlorine.
6. State group number of fluorine and chlorine.
7. State the period number of magnesium, silicon, and phosphorus.
8. State the number of energy levels (shells) of magnesium, silicon, and phosphorus.
9. An atom has the electron configuration 2,7. Answer the following:
	1. How many shells does this atom have?
	2. How many electrons are in the outermost shell?
	3. What element is it?
10. An atom has the electron configuration 2,8,6. Answer the following:
	1. How many shells does this atom have?
	2. How many electrons are in the outermost shell?
	3. What element is it?
11. One electron in the outermost shell
12. Group 1
13. Three electrons in the outermost shell
14. Group 3
15. Seven electrons in the outermost shell
16. Group 7
17. Period 3.
18. Magnesium, silicon, and phosphorus have three shells.
19. a. Two shells.
20. Seven electrons in the outermost shell.
21. Fluorine
22. a. Three shells
23. Six electrons in the outermost shell.
24. Sulfur