**Trends in the Periodic Table**

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| **Learning Intention**  We are learning about Atomic Radius (Atom Size) | | | | | |
| No. | **Outcome** | **What you know and understand** | ☹ | 😐 | ☺ |
| 1 | I know what Newland’s Octave rule is and periodic patterns |  |  |  |  |
| 2 | I can state the trend in atom size (radius) **down** a group. |  |  |  |  |
| 3 | I can state the trend in atom size (radius) **across** a period. |  |  |  |  |
| 4 | I can explain the trend in atom size (radius) **down** a group |  |  |  |  |
| 5 | I can explain the trend in atom size (radius) **across** a period |  |  |  |  |
| 6 | I can explain the trends in ion size | Li compared to Li**+** F compared to F-  Na+ compared to Mg2+ P3- compared to Cl-  K+ compared to Cs+ Cl- compared to I- |  |  |  |
| **Learning Intention**  We are learning about Ionisation Energy. | | | | | |
| No. | **Outcome** | **What you know and understand** | ☹ | 😐 | ☺ |
| 1 | I know what the term Ionisation Energy means. |  |  |  |  |
| 2 | I can state the trend in ionization **down** a group. |  |  |  |  |
| 3 | I can explain the trend in ionization energy down a group. | E.g. compare Lithium with Caesium or Fluorine with Iodine |  |  |  |
| 4 | I can state the trend in ionization **across** a period. |  |  |  |  |
| 5 | I can explain the trend in ionization **across** a period | Lithium compared to fluorine |  |  |  |

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| **Learning Intention**  We are learning about electron affinity | | | | | |
| No. | **Outcome** | **What you know and understand** | ☹ | 😐 | ☺ |
| 1 | I can state the trend in electron affinity **down** a group |  |  |  |  |
| 2 | I can explain the trend in electron affinity **down** a group |  |  |  |  |
| 3 | I can state the trend in electron affinity **across** a period |  |  |  |  |
| 4 | I can explain the trend in electron affinity **down** a group |  |  |  |  |

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| **Learning Intention**  We are learning about Electronegativity | | | | | |
| No. | **Outcome** | **What you know and understand** | ☹ | 😐 | ☺ |
| 1 | I can explain what the term electronegativity means |  |  |  |  |
| 2 | I can describe the trend in electronegativity **across** a period. |  |  |  |  |
| 3 | I can describe the trend in electronegativity **down** a group. |  |  |  |  |

**Trends in the Periodic Table Questions**

1



2

Aluminium and phosphorus are close to one another in the Periodic Table but

the P3- ion is much larger than the Al3+ ion.

Give the reason for this difference.

3







4

5

**The following answer is from a student’s exam paper and it is incorrect. Correct the explanation.**

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**Key Words from Part C – Patterns in the Periodic Table**

|  |  |
| --- | --- |
| **Key Word or Phrase** | **Meaning** |
| Octet rule |  |
| Atomic radius |  |
| Electron affinity |  |
| Ionisation Energy |  |
| Electronegativity |  |
| Nuclear Shielding |  |
| Periodic trend |  |
| John Newland’s Law of Octaves |  |