

Subject-Chemistry

Activity 5 -The Periodic Table trends

Chapter 5 – Periodic classification of elements

CLASS –X

Duration-30mins

Nature of activity: Group

Learning Outcome:

The students will understand that are specific trends in the properties of elements using the Modern Periodic Table.

What we have to do?

To identify and understand the periodic table trends using the Modern Periodic Table.

What is required?

A copy each of Periodic table of elements and periodic table trends

What do you need to know?

Periodic trends are specific patterns that are present in the periodic table that illustrate different aspects of a certain element, including its size and its electronic properties. Major periodic trends include: [electronegativity](#), [ionization energy](#), [electron affinity](#), [atomic radius](#), melting point, and [metallic character](#). Periodic trends, arising from the arrangement of the periodic table, provide chemists with an invaluable tool to quickly predict an element's properties. These trends exist because of the similar atomic structure of the elements within their respective group families or periods, and because of the periodic nature of the elements.

How will you proceed ?

➤ Teacher' s activity

Teacher will explain about the periodic trends using the Modern Periodic Table and arrange 20 kits, each having a worksheet and a copy each of Periodic table of elements and periodic table trends.

➤ Student's activity

Students will observe both the tables and will try to attempt each question using the knowledge they have about the periodic trends and the copy of the trends.

S.No.	Property of the elements	Position in the periodic table	Reason
1	Electronegative nature of Fluorine		
2	Less Ionisation energy of Sodium		
3	Inert nature of Argon		
4	Hydrogen behaves as both Alkali metals and halogens		
5.	Lanthanoids and Actinoids are not part of the periodic table.		

What you have learnt?

As you move down a group on the periodic table, the electronegativity of an element decreases becausenumber of **energy** levels puts the outer electrons very far away from the pull of the nucleus.

Electronegativityas you move from left to right across a period on the periodic table.

The more negative the electron affinity value, the higher an atom's affinity for electrons.

What would you be interested to know?

Q.1. Electron affinity increases from left to right within a period. Why?

Q.2. What is the difference between ionic radius and atomic radius?

Q.3. Where are radioactive elements located in the periodic table?