

20/08

classmate

Date

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classification of Elements & Periodicity in properties

1. What is the basic theme of organisation in periodic table?

ans The basic theme of Organisation of elements in the periodic table is to simplify and systematize the study of the properties of all the elements and million of their compounds. This has made the study simple because the properties of elements are now studied in form of groups rather than individually.

2. Which important property did Mendeleev use to classify the elements in his periodic table and did he stick to that?

ans Mendeleev used atomic weight as the basis of classification of elements in the periodic table. He did stick to it and classify elements into groups and periods.

3. What is the basic difference in approach between Mendeleev's periodic law and the Modern periodic law?

ans The basic difference in approach between Mendeleev's Periodic law and Modern periodic law is the change in basis of classification of elements from atomic weight to atomic number.

4. On the basis of quantum numbers, justify that sixth period of the table should have 32 elements.

ans The sixth period corresponds to sixth shell. The orbitals present in this shell are 6s, 4f, 5p and 6d. The maximum number of electrons which can be present in these sub shell is $2 + 14 + 6 + 10 = 32$. Since the no. of elements in a period corresponds to the number of electrons in the shells, the sixth period should have a minimum of 32 elements.