

AUTUMN BREAK HOLIDAY HOMEWORK

1. DO ANY ONE ACTIVITIES IN PORTFOLIO FILE AND ALSO ATTACH PHOTOS:

- A) Collect information from newspapers or weather reports on television about rainfall patterns across the country. Also find out how to construct a rain-gauge and make one. What precautions are necessary to get reliable data from this rain-gauge?
Now answer the following questions:
- In which month did your city/town/ village get the maximum rainfall?
 - In which month did your state/union territory get the maximum rainfall?
 - Is rain always accompanied by thunder and lightning? If not, in which season do you get more of thunder and lightning with the rain?
- B) Select a small area (say, 1m²) near a water-body, it may be a river, stream, lake, or pond. Count the number of different animals and plants in this area. Also, check the number of individuals of each type or species. (To be done under the guidance of parents)
- Compare this with the number of individuals (both animals and plants) found in an area of the same size in a dry, rocky region.
 - Is the variety of plant and animal life the same in both these areas?

2. Complete the worksheet given in next page and complete it.

STRUCTRE OF ATOM WORKSHEET

1. Read the following passages and answer the questions that follow:

Ramesh, a medical student, came to learn that an element's isotope is used to treat thyroid cancer, but it is also dangerous to handle because it is very radioactive. So, he did extra research to learn more about it.



(A) Which element as an isotope is used to treat thyroid cancer?

(a) Bromine (b) Chlorine (c) Carbon (d) Iodine

(B) Number of protons in Iodine is:

(a) 45 (b) 53 (c) 56 (d) 54

(C) Number of neutrons present in Iodine-131 are:

(a) 45 (b) 53 (c) 56 (d) 54

(D) Iodine as an isotope is dangerous.

(a) True (b) False (c) Cannot say (d) Can be true sometimes

(E) Which of the following is the correct electronic configuration of chlorine?

(a) 2, 8, 7 (b) 2, 8, 1 (c) 2, 8, 8 (d) 2, 8, 8, 7

2. In a class, a boy was doing magic. He was attracting the pieces of paper after combing his dry hair. Tina found the science behind it.



(A) The pieces of paper get attracted towards comb because of:

(a) electrostatic force

(b) force of repulsion

(c) gravitational force

(d) comb polarises the piece of paper

(B) Which type of charge is present on the comb?

(a) Negative charge (b) Positive charge

(c) No charge (d) None of these

(C) When a comb is rubbed with dry hair, it attracts pieces of paper. Why?

(D) If hair is wet or oily, will the comb attract the piece of paper by rubbing it on hair?

(E) Assertion (A) : A comb runs through one's dry hair to attract small bits of paper.

Reason (R): The amount of charged particles varies within the atoms

in the comb which gives the comb the electric charge.

- (a) Both A and R are true and R is the correct explanation of A.
- (b) Both A and R are true and R is not the correct explanation of A.
- (c) A is true but R is false.
- (d) A is false but R is true.

3. (A) Which parameter is needed for the identification of any element?

(B) In response to a question, Parag stated that in an atom, the number of protons is greater than the number of neutrons, which in turn is greater than the number of electrons. Do you agree with the statement? Justify and support Parag's view by giving a suitable reason for the same.

4. Write the electronic configuration, number of neutrons, and valency of the following:

- (A) Phosphorus
- (B) Calcium
- (C) Neon

5. Assertion – Reasoning based questions.

These consist of two statements – Assertion (A) and Reason (R). Answer these questions by selecting the appropriate option given below:

- (a) Both A and R are true and R is the correct explanation of A.
- (b) Both A and R are true and R is not the correct explanation of A.
- (c) A is true but R is false.
- (d) A is false but R is true.

A) Assertion (A): Cathode rays follow a straight path.

Reason (R): Thin sheets prevent cathode rays from penetrating through it.

B) Assertion (A): In comparison to the size of the atom, the nucleus is very small.

Reason (R): The nucleus of the atom is encircled by electrons.

KEEP LEARNING AND EXPLORING!!!