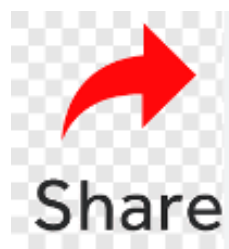
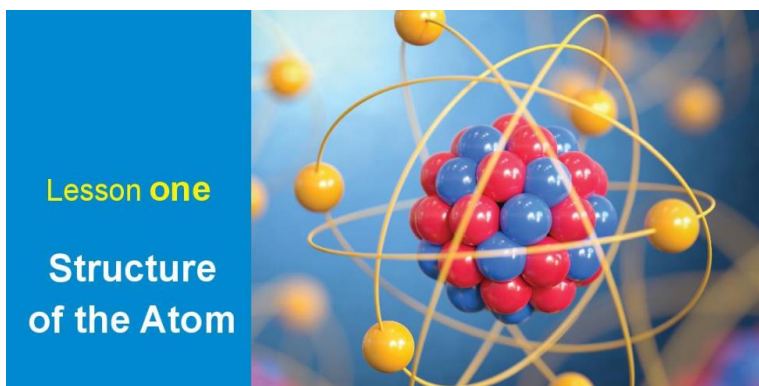
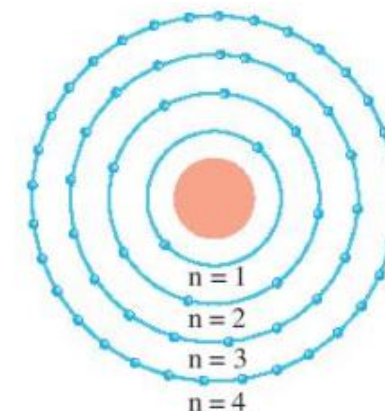


قناة الناظر التعليمية مستر مجدي



اختبار الأسبوع الاول والثاني ساينس أول اعدادي – منهج 2025



شاهد المراجعة علي قناتنا علي اليوتيوب بالضغط على

- <https://youtu.be/ePiVnQnCGeg>

Question 1:

What is meant by.....?

- 1- Matter is everything that has mass, volume, (and takes up space.)
- 2- Atom is the building block of structure of matter.
- 3- Atomic number is the number of positive protons inside the nucleus.
- 4- Mass number is the sum of the number of protons and the number of neutrons.
- 5- Isotopes

Different forms of atoms for the same element that have the same atomic number but different mass number due to the difference in neutrons number.

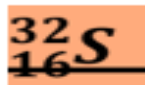
- 6- Fertilizers
are chemical compounds that are used to improve the agricultural crops.

Compare between

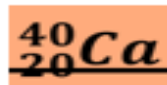
1. protons, neutrons, and electrons according to

P.O.C	protons	neutrons	electrons
charge	+1	0	- 1
location	nucleus	nucleus	Energy levels
mass	1 u	1 u	1/ 1836 u

2- Element



and element



P.O.C	$^{32}_{16}\text{S}$	$^{40}_{20}\text{Ca}$
atomic number	16	20
mass number	32	40
element name	Sulfur	Calcium
number of protons	16	20
number of neutrons	16	20
number of electrons	16	20
number of energy levels saturated or occupies with electrons	3 (K, L, M)	4 (K, L, M, N)

3- The three Isotopes of hydrogen

name of isotope	Protium	Deutirium	... Tritium
number of electrons	1	1	1
number of protons	1	1	1
mass number	1	2	3
symbol	${}^1_1\text{H}$	${}^2_1\text{H}$	${}^3_1\text{H}$
number of neutrons	0	1	2
atomic number	1	1	1

Question 3

What is the reason for

1- The nucleus of the atom is positively charged?

As it contains positive protons and neutral neutrons (no charged particles).

2- The mass of the atom is concentrated in its nucleus?

As the mass of electrons is neglected (very small) compared to the mass of nucleons.

3- The atom is electrically neutral?

As the number of positive protons = the number of negative electrons

4- Mass number equals atomic number in the atom of hydrogen?

As ${}^1_1\text{H}$ does not have any neutrons.

5- Mass number is double fold the atomic number in this atom ${}^{16}_8\text{O}$

As the mass number contain the number of protons + the number of neutrons.

6- It is recommended not to overuse chemical fertilizers?

To not cause soil, water pollution.

7- The symbol of sodium is “Na” not “S”?

As it is taken from its Latin name “Natrium” or it kept its Latin name “Natrium”

8- Mass number is always greater than atomic number?

As mass number contains the number of protons + the number of neutrons.

9- Energy level “L” is saturated with 8 electrons?

According to the relation $2n^2$ where $(2 \times 2^2 = 8)$

10- Energy level “M” is filled with electrons before energy level “N”?

As energy level M has lower energy than energy level N.

Question 4

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An element has 13 protons and its neutrons number is one neutron more than its protons number. Find!

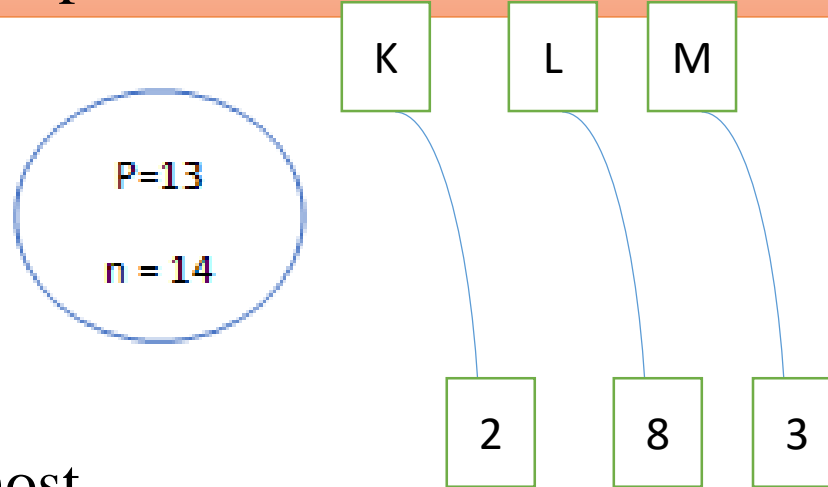
Number of neutrons

$$\text{Number of protons} + 1 = 13 + 1 = 14$$

Number of nucleons

$$\text{Number of protons} + \text{number of neutrons} = 13 + 14 = 27 \text{ nucleons}$$

Electronic configuration



Number of electrons in the outermost energy level

(M : 3 electrons)

Write the chemical symbol for

1- Zinc **Zn**

2- Potassium **K**

3- silicon **Si**

4- gold **Au**

1- Silver **Ag**

6- copper **Cu**

7- phosphorous **P**

8- lead **Pb**

9- mercury **Hg**

10- chromium **Cr**

11- sodium **Na**

12- Oxygen **O**

13- hydrogen **H**

14- nitrogen **N**

15- iron **Fe**

16- chlorine **Cl**

Write the scientific term:

1. The first scientific theory about atom. **Dalton**
2. The first model of atom based on experimental bases. **Rutherford**
3. The building block of structure of matter. **Atom**
4. Everything that has mass, volume, and takes up space. **Matter**
5. Positively charged particles inside the nucleus of the atom. **Protons**
6. Subatomic particles that their mass can be neglected but their charge cannot. **Electrons**
7. Subatomic particles that their charge can be neglected but their mass cannot. **Neutrons**
8. Compound used in improving the agricultural crops **NPK Fertilizers**
9. An element that is essential for greening the plant leaves. **Nitrogen**
10. An element that essential for developing strong roots. **Phosphorous**
11. An element that essential for the heathy growth of plants. **Potassium**

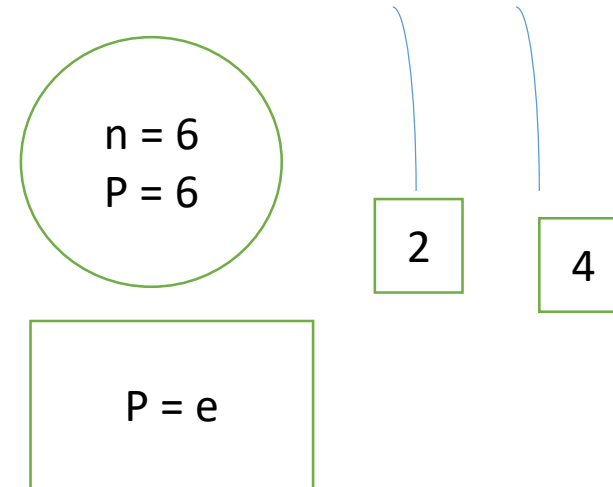
Question 7

An element H its electrons are distributed in two energy levels, the outermost energy level has 4 electrons, the nucleus of this element has 6 neutrons.

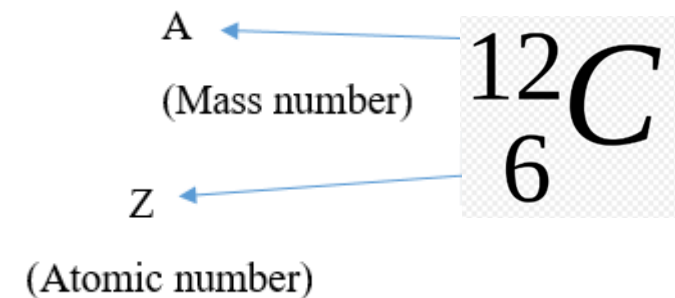
Electronic configuration

Find its mass number.

$$P + n = 6 + 6 = 12$$



Write the symbol of this element showing the A and Z numbers.



An element its atomic number is 11 and its atomic mass is 23

Find: 1- number of electrons

$$p^+ = e^- = 11$$

2- number of protons

$$p^+ = e^- = 11$$

3- number of neutrons

$$n = \text{mass no.} - \text{atomic no.} = 23 - 11 = 12 \text{ n}$$

1- is the first model for the atom on an experimental base

(Bohr - Mendeleev - Moseley - Rutherford)

2- Inside the nucleus of the atom, mostly the number of is more

than or equal the number of protons

(atomic number - electrons - neutrons - particles)

3- element is necessary for strengthen roots of plants

(N - P - K - O)

4- Negatively charged particles that revolve around the nucleus are

(protons - electrons - neutrons - particles)

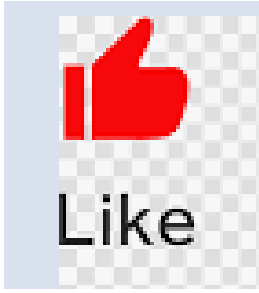
5- An element its outermost energy level (M) contains one electron

So its atomic number is

(3 - 9 - 11 - 19)

6- The chemical symbol of potassium is

 (B - Be - K - Al)



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