

أسئلة على درس المادة - انسباير



تم تحميل هذا الملف من موقع المناهج الإماراتية

موقع المناهج ⇨ المناهج الإماراتية ⇨ الصف التاسع ⇨ علوم ⇨ الفصل الأول ⇨ ملفات متنوعة ⇨ الملف

تاريخ إضافة الملف على موقع المناهج: 2026-08-31 13:08:10

ملفات اكتب للمعلم اكتب للطالب | اختبارات الكترونية | اختبارات | حلول | عروض بوربوينت | أوراق عمل
منهج انجليزي | ملخصات وتقارير | مذكرات وبنوك | الامتحان النهائي | للمدرس

المزيد من مادة
علوم:

إعداد: Adel Rania

التواصل الاجتماعي بحسب الصف التاسع



صفحة المناهج
الإماراتية على
فيسبوك

الرياضيات

اللغة الانجليزية

اللغة العربية

التربية الاسلامية

المواد على تلغرام

المزيد من الملفات بحسب الصف التاسع والمادة علوم في الفصل الأول

أسئلة على درس المادة - انسباير

1

حل ورقة عمل مدخل إلى علم الفيزياء

2

اختبار القياس الدولي IBT متبوع بالإجابات

3

ورقة عمل درس كيف تختلف الذرات مع الحل

4

عرض بوربوينت لدرس المناخ والنبات الطبيعي

5



Chemistry in biology

Matter



التاريخ

31/8/2026



المعلمة

Rania Adel



الصف

التاسع
أسبائير



المادة

Biology



افهم



اكتشف



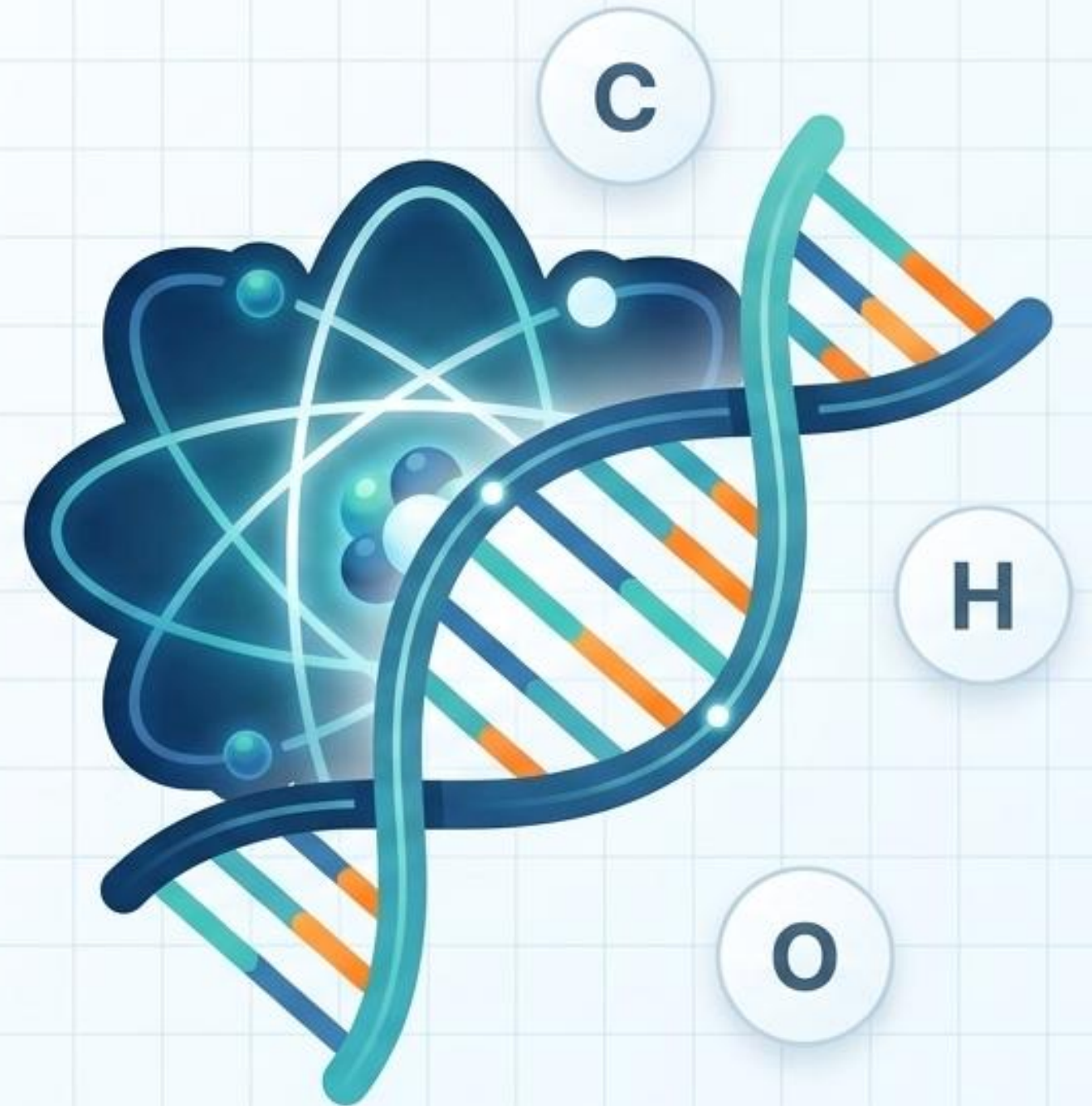
استكشف

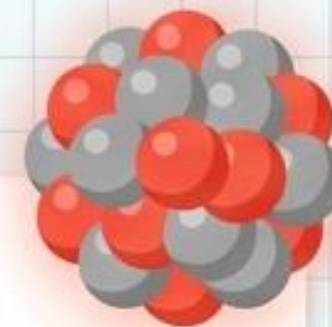
Module 6 • Chemistry in Biology

Matter & Chemical Bonds

Grade 12 Biology – Practice
Questions & Review Deck

Test Your Knowledge →





Question 1 (Multiple Choice):

What are the basic building blocks of all matter, including all the organisms studied in biology?

- ☒ A) Cells
- ☒ B) Compounds
- ☐ C) Atoms
- ☐ D) Tissues

Question 2 (True or False):

Protons and electrons are located at the center of the atom, which is called the nucleus.

True

False

Question 3 (Complete the Statement):

The overall charge of an atom is zero because it contains an equal number of protons and _____.





Thinking & Application

Question 4 (Short Answer):

Based on the principles of atomic structure, explain why electrons constantly move around an atom's nucleus rather than drifting away into space.

Question 5 (Application):

You are examining an atom of aluminum. If this aluminum atom has 13 electrons and has an overall charge of zero, how many protons must it have? Explain your reasoning based on atomic structure.

Carbon 6	6 C Carbon 26.523
Hydrogen 1	1 H Hydrogen 1.231
Oxygen 8	8 O Oxygen 8.624
110 Sn Snint (240)	

Question 6 (Multiple Choice):

According to crosscutting concepts in biology, which element is sometimes referred to as “the stuff of life”?

- ☒ A) Hydrogen
 ☒ B) Carbon
 ☒ C) Oxygen
 ☒ D) Nitrogen

Question 7 (Choose the Correct Answer):

A pure substance that cannot be broken down into other substances by physical or chemical means is an (atom ☐ element ☐ compound).

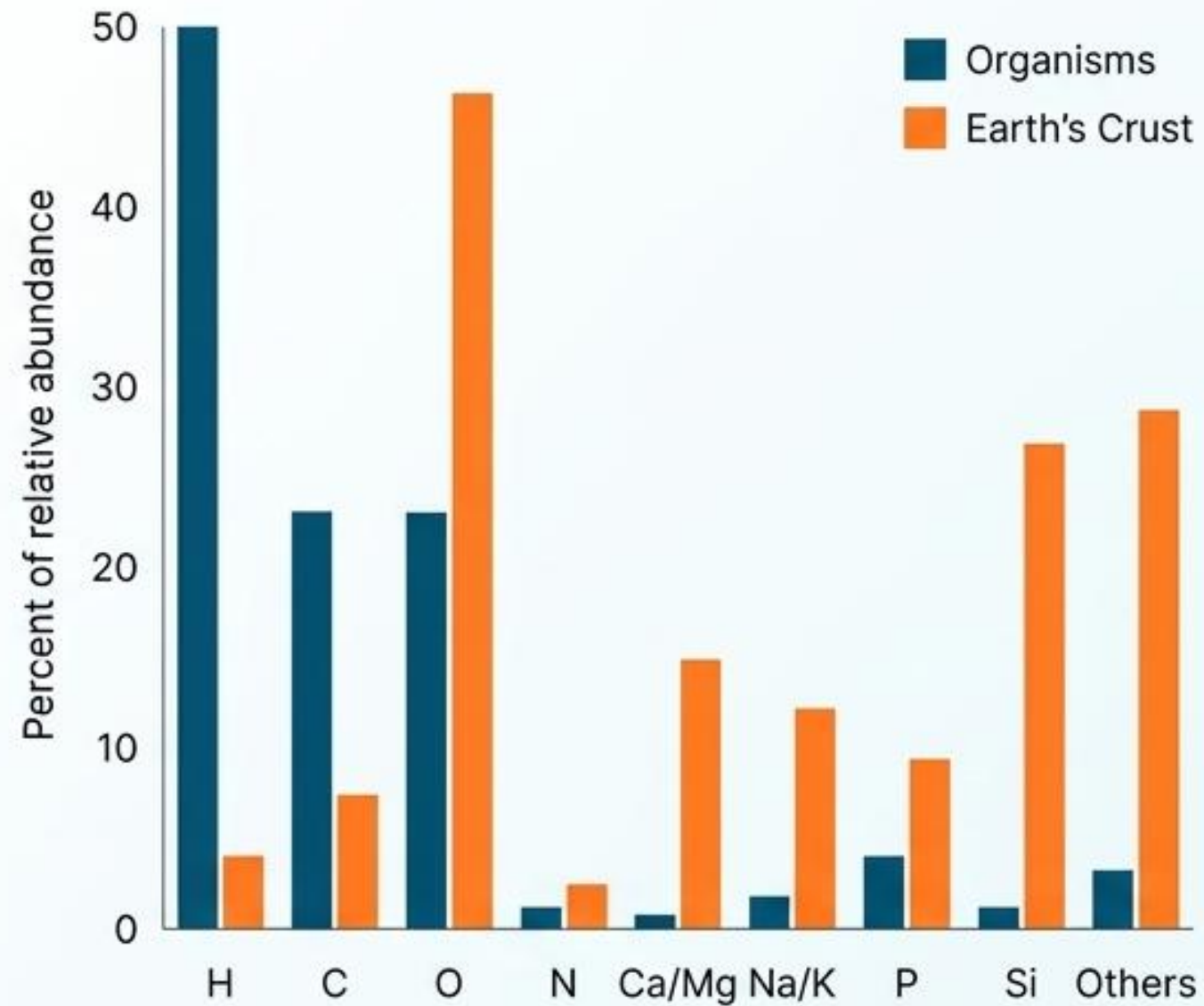
Question 8 (True or False):

While there are over 100 known elements, only 92 of these elements occur naturally.

True

False

Living vs. Nonliving Matter

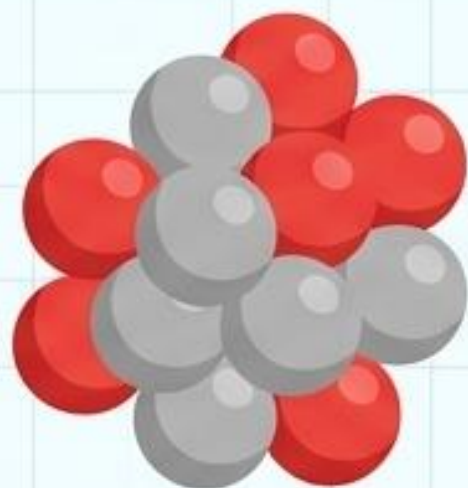


Question 9 (Data Application):

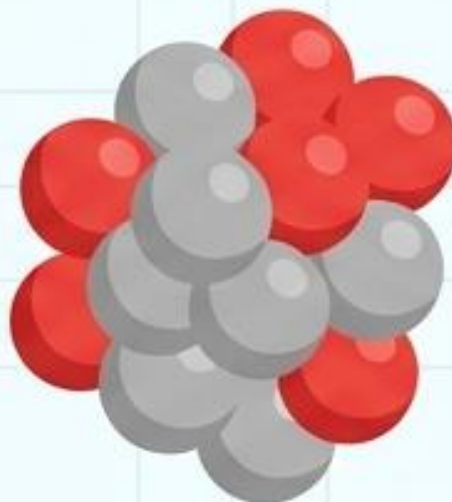
Scientists analyze the relative composition of living things compared to Earth's crust. Based on the lesson data, what are the three most abundant elements found primarily in living organisms?

Question 10 (Complete the Statement):

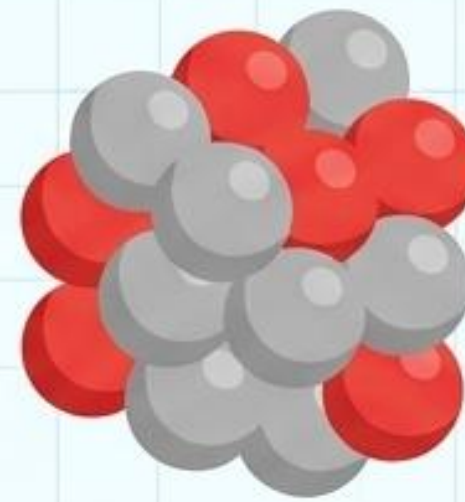
The periodic table is organized into horizontal rows called _____, and vertical columns called groups.



Carbon-12



Carbon-13



Carbon-14

Question 11 (Multiple Choice):

Atoms of the same element that have the same number of protons and electrons, but different numbers of neutrons, are called:

- ☐ A) Ions
- ☐ B) Molecules
- ☒ C) Isotopes
- ☐ D) Covalent bonds

**Question 12
(Complete the Statement):**

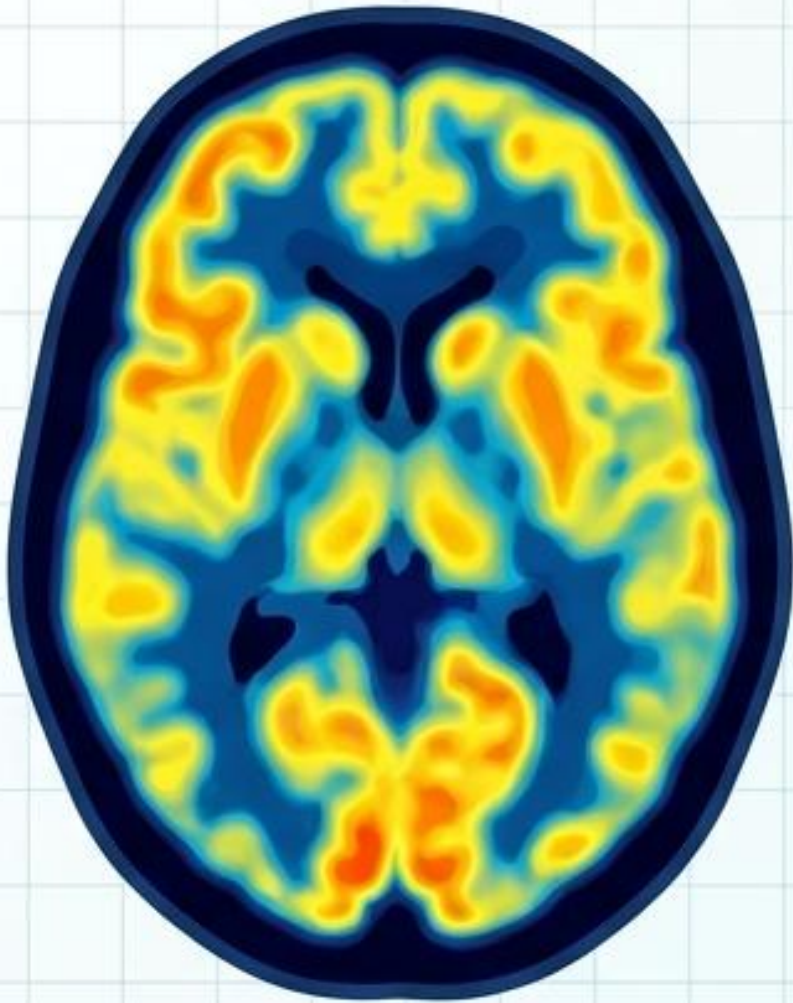
Carbon-12 has six protons and six neutrons. Its naturally occurring variation, carbon-14, has six protons and eight neutrons in its nucleus.

Question 13 (True or False):

Changing the number of neutrons in an atom alters the overall electrical charge of that atom.

True

False



Question 14 (Short Answer):

What structural change within an atom causes its nucleus to decay or break apart, resulting in a radioactive isotope?

Question 15 (Thinking):

Scientists know the 'half-life' of carbon-14. Explain how this specific information allows scientists to calculate the age of a biological object.

Question 16 (Choose the Correct Answer):

Sodium chloride (table salt) is an example of a(n) (isotope / compound / element).

☐ isotope ☒ compound ☐ element



Question 17 (Complete the Statement):

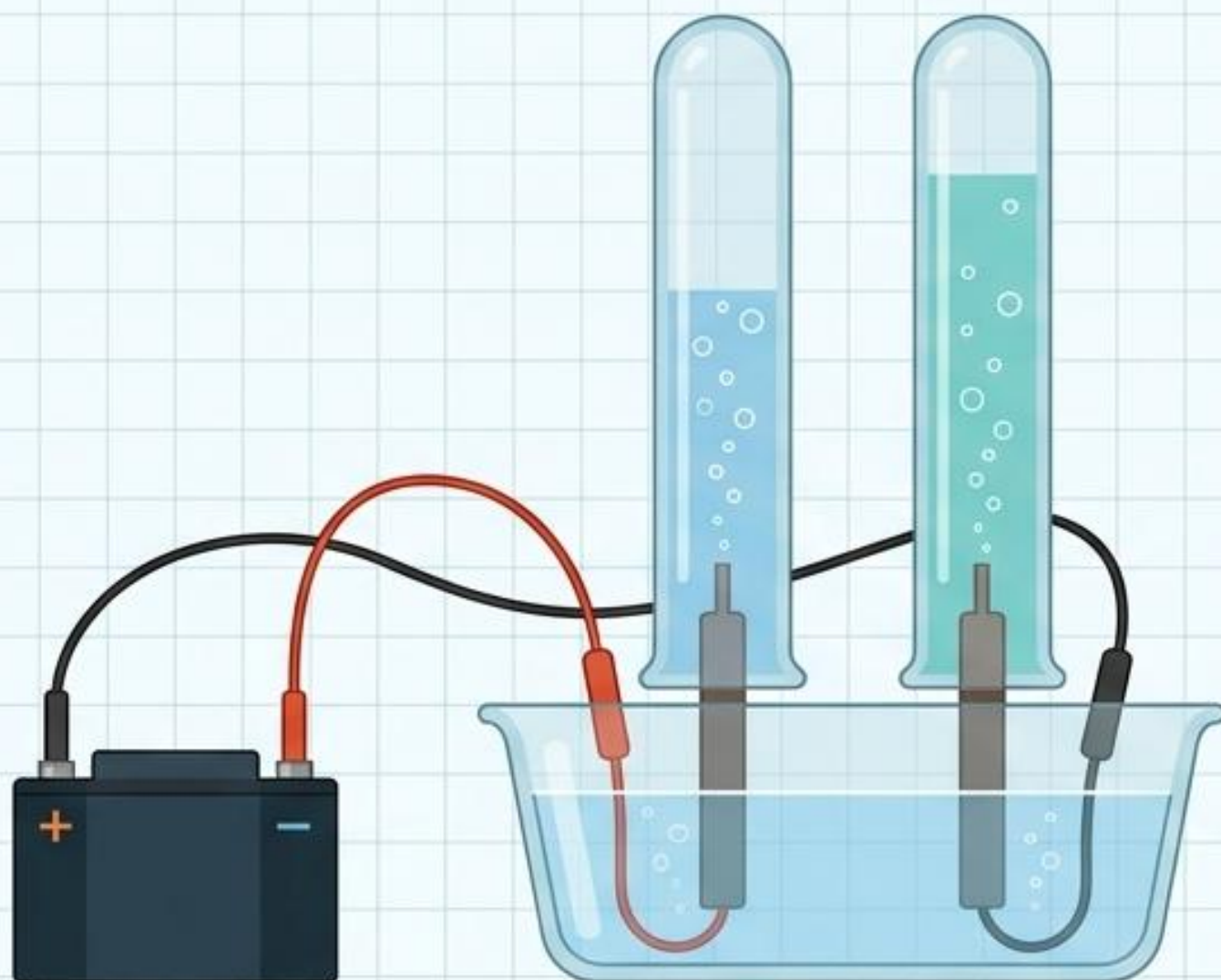
A compound is a pure substance formed when two or more different elements combine in a fixed _____.

Question 18 (True or False):

Compounds can be easily broken down into simpler compounds or into their original elements by physical means, such as tearing or crushing.

True

False



Question 19 (Short Answer):

Compounds always form in specific combinations. What is the fixed atomic ratio of elements that forms a water molecule?

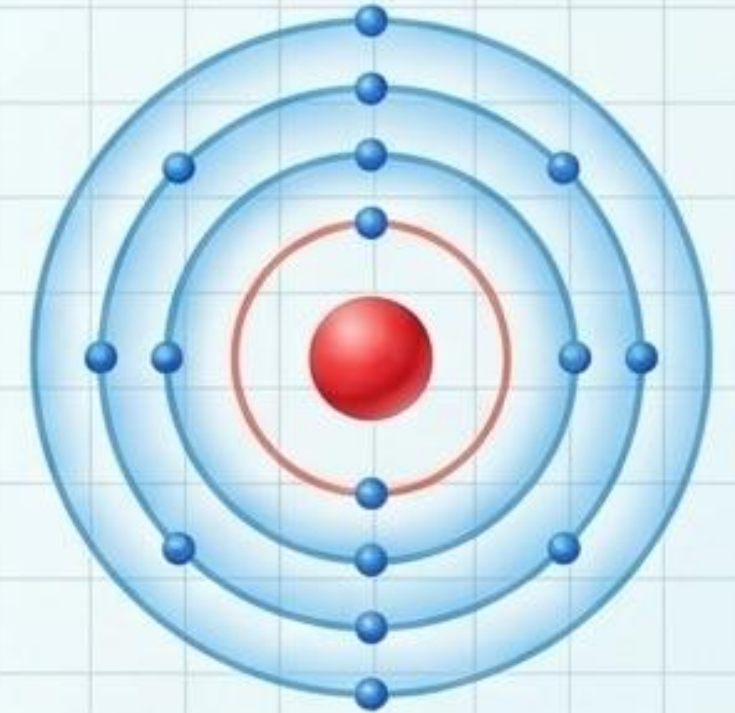
Question 20 (Thinking):

You cannot pass water through a filter to separate the hydrogen from the oxygen. However, you can separate them using a process called electrolysis. Describe what electrolysis does to water chemically.

Question 21 (Multiple Choice):

What primary activity results in the formation of chemical bonds between atoms?

- ☐ A) The physical combining of neutrons in the nucleus.
- ☐ B) Atoms losing, attracting, or sharing electrons to fill outer energy levels.
- ☐ C) The spontaneous breakdown of radioactive half-lives.
- ☐ D) The application of physical pressure to elements.



Question 22 (Complete the Statement):

An atom that has lost or gained one or more electrons becomes an _____ and carries an electric charge.

Question 23 (Choose the Correct Answer):

The electrical attraction between two oppositely charged atoms or groups of atoms is called a(n) (covalent / ionic) bond.

Question 24 (Thinking & Application):

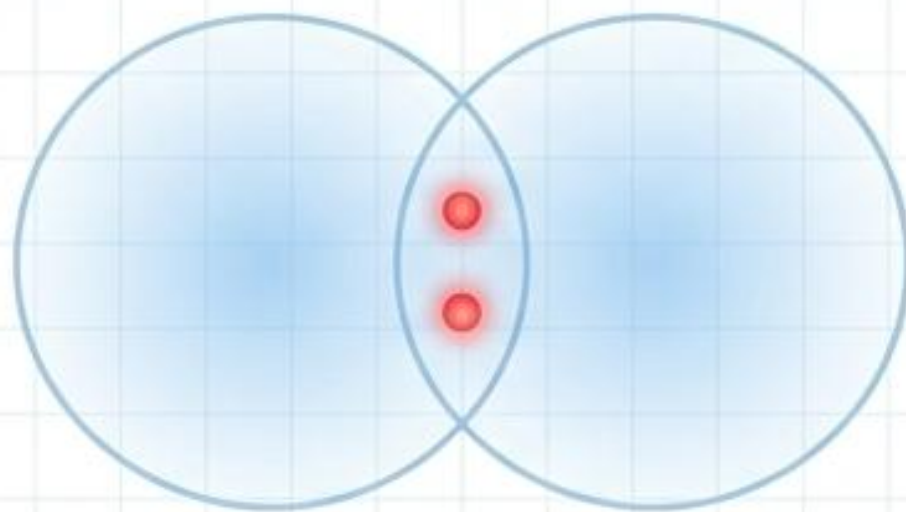
Describe the step-by-step process of how an ionic bond forms between neutral Sodium (Na) and neutral Chlorine (Cl) to create NaCl. In your answer, explicitly include what happens the electrons and how the final electrical charges lead to the bond.



Question 25 (Multiple Choice):

A compound in which the atoms are held together specifically by covalent bonds is called a:

- A) Radioactive isotope
- B) Ionic solid
- C) Molecule
- D) Ion



Question 26 (True or False):

In a covalent bond, atoms share electrons rather than giving them up or accepting them.

Question 27 (Application):

A single covalent bond is formed by sharing one pair of electrons. Based on this logic, how many total individual electrons are shared in a triple bond, such as the one found in Nitrogen gas (N_2)?

Question	Answer Key & Diagnostic Rationale
Q1:	C) Atoms
Q2:	False (Protons and neutrons are in the nucleus; electrons are outside).
Q3:	Electrons
Q4:	They constantly move around the nucleus in energy levels due to the attraction between the negatively charged electrons and positively charged protons.
Q5:	13 protons. To have a zero overall charge, the number of negatively charged electrons (13) must equal the number of positively charged protons.
Q6:	B) Carbon
Q7:	Element
Q8:	True
Q9:	Carbon, Hydrogen, and Oxygen.
Q10:	Periods
Q11:	C) Isotopes
Q12:	Eight
Q13:	False (Neutrons have no charge; changing them affects stability/mass, not the electrical charge).
Q14:	Changing the number of neutrons can affect the stability of the nucleus, causing it to decay or break apart.
Q15:	By finding how much carbon-14 remains in a sample and knowing its half-life (the time it takes for half of it to decay).

Question	Answer Key & Diagnostic Rationale
Q16:	Compound
Q17:	Ratio
Q18:	False (They can only be broken down by <i>chemical</i> means, not physical means).
Q19:	Two hydrogen atoms to one oxygen atom (H ₂ O).
Q20:	Electrolysis chemically breaks water down into its original elements: hydrogen gas and oxygen gas.
Q21:	B) Atoms losing, attracting, or sharing electrons to fill outer energy levels.
Q22:	Ion
Q23:	Ionic
Q24:	Sodium gives up an electron from its outer level, becoming a positively charged ion (Na ⁺). Chlorine accepts that electron, becoming a negatively charged ion (Cl ⁻). The electrical attraction between these oppositely charged ions forms the ionic bond.
Q25:	C) Molecule
Q26:	True
Q27:	Three pairs of electrons (which equals six electrons in total).



Great Work!

You have completed the Matter & Chemical Bonds Practice Deck.
Review any tricky concepts or missed questions using your
student edition textbook.

Module 6 • Chemistry in Biology • Grade 12



Teacher Rania Adel