ملخص وشرح الدرس الثالث solutions its and Water من الوحدة الأولى منهج انسباير

تم تحميل هذا الملف من موقع المناهج الإماراتية	
موقع المناهج ⇦ المناهج الإماراتية ⇦ الصف التاسع المتقدم ⇦ علوم ⇦ الفصل الأول ⇦ ملفات متنوعة ⇦ الملف	
تاريخ إضافة الملف على موقع المناهج: 2025-10-30 22:05:33	
ملفات ا كتب للمعلم ا كتب للطالب ا اختبارات الكترونية ا اختبارات ا حلول ا عروض بوربوينت ا أوراق عمل منهج انجليزي ا ملخصات وتقارير ا مذكرات وبنوك ا الامتحان النهائي ا للمدرس	المزيد من مادة علوم:
إعداد: أحمد الحداد	

التواصل الاجتماعي بحسب الصف التاسع المتقدم					
صفحة المناهج الإماراتية على فيسبوك					
المواد على تلغرام	التربية الاسلامية	اللغة العربية	اللغة الانجليزية	الرياضيات	

المزيد من الملفات بحسب الصف التاسع المتقدم والمادة علوم في الفصل الأول	
ملخص وشرح الدرس الثاني reactions Chemical من الوحدة الأولى منهج انسباير	1
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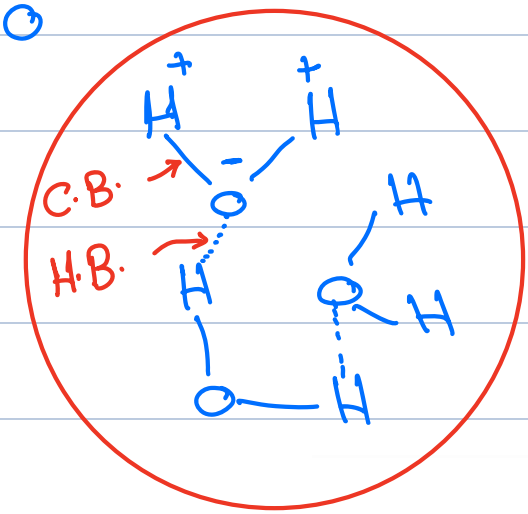
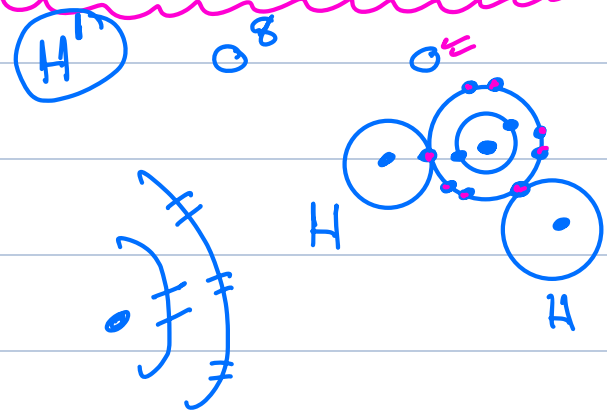
بسم الله الرحمن الرحيم Bio G9 ADV T1 2025

L3: Water and its solutions

H_2O





O → strong
H → weak
} تساهمية Covalent bond

+ The bond between O and H in water molecule is Covalent bond.

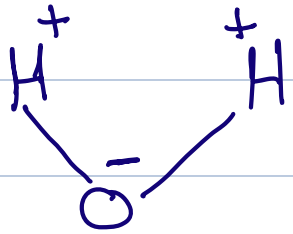
+ The bond between O in one water molecule and H in another water molecule is hydrogen bond.

* الرابطة في جزئ الماء تساهمية.

* بين جزيئات ماء هيدروجينية.

H_2O → Covalent

$H_2O + H_2O + H_2O$ → Hydrogen bond.



N	S

Polarity القطبية

2 opposite Poles

2 opposite charges. + −

H_2O magnet

→ The water molecule is Polar molecule جزئ قطبي
have oppositely charged regions.

Van dar Waals forces: قوى فاندروالز

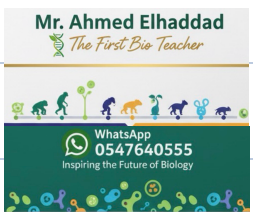
→ Polar molecules are brought close together.

→ weak electrostatic attractions between molecules.

ex:- ① Geckos أبو بريص

→ has hairlike structures on its toes.

→ Because of the attractions between charges onto these hairlike structures and other walls, it can climbing on smooth surfaces.



② Strider مزلج ماء

→ The water has areas of slight positive and negative charges around the water molecules.

→ Because of these charges, water would not form droplets, and droplets would not form a surface of water.

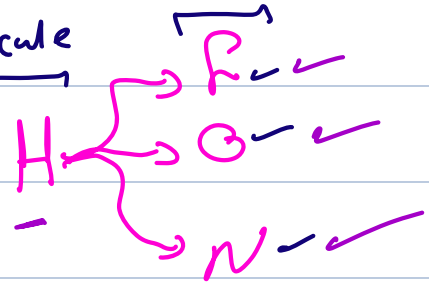
→ Because of the attractive between water molecules and the strider, it can walk on water surface.

* Hydrogen bond :-

↳ is a weak interaction between hydrogen atom and fluorine, oxygen, nitrogen from a different molecule.

other molecule.

from molecule



* properities of water :-

① water has bent shape منحنى

because opposite charges.

// hydrogen bond.

② water is universal solvent مذيب عالمي

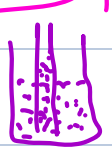
because many substances dissolve in it.

③ Adhesion التلاصق

because water form hydrogen bond with other surfaces.

Capillary action is result by adhesion.

↳ Allowed water to Travels into plants.



④ Cohesion التماسك

because The attracted between water molecules.

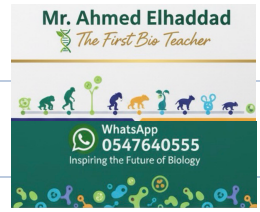
This attraction result surface tension

causes water to form droplets

causes insects and leaves to rest on water surface

⑤ Ice floats

- because water become more dense as it cool to 4°C.
- This float of ice allow fish to still live in polar region on the earth.



Mixtures الخليط

mixture ⇝ Combination of 2 or more substances each substance retains its own characteristics and properties.

mixture

Homogeneous

- mixture with uniform composition.
- called **Solution** محلول another name for homogeneous mixture.

solution

- Solute مذاب
- Solvent مذيب

Heterogeneous

- mixture with substances can **separted** by chemical or physical methods.
- Can see the different parts.

Heterogeneous

- Salade
- Suspensions المعلقات
- Colloids الغرويات

substance That dissolved in solvent.

substance with another dissolved in it.

ex1: sugar + water

ex2: Salt + water

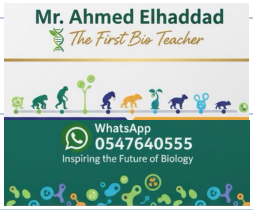
ex3: Saliva moistens in mouth → digest some of food.

ex4: Air gases.

→ The amount of solvent more Than solute.

→ Can not separated.

Pizza



Suspensions المعلقات

يترسب

* mixture can settle out over time.
* showing the parts of the mixture.

ex: → Sand + water → will settle To form muddy water.

Colloids المادة الغروانية

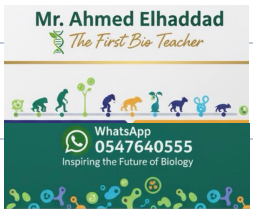
* mixture with so small parts and do not settle over time.
* examples:

foam fog

cream aerosol

* Blood * milk

ex:→ Oil + water



يتكون من
Consist of:- Butter
Red B. cells Paint الدم
White B. cells ink
Platelets plasma
Co_2, O_2, minerals, sugar

* * * *

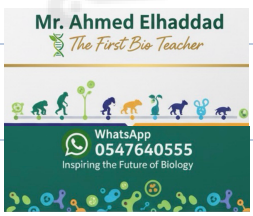
+ water $H^+\bar{H}_2O$ is Polar molecule.

This mean That many substances dissolved in water;

2 groups

Acids الحوامض
release H^+ ions when dissolved in water.
when acids dissolved in water H^+ increase
$O\bar{H}$ decrease

Bases قواعد
release $O\bar{H}$ ions when dissolved in water.
when bases dissolved in water H^+ decrease
$O\bar{H}$ increase.

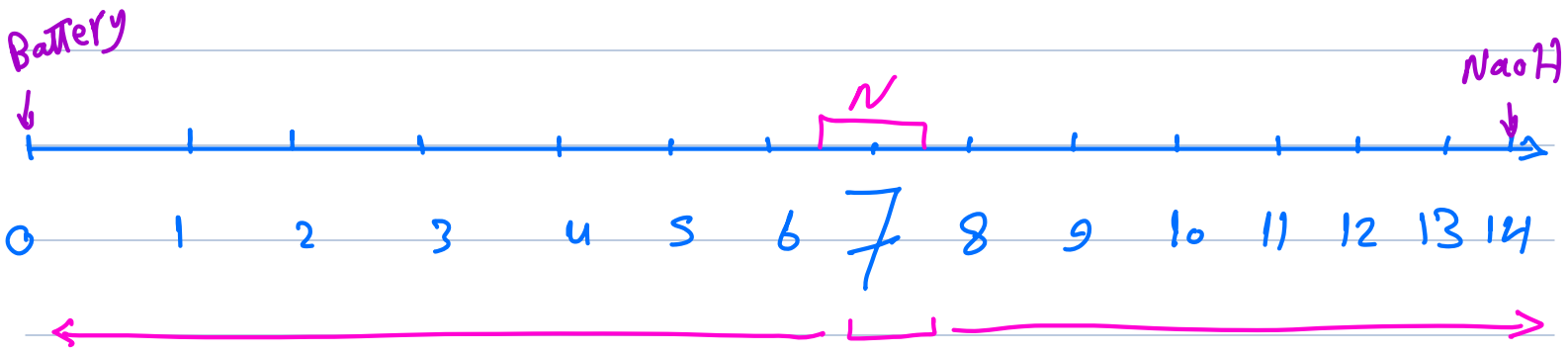


(Hcl) found in stomach
help in digestion
help in kill microorganisms.
البكتيريا

(NaoH) sodium hydroxide.
strongest bases.

in stomach There are 2 juices → gasteric juice
→ highly acidic (Hcl)

* Scientists have a scale called (pH scale)
To measure how acidic or basic a solution is.



acid Neutral base

$H^+ \uparrow$ $OH^- \downarrow$ $H^+ \downarrow$ $OH^- \uparrow$

* most of cellular processes occur between 6.5 : 7.5

* Buffers * المنظمات
↳ mixture that can react with acids or bases to keep the pH within a particular range 6.5 ; 7.5

* End of the lesson *