

تم تحميل هذا الملف من موقع المناهج الإماراتية



## شرح درس solutions and Water والمحاليل منهج انسابير

موقع المناهج ← المناهج الإماراتية ← الصف العاشر المتقدم ← علوم ← الفصل الأول ← ملفات متنوعة ← الملف

تاريخ إضافة الملف على موقع المناهج: 15:10:10 2024-12-01

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: أحمد الحداد

## التواصل الاجتماعي بحسب الصف العاشر المتقدم



صفحة المناهج  
الإماراتية على  
فيسبوك

الرياضيات

اللغة الانجليزية

اللغة العربية

التربية الاسلامية

المواد على تلغرام

## المزيد من الملفات بحسب الصف العاشر المتقدم والمادة علوم في الفصل الأول

شرح درس الذرات والعناصر والمركبات منهج إنسابير

1

ملخص وشرح الدرس الثالث Compounds Carbon مكونات الكربون

2

ملخص وشرح الدرس الثاني Water of Properties خصائص الماء

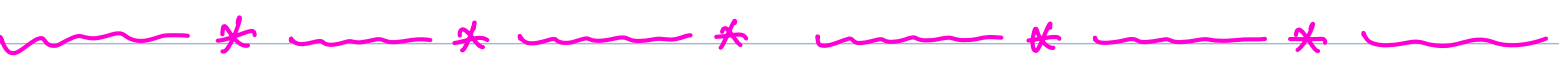
3

ملخص وشرح الدرس الأول Reactions Chemicals التفاعلات الكيميائية

4

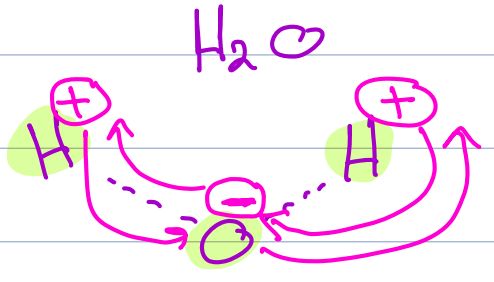
ملخص وشرح الدرس الأول System Circulatory الجهاز الدوري

5



Water and Solutions:-

Water (وجعلنا من الماء كل شيء حي)



- 70% of earth water
- 70% of organisms water
- 70% of cell water

water is polar molecule

قطبى has - and + charge.

ميزناوس      O      H<sub>2</sub>      شحرات متعاكسة

water unequal distribution of charges. (opposite charges)

Because the water has opposite charges, it conduct heat and electric.

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كهرباء ساكنة

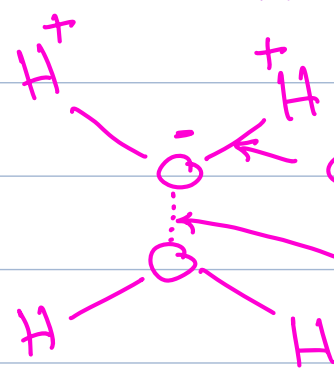
② Cause electrostatic

attraction between molecules. (van der waals forces)

تطفو      قوه فاندرفال

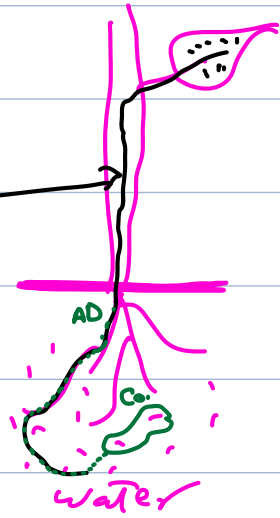
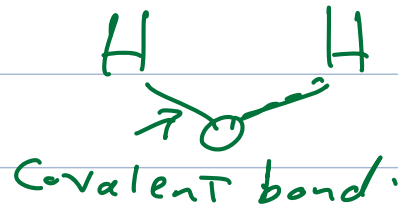
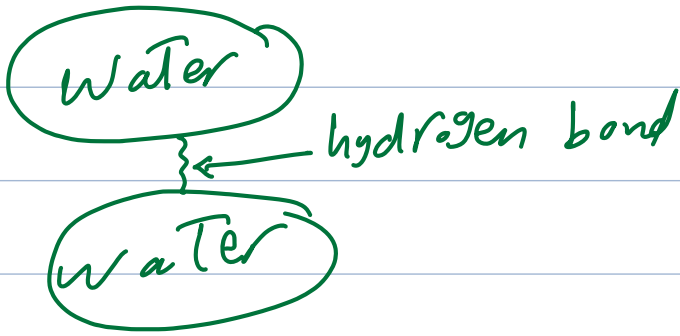
- allow leaves to float.
- allow some organisms to walk above water (gekkidae)

between O + H in water.



covalent bond strong / share electrons.

hydrogen bond weak between 2 water molecule  
رابطة هيدروجينية ضعيفة



\* Capillary action: القابلية لشعيرية

allow water to move from roots to stems and leaves through Xylem Tissue.

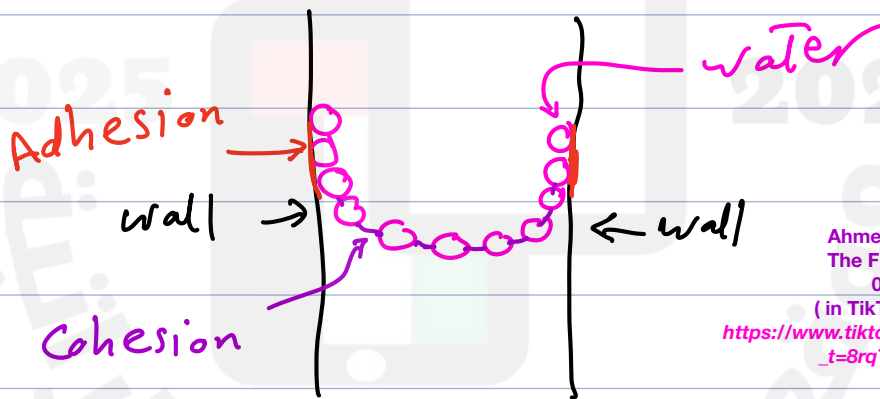
نسيج الخشب

Cohesion

Bond between water and water. (same substance)

Adhesion

Bond between water and walls (Xylem).



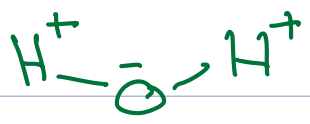
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\* Cohesion and adhesion <sup>سبب</sup> Cause water allow strider and leaves stay float.

متزليج باي

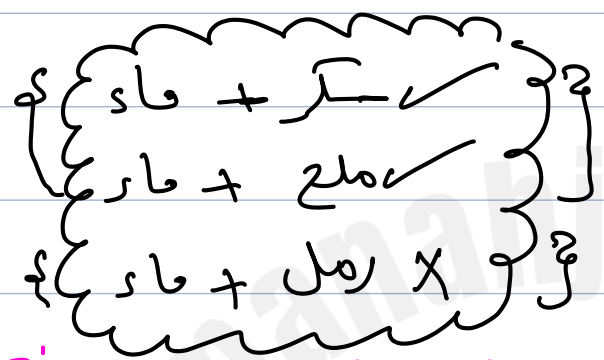
Surface Tension  
التوتر السطحي

# \* Properties of water:



- ① water is polar molecule. (- و +)
- ② water can conduct heat and electric.
- ③ water is **Universal solvent** مذيب عالمي  
many substance dissolve in water.

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mixture  
مخاليط

Combination of 2 or more substance in which each substance retains its properties.  
تتبقى

mixture

↓  
خليط متجانس  
Homogeneous mixture  
(Solution) محلول

• you cannot separate them.

- Water + Sugar
  - Water + Salt
  - Water + Tea
  - Water + Coffee
- مذيب                      مزاج

↓  
خليط غير متجانس  
Heterogeneous mix.  
where components remain distinct we can separate them.

- ① Salad
- ② Suspension مادة غروانية  
water + Sand → will settle يترسب
- ③ Colloid المعلقات

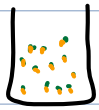
Solvent  
That dissolved  
solute.

Solute  
That dissolve in  
solvent.

particles not settle.  
- fog, milk, blood  
ink, دايونيز paint.

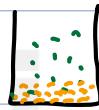
Solutions

محالين



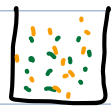
Suspensions

الغروانيات



Colloids

المعلقات



water

substance

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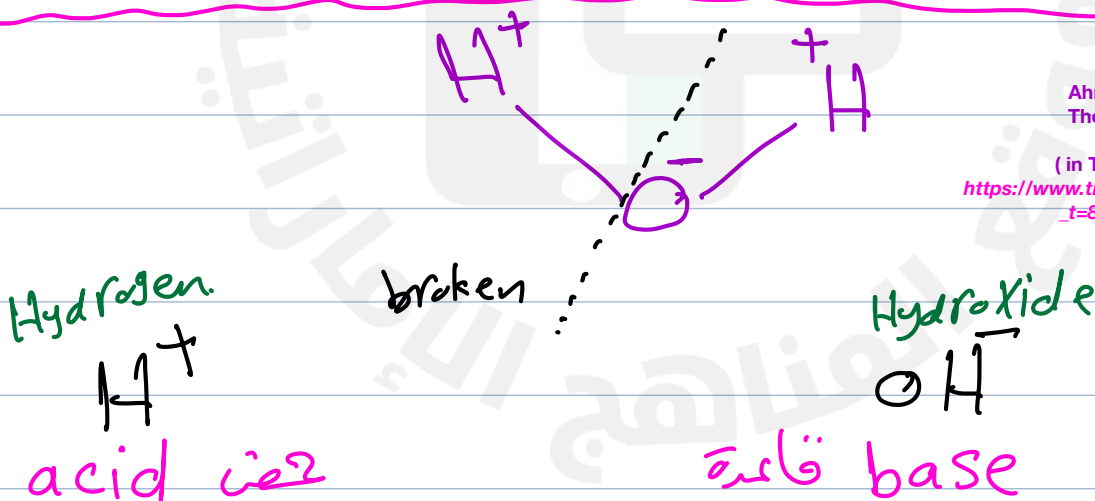
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- uniform mixture
- Homogenous
- particles don't settle.

- distinct
- Heterogenous
- particles settle over time.

- distinct
- Heterogenous
- particles don't settle.

All are mixture



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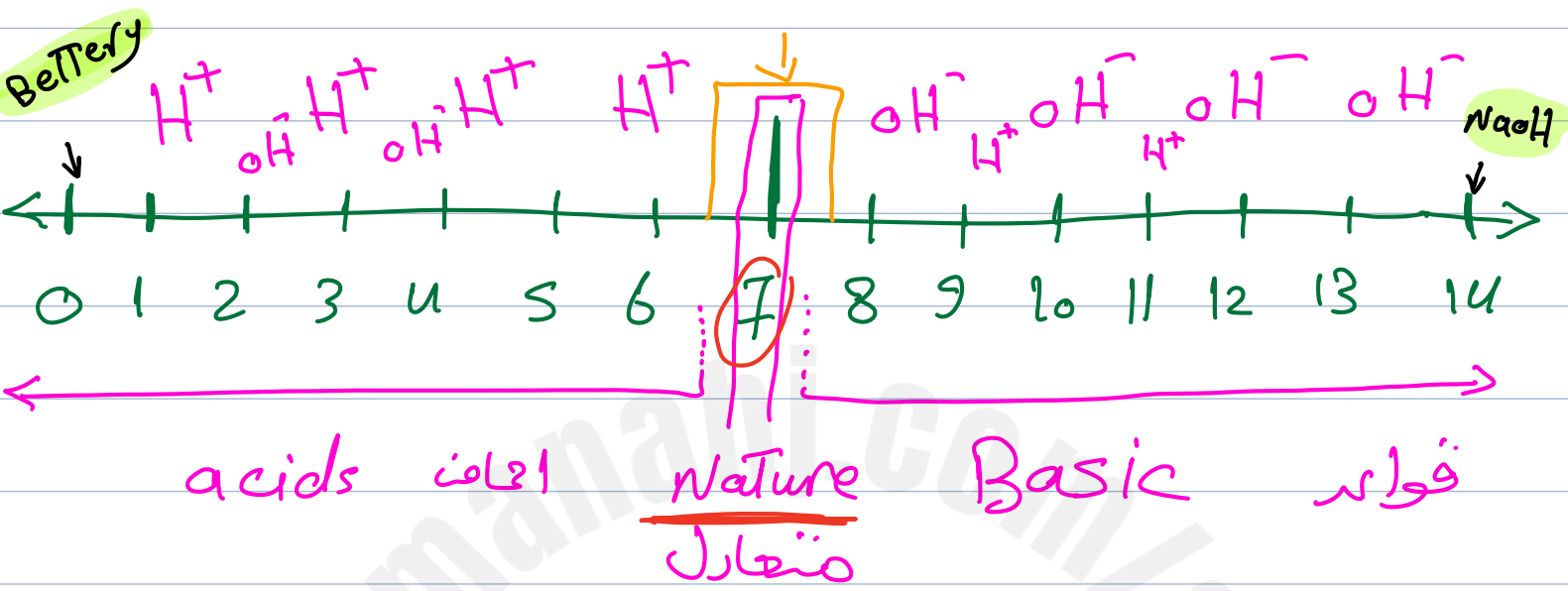
<https://www.tiktok.com/@ahmedgelhddad?t=8rqTdYm7AbY&r=1>

- substance that release  $H^+$  when dissolve in water.

- substance that release  $OH^-$  when dissolve in water.

+ pH: الرقم الهيدروجيني

- Scale discover amount of  $H^+$  or  $OH^-$  in solution.
- The measure of concentration of  $H^+$  in solution.



$pH = 6$   
 $= 5$  less acid  
 $= 4$   
 $= 3$  Acid  
 $= 2$   
 $= 1$   
 $= 0$  more acid

Nature  
 Blood water

$pH = 8$  less basic  
 $= 9$   
 $= 10$   
 $= 11$  Base  
 $= 12$   
 $= 13$   
 $= 14$  more basic

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most reactions occur in  $pH = 6.5 : 7.5$

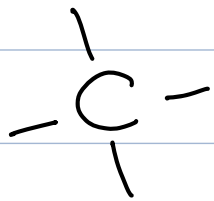
- IF pH increase or decrease will be balance when use {Buffers}

## منظمات

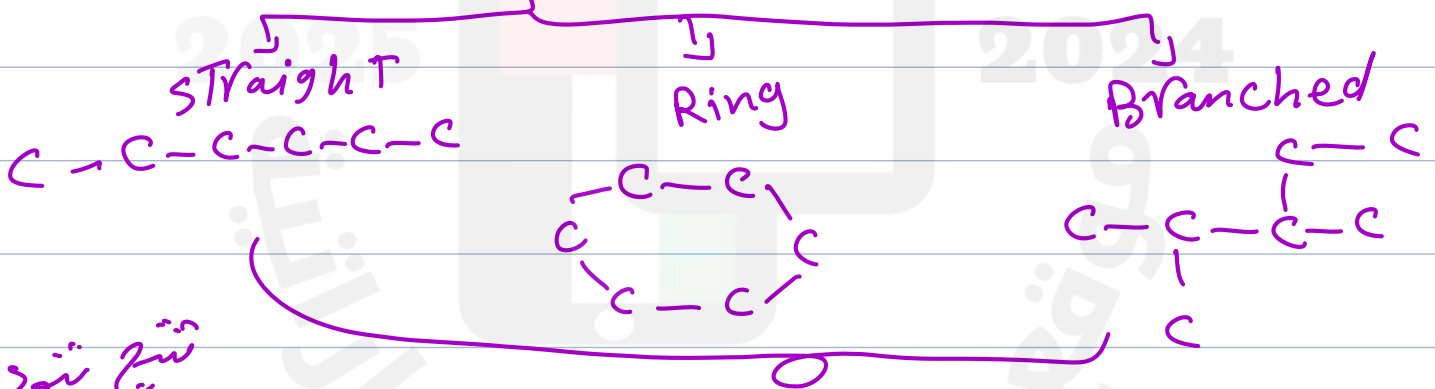
mixture can react with acid or base to keep pH within particular range.  
(6.5 - 7.5)

## The Building blocks of life الجزيئات الكبيرة (Macromolecules)

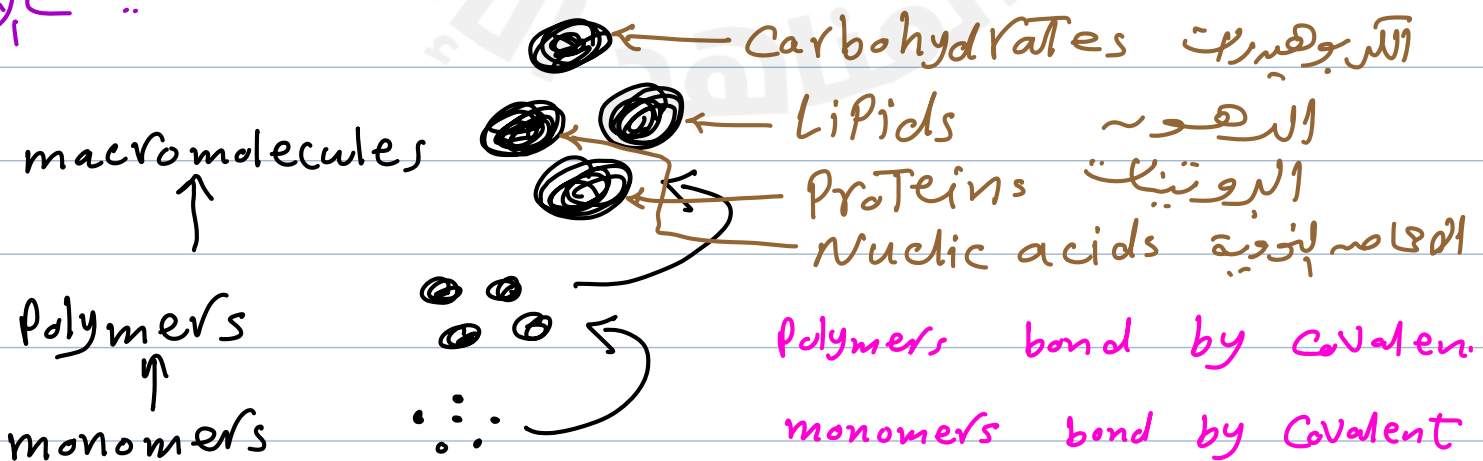
The basic element in all organic matter is [Carbon C]



- Can form 4 covalent bond with other element.
- has 4 electrons in the outer energy level.
- Can form 3 types of chains.



نتيجة تنوع الجزيئات الكبيرة على الأرض. Resulting in diversity of life on earth.



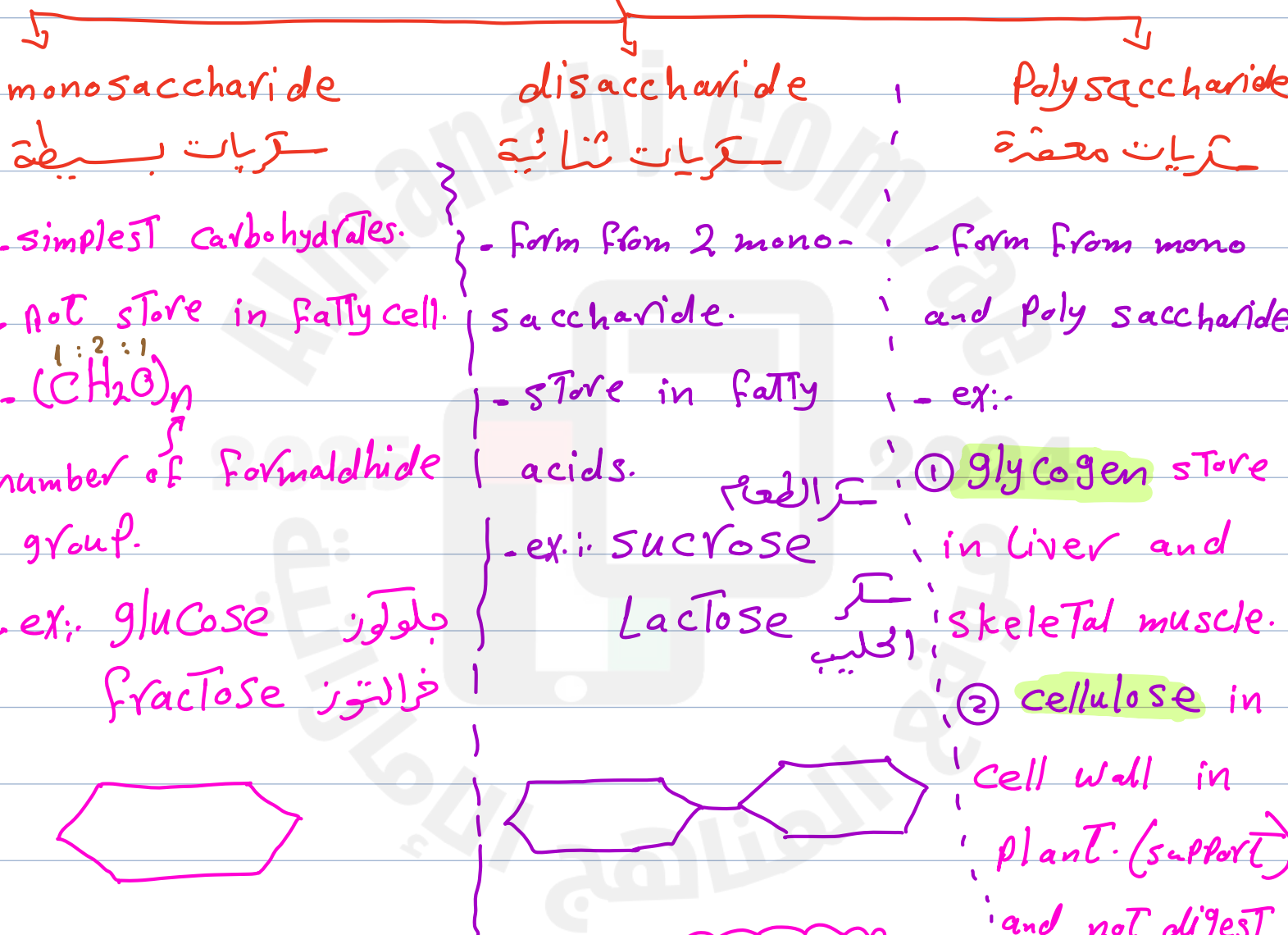


# ① Carbohydrates C, H, O الكربوهيدرات

- found in Pasta, Rice, Bread, sugar, fruits.
- give immediate energy. طاقة فورية
- structural support. دعم هيكل

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## carbohydrates basic unit glucose



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no enzymes can digest cellulose.

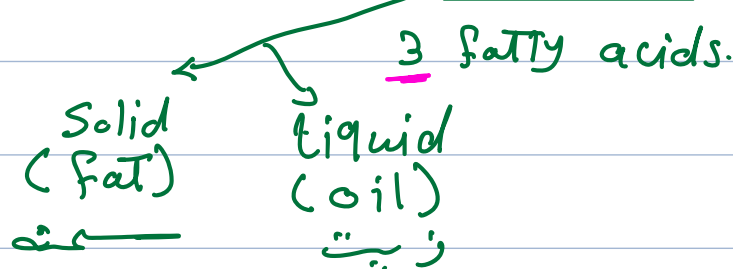


# ② Lipids $C, H, O, P$

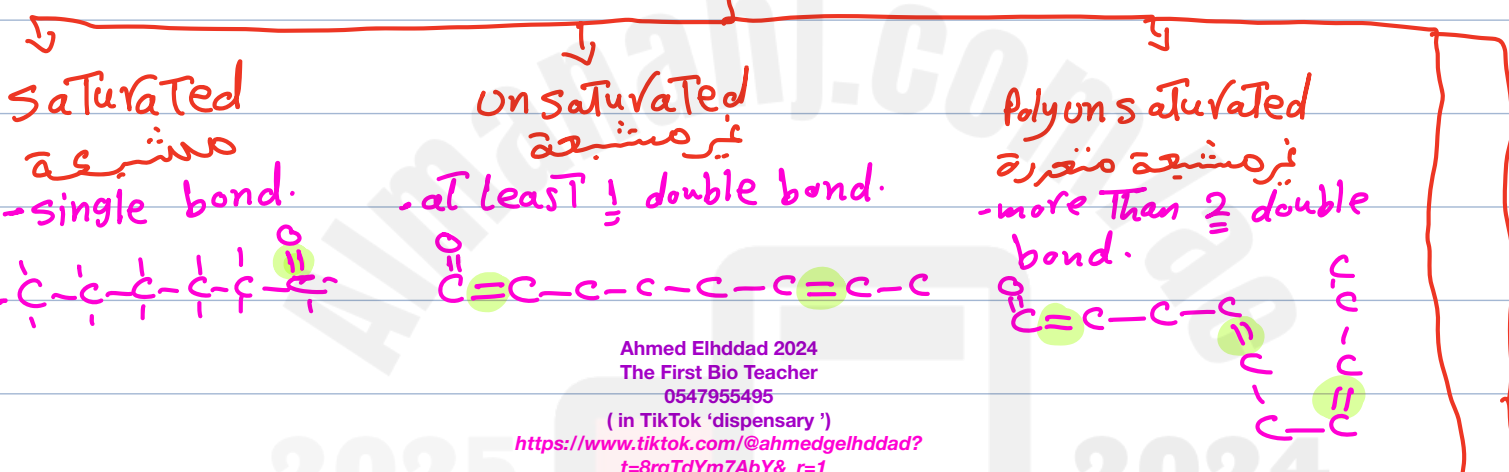
## الدهون

- store energy long term.
- Barriers in cells.
- not dissolve in water.

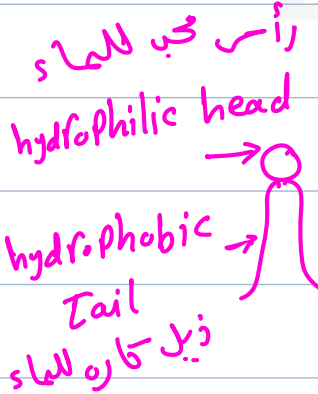
basic unit is glycerol and



### Lipids



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### Phospholipids

- glycerol + 2 fatty acid + 1 phosphate group.
- found in all cell membrane.

### ستيرويدات Steroids

- cholesterol.

مفيد helpful  
build Vitamin D

ضار harmful.  
when increase level of fat in vessels.

and sex hormones

Testosteron  
الذئرة

Estrogen  
الانوية

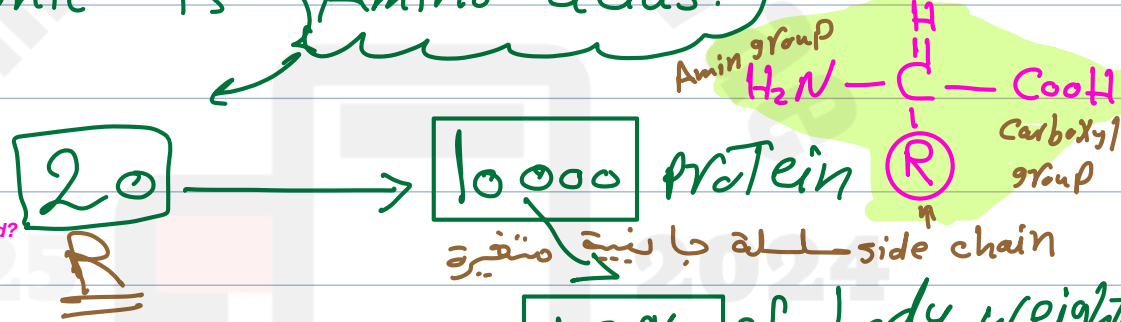
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### ③ Proteins $C, H, O, N, S$ البروتينات 15% of body

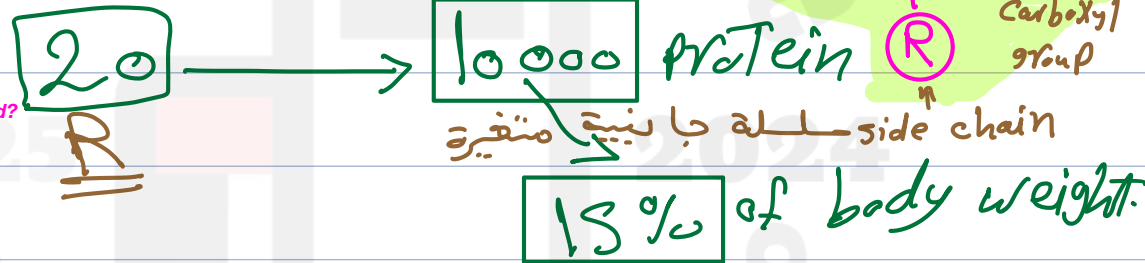
- structural support.
- Transport (Hemoglobin "blood protein")
- increase speed up chemical reactions. (Enzymes).
- Cell communication.

the basic unit is الاحماض الامينية Amino acids.

all amino acids have the same general structure

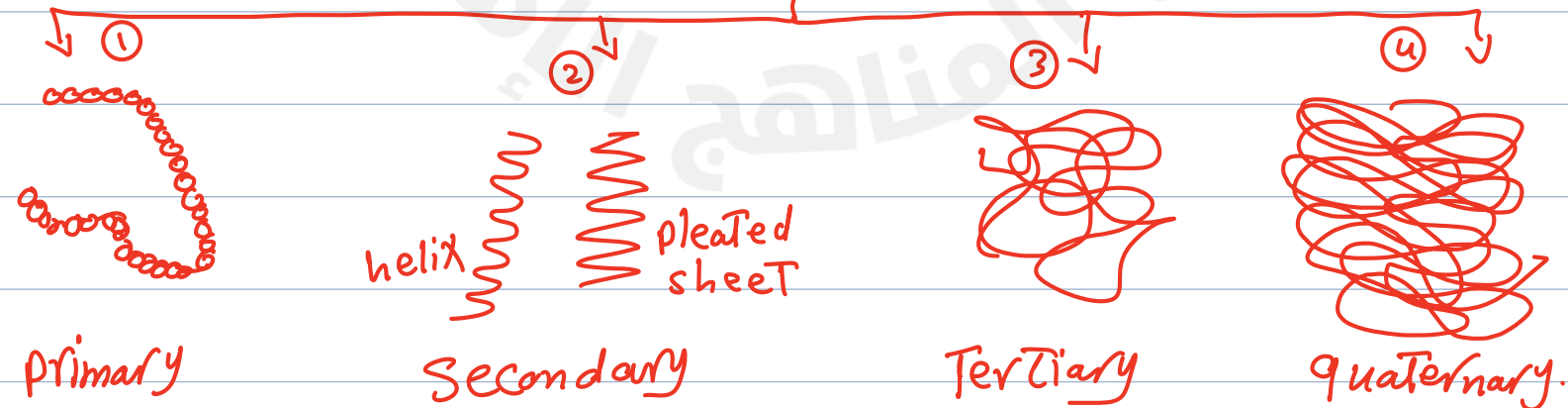


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- found in:  
meat, poultry, Eggs, chicken, nuts, legumes.

proteins 4 levels.



each amino acid will bond with another amino acid by

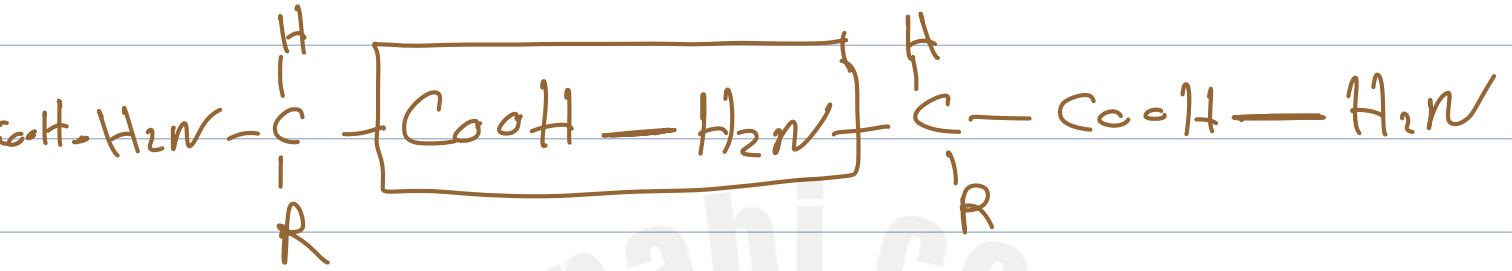
peptide bond  
رابطة ببتيدية

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Amin group + Carboxil group.  
for amino acid                      for another amino acid.



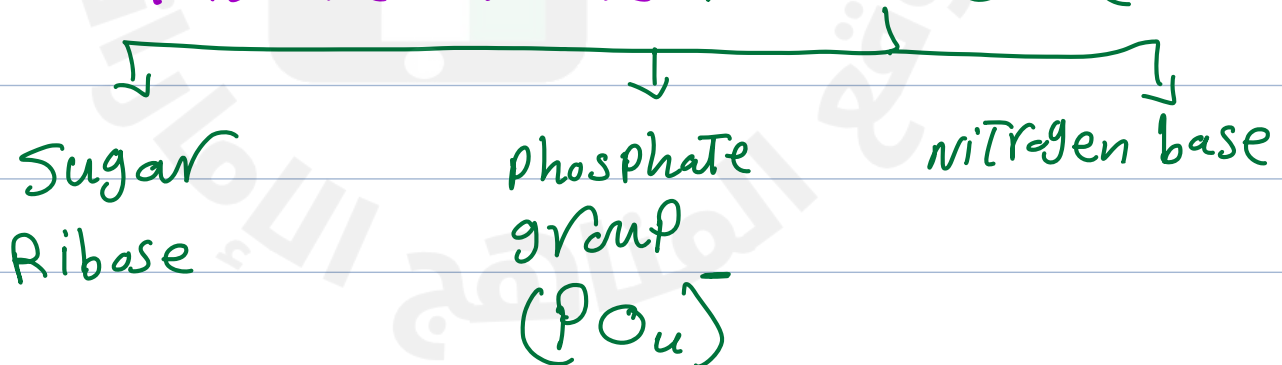
④ Nucleic acids  $C, H, O, N, P$   
الاحماض النووية

- store and transmit genetic information.

- store chemical energy (ATP)

Adenosin triphosphate.

- Basic unit of nucleic acid is nucleotide



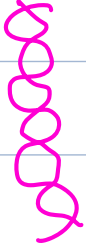
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# nucleic acid

## DNA

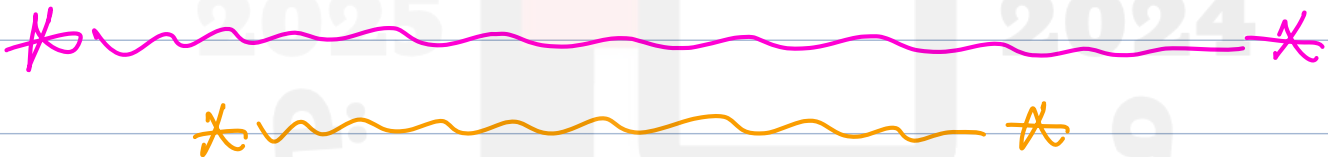


- double strand
- store genetic information.
- Basic in all nucleous.
- one type.

## RNA



- single strand
- Copy genetic information.
- Build on DNA during transcription.
- 3 type.



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