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## ملخص وشرح الدرس الثالث organization of Levels مستويات التنظيم المسار المتقدم

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إعداد: أحمد الحداد

## التواصل الاجتماعي بحسب الصف السادس



[اضغط هنا للحصول على جميع روابط "الصف السادس"](#)

## روابط مواد الصف السادس على تلغرام

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## المزيد من الملفات بحسب الصف السادس والمادة علوم في الفصل الأول

[أوراق عمل متبوعاً بالإجابات الدرس الثاني دراسة حالة ساروق الحديد- الوحدة الأولى أساليب العلوم +ملخص](#)

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[ورقة عمل الدرس الأول أدوات التكنولوجيا من الوحدة الثانية](#)

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## المزيد من الملفات بحسب الصف السادس والمادة علوم في الفصل الأول

<a href="#">أسئلة الاختبار التشخيصي</a>	4
<a href="#">أسئلة الامتحان النهائي الورقي بريدج</a>	5



# Body Systems

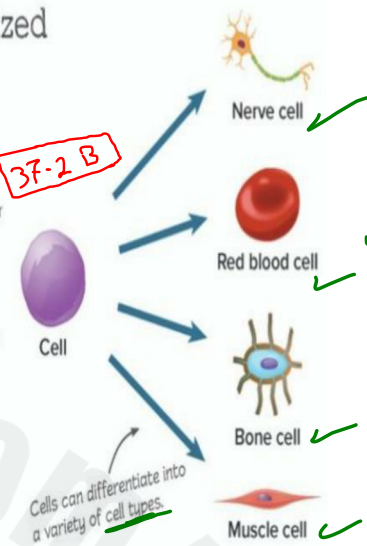
## Levels of Organization

Inspire Science

How are cells organized in the body?

Organisms can be unicellular—made of one cell, or multicellular—made of more than one cell. You've learned that your own body has trillions of cells! Multicellular organisms have different types of cells that each perform a specific job.

As multicellular organisms grow, cells divide to produce new cells. The first cells made can become any type of cell, such as a muscle cell, a nerve cell, or a blood cell, through the process of cell differentiation. As the number of cells in an organism increases, similar types of cells are organized into groups.



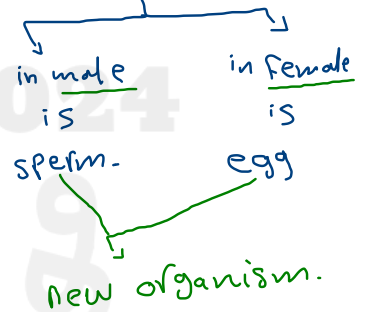
in our body, there are 2 groups of cells

pg. 1

Body cells

sex cells

- make all body.
- ex: Blood cells.
- ✓ - muscle cells.
- ✓ - immune cells.
- ✓ - Bone cells.
- ✓ - nerve cells.



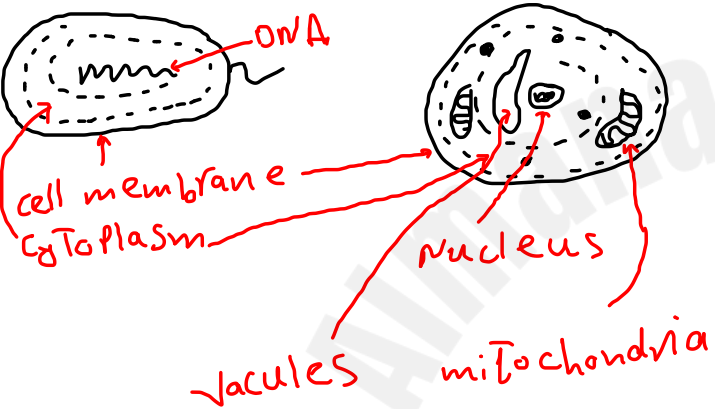
## organisms

### unicellular (prokaryotic)

- simple structure
- only one cell.
- no organelles.
- ex: - Bacteria.
- Fungi
- viruses.

### multicellular (eukaryotic)

- complex structure.
- more than one cell.
- true organelles.
- ex: - plants.
- animals.



Tissues

Animals

4 Tissues

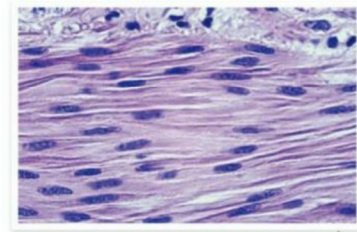
- ① muscle movement
- ② Connective support
- ③ Nervous communication (Body + Brain)
- ④ Epithelial - outer layer of skin - internal organs.

Plants

3 Tissues

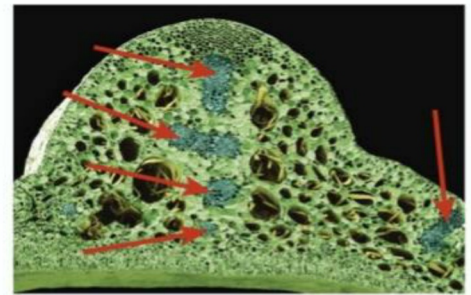
- ① dermal - Protection - Reduce water loss.
- ② vascular - Transport
- ③ ground - support - storage

**Tissues** Cells group together to form tissues. **Tissues** are groups of similar types of cells that work together to carry out specific tasks. Humans, like most other animals, have four main types of tissue—muscle, connective, nervous, and epithelial (eh puh THEE lee ul). Muscle tissue, shown in the photo to the right, causes movement. Connective tissue provides structure and support and often connects other types of tissue together. Nervous tissue carries messages to and from the brain. Epithelial tissue forms the protective outer layer of the skin and the internal lining of the body.



This muscle tissue contracts the stomach to help digestion. What do you think these dark spots are?

Plants also have different types of tissues. The three main types of plant tissue are dermal, vascular (VAS kyuh lur), and ground tissue. Dermal tissue provides protection and helps reduce water loss. Vascular tissue, shown in the photo to the right, transports water and nutrients from one part of a plant to another. Ground tissue provides storage and support and is where photosynthesis takes place.



Plant vascular tissue, indicated by arrows, moves water and nutrients throughout a plant.

Vascular Tissue in Plant:

Xylem

Phloem

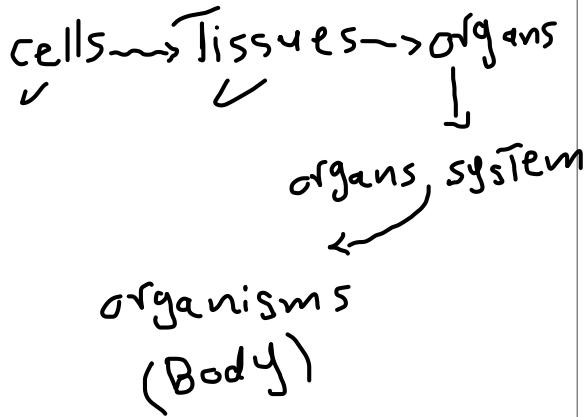
- Transport from roots (down) to stem and leaves (up)
- water, nutrients.

- Transport from leaves and stem (up) to roots (down).

- Sugar, CO<sub>2</sub> products by photosynthesis.

glucose

السكر



- + organs :-
- Stomach.
  - Heart
  - Eyes
  - Liver

- Kidneys.
- Lungs
- Brain
- Skin. **biggest**
- Bones.

U1 L1 Levels of Organization Sci G7 ADV - Term 1 2024-2025  
 Mr. Ahmed Elhddad 0544557773

**Organs** Complex jobs in organisms require more than one type of tissue. **Organs** are groups of different tissues working together to perform a particular job. For example, your **stomach**, shown in the image below, is an organ specialized for breaking down food. It is made of all four types of tissue: muscle, epithelial, nervous, and connective. Each type of tissue performs a specific function necessary for the stomach to work properly. Layers of muscle tissue contract and break up pieces of food, epithelial tissue lines the stomach, nervous tissue sends signals to indicate the stomach is full, and connective tissue supports the stomach wall.

Epithelial Tissue → Protective lines.  
 Connective Tissue → support.  
 Muscle Tissue → Break down, contract.  
 Nervous Tissue → send signals to brain that is full.

pg. 3



Plants  
 ↙  
 There are 3 part  
 ↙  
 Root  
 stem  
 leaves  
 ↘  
organ



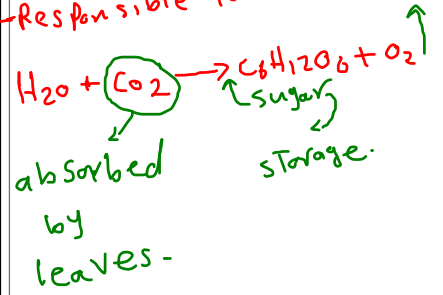
أوراق

Plants also have organs. Leaves are organs specialized for photosynthesis. Each leaf is made of dermal, ground, and vascular tissues. Dermal tissue covers the outer surface of a leaf. The leaf is a vital organ because it contains ground tissue that produces food for the rest of the plant. Ground tissue is where photosynthesis takes place. The ground tissue is tightly packed on the top half of a leaf. The vascular tissue moves both the food produced by photosynthesis and water throughout the leaf and the rest of the plant.



A plant leaf is an organ made of several different tissues.

leaves  
 ↙  
 responsible for photosynthesis



\* leaves are the main organs in plant \*  
 without leaves, plant cannot grow.







\* Systems in our body :-

- 1- Digestive  
- mouth, stomach, small intestine, large "
- 2- Nervous  
- Brain, spinal cord, nerves.
- 3- Respiratory  
- Lungs
- 4- Integumentary  
- Skin, sweat glands
- 5- Muscular  
6- skeletal  
  joints  
  bones

↑  
↓

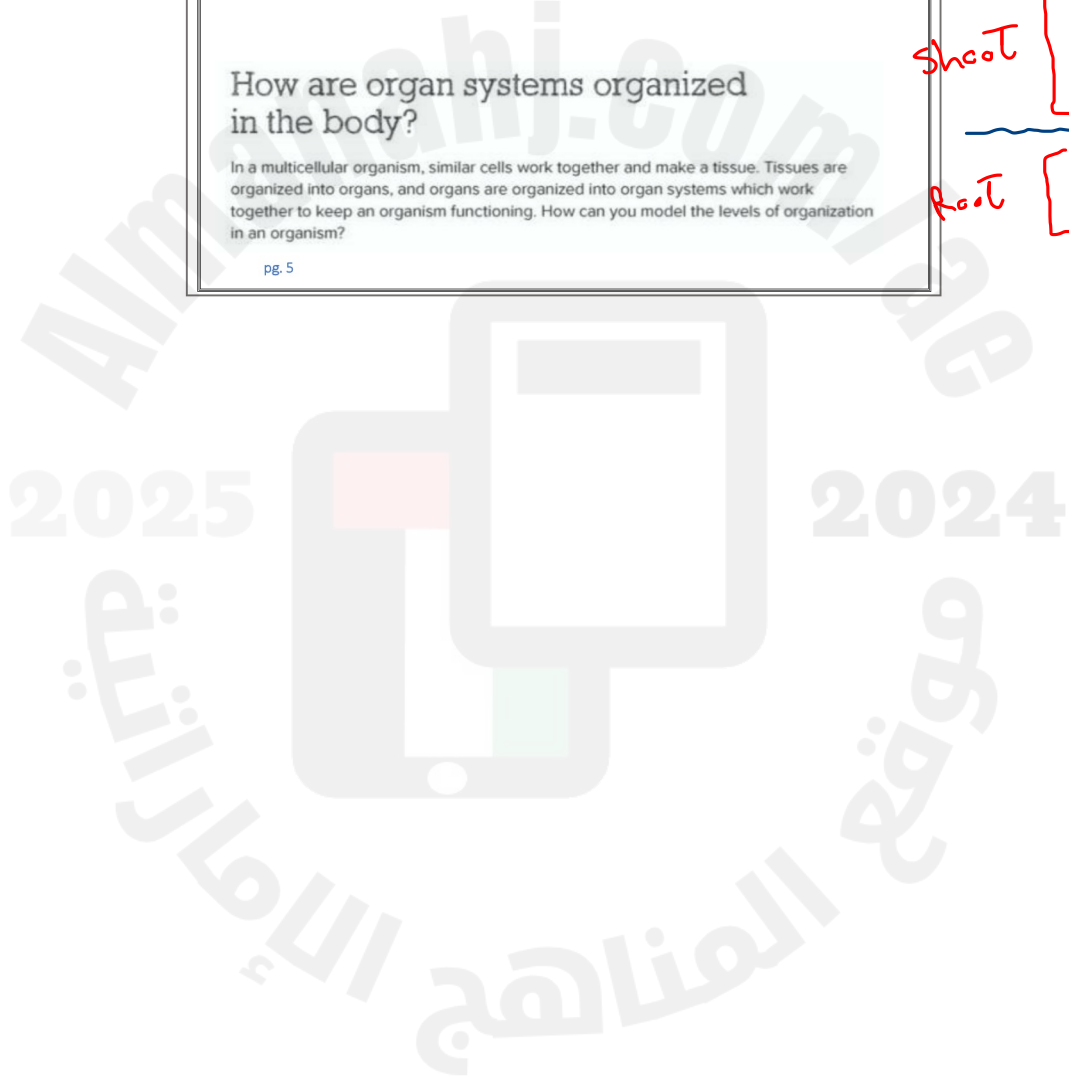
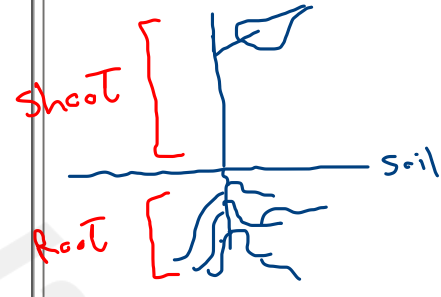
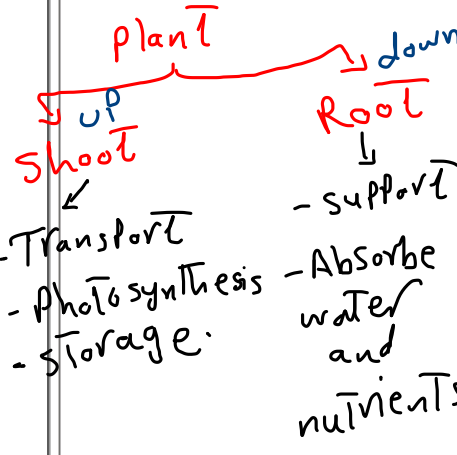
**Organ Systems** Usually organs do not function alone. Instead, **organ systems** are groups of different organs that work together to complete a series of tasks. For example, the human **digestive system** is made of many organs including the **stomach**, the **small intestine**, the **liver**, and the **large intestine**. These organs and others all work together to break down food and take it into the body.

Plants have **two major organ systems**—the **shoot system** and the **root system**. The shoot system includes leaves, stems, and flowers. Food and water are transported throughout the plant by the shoot system. The root system anchors the plant and takes in water and nutrients.

- 7- Endocrine
- 8- Excretory  
  kidneys
- 9- Circulatory  
  Heart & Blood
- 10- Immune
- 11- Sexual

How are organ systems organized in the body?

In a multicellular organism, similar cells work together and make a tissue. Tissues are organized into organs, and organs are organized into organ systems which work together to keep an organism functioning. How can you model the levels of organization in an organism?



2025

2024

المرحلة

**Organisms** Multicellular organisms usually have many organ systems. These systems work together to carry out all the jobs needed for the survival of the organisms. For example, the cells in the leaves and the stems of a plant need water to live. They cannot absorb water directly. Water diffuses into the roots and is transported through the stem to the leaves by the shoot, or transport, system.

In the human body, there are many major organ systems. Each organ system depends on the others and cannot work alone. For example, the cells in the muscle tissue of the stomach cannot survive without oxygen. The stomach cannot get oxygen without working together with the respiratory and circulatory systems.



Bone cell



Bone tissue



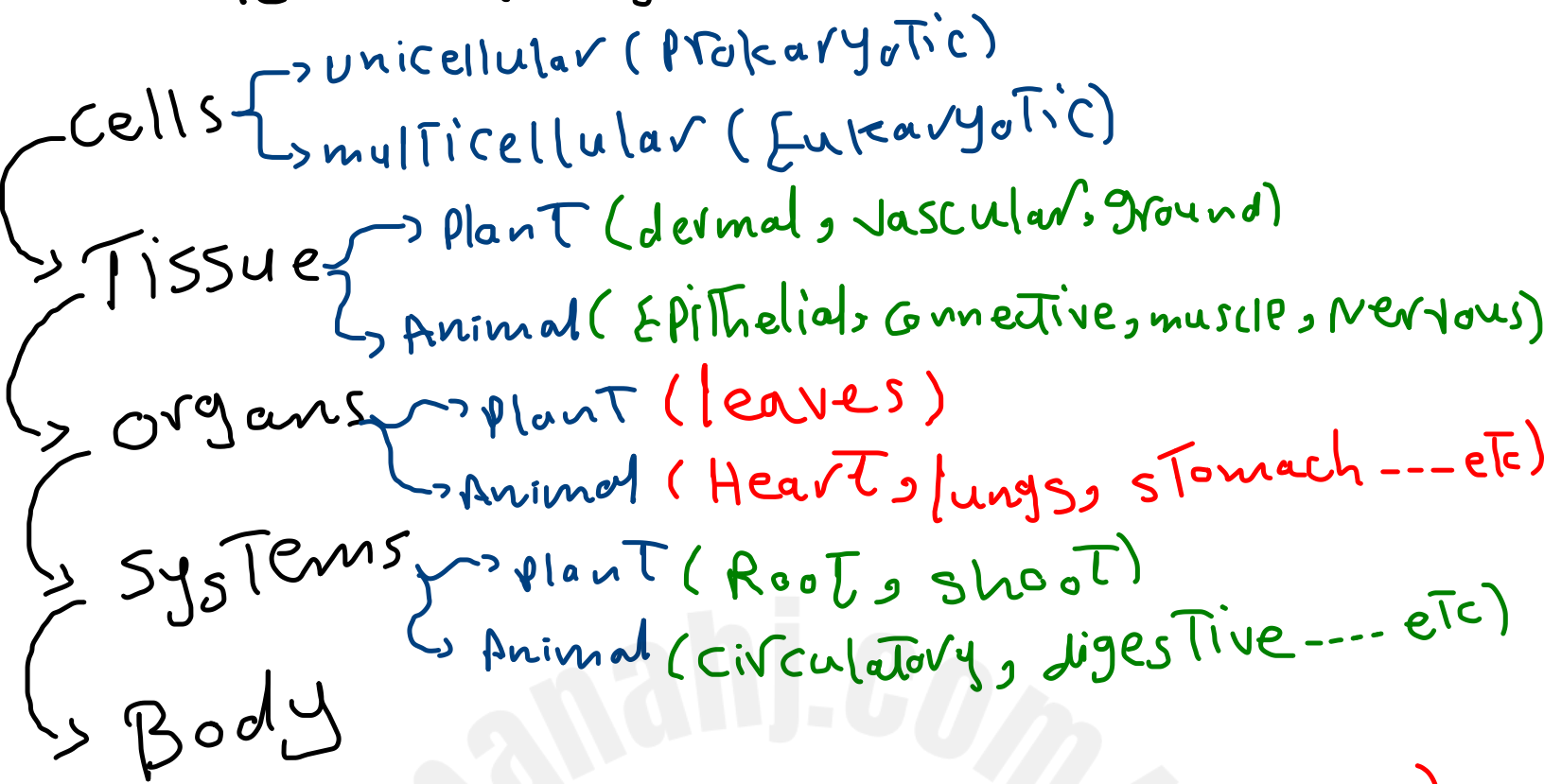
Bone (organ)



O<sub>2</sub>  
enter  
by respiratory  
move  
by circulatory  
to Digestive  
and  
nervous  
for survival



# levels of organization



Work Together To survive and support).

2025

2024

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قاده

Cade is making a presentation on the way systems are organized in plants and animals for his science class. He prepared this flowchart to illustrate his presentation.



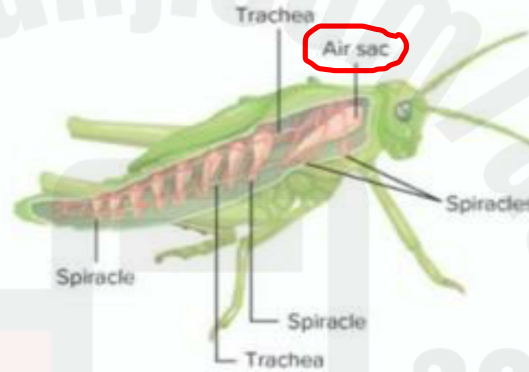
سؤال

2. After further study, Cade realized his flowchart was incorrect. Which change should he make to correct the flowchart?

- A add the phrase *Cell Membranes*
- B move *Organ Systems* to the beginning
- C remove *Tissues* and *Cells*
- D switch *Organs* and *Cells*

قاده

The diagram shows the structures involved in respiration for a grasshopper.



3. These structures are an example of which level of organization within an organism?

- A The structures make up an organelle.
- B The structures make up an organ system.
- C The structures make up a specialized cell.
- D The structures make up a tissue.

سؤال

end