

## مراجعة الوحدة الثانية Ecosystems in Energy منهج انسباير



### تم تحميل هذا الملف من موقع المناهج الإماراتية

موقع المناهج ← المناهج الإماراتية ← الصف الخامس ← علوم ← الفصل الثالث ← ملفات متنوعة ← الملف

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ملفات اكتب للمعلم اكتب للطالب | اختبارات الكترونية | اختبارات | حلول | عروض بوربوينت | أوراق عمل  
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المزيد من مادة  
علوم:

إعداد: Zewin Adham

### التواصل الاجتماعي حسب الصف الخامس



صفحة المناهج  
الإماراتية على  
فيسبوك

الرياضيات

اللغة الانجليزية

اللغة العربية

التربية الاسلامية

المواد على تلغرام

### المزيد من الملفات بحسب الصف الخامس والمادة علوم في الفصل الثالث

حل ورقة عمل الدرس الأول Survival Plant منهج انسباير

1

ورقة عمل الدرس الأول Survival Plant منهج انسباير بدون الحل

2

حل ورقة عمل الدرس الثاني things living of interaction منهج انسباير

3

ورقة عمل الدرس الثاني things living of interaction منهج انسباير

4

نموذج اختبار تدريبي الدرس الثاني things living of Interaction منهج انسباير

5

## Module: Energy in Ecosystems

## Lesson 1: Earth's Major Systems



Earth's System	Description	Examples
<b>Atmosphere</b>	A layer of gases surrounding Earth, made up mostly of nitrogen and oxygen, along with water vapor, carbon dioxide, and other gases.	Air, clouds, weather, wind currents
<b>Geosphere</b>	Includes solid and molten rock inside Earth, as well as soil, rock pieces, and land features at the surface.	Mountains, hills, volcanoes, rocks, soil
<b>Hydrosphere</b>	All of Earth's liquid and solid water, including oceans, lakes, rivers, glaciers, and ice caps. Covers more than 70% of Earth's surface.	Oceans, rivers, lakes, icebergs, glaciers
<b>Biosphere</b>	Consists of all living things, from the lower atmosphere to the depths of the ocean.	Plants, animals, humans, microorganisms

آذ هم زدين



Which layer consist of **all living things**, from the lower atmosphere to the depths of the ocean?

A	B	C	D
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The layer of gases surrounding earth is called

.....

The layer of solid and molten rocks inside earth is called

.....

The layer of earth's liquid and solid water is called

.....

The layer of all earth's living things is called

.....

آذ هم زدين

Which of the following is **not** part of **Earth's geosphere**?

- a) mountains
- b) soil
- c) rivers
- d) volcanoes

The ..... includes **all the gases** around the Earth.

- a) hydrosphere
- b) atmosphere
- c) geosphere
- d) biosphere

Which of Earth's systems interact with each other?

- a) geosphere and hydrosphere only
- b) hydrosphere and atmosphere only
- c) atmosphere and biosphere only
- d) All of Earth's systems interact with each other

The part of Earth where **all living things** are found is called the \_\_\_\_\_.

- A) geosphere
- B) biosphere
- C) hydrosphere
- D) atmosphere

Where does the water go when water evaporates from a puddle on the street?

- a) It goes into a nearby river or stream.
- b) It sinks into the street.
- c) It rises into the atmosphere.
- d) It goes into outer space

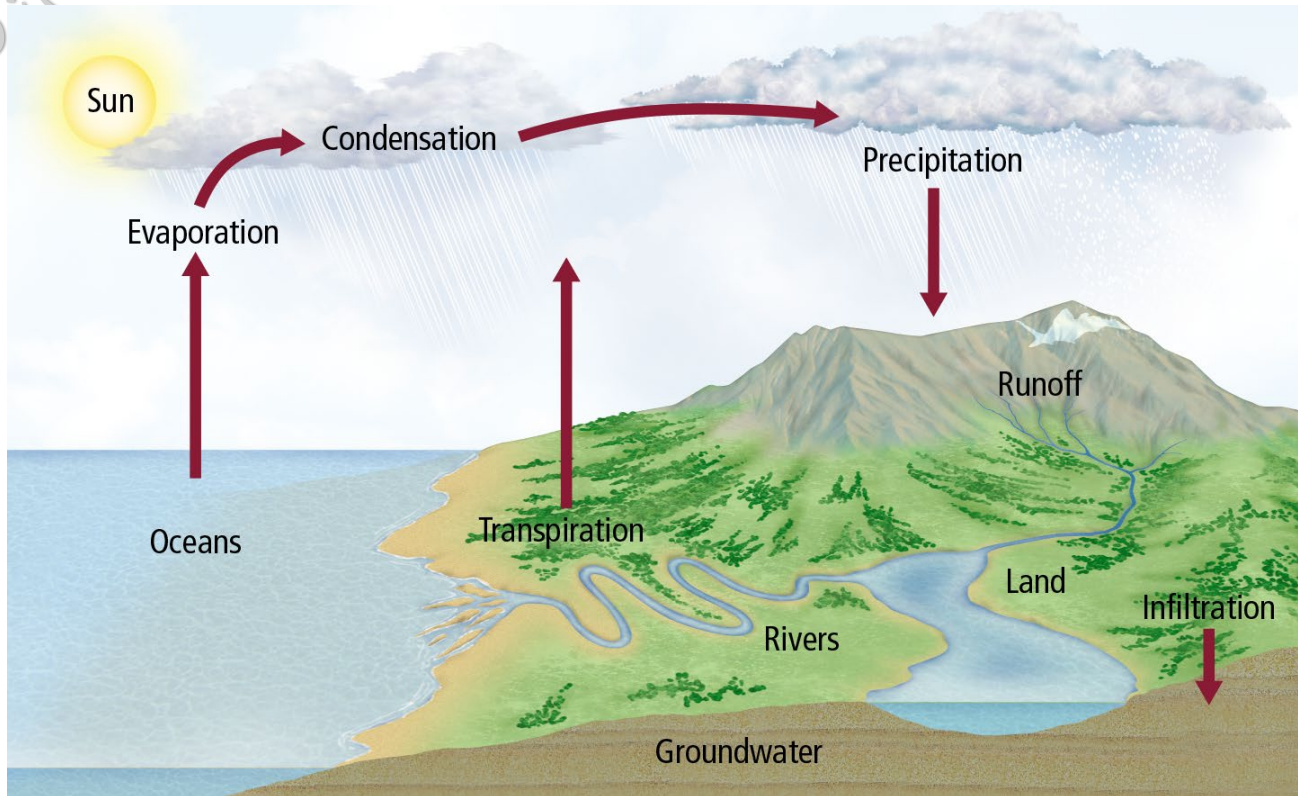
Which of these would you be doing if you are interacting with the **geosphere**?

- A) rock climbing
- B) swimming
- C) riding in an airplane
- D) sailing



## Lesson 2: Cycles of Matter in Ecosystems

### Water Cycle



### Study Notes: The Water Cycle (Grade 5 Science)

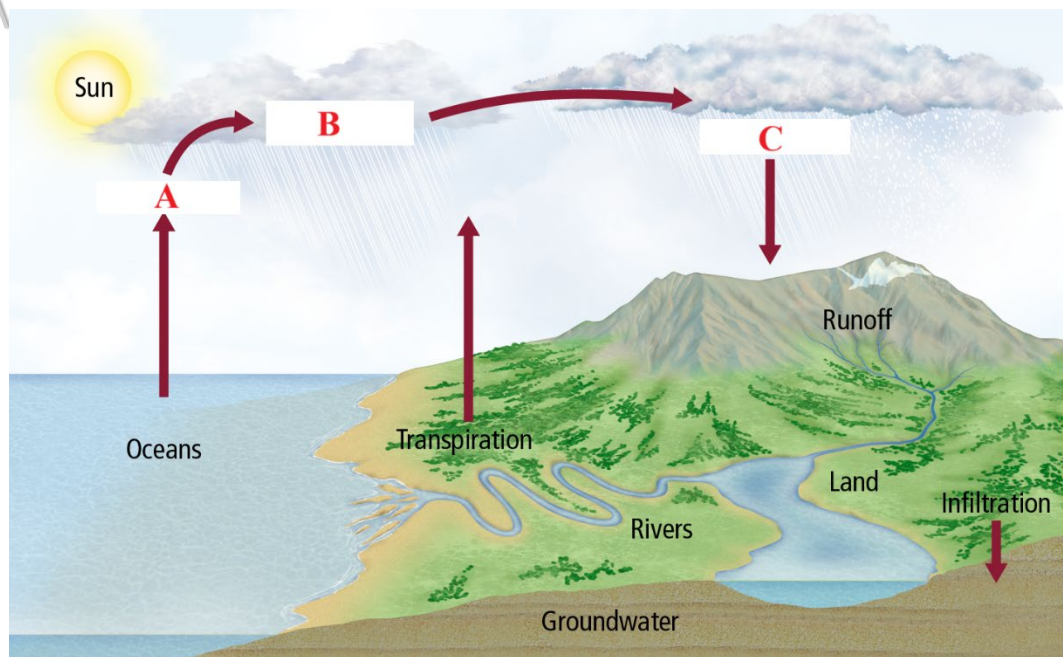
#### 1. What is the Water Cycle?

- The water cycle is the **continuous movement of water** between Earth's surface and the atmosphere.
- Water changes **between solid, liquid, and gas** states.
- The **Sun** provides the energy needed for the cycle.

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## 2. Stages of the Water Cycle

Stage	Definition	Key Details
<b>Evaporation</b>	Liquid water changes into gas (water vapor).	The Sun heats water in oceans, lakes, and rivers, causing it to rise into the air.
<b>Transpiration</b>	Plants release water vapor into the air.	Water evaporates from the leaves of plants.
<b>Condensation</b>	Water vapor cools and changes into liquid droplets.	Forms clouds when it condenses on dust particles in the air.
<b>Precipitation</b>	Water falls from clouds to Earth.	Can be <b>rain, sleet, snow, or hail</b> .
<b>Runoff</b>	Water flows over Earth's surface.	Water collects in lakes, rivers, and oceans.
<b>Groundwater</b>	Water that soaks into the soil.	Moves through cracks underground and is absorbed by plant roots.



1. Define the cycle above.....

2. Label letters (A), (B) and (C).

- Letter (A) is .....
- Letter (B) is .....
- Letter (C) is .....

**Solid – gas – precipitation - groundwater - condensation**

Evaporation occurs when water changes from a liquid to a .....**1**.....

Water changes from a gas to a liquid in.....**2**.....

Water falls to the ground as.....**3**.....

When water falls on land, it may flow as runoff or soak into the ground as.....**4**.....

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**What is the main energy source for the water cycle?**

- A) Wind
- B) The Moon
- C) The Sun
- D) Ocean currents

---

**Which process changes liquid water into water vapor?**

- A) Condensation
- B) Evaporation
- C) Precipitation
- D) Runoff

---

**What do we call the process where plants release water vapor into the air?**

- A) Precipitation
- B) Runoff
- C) Transpiration
- D) Condensation

---

**What happens to water vapor when it cools down in the atmosphere?**

- A) It evaporates
- B) It condenses into liquid droplets
- C) It turns into groundwater
- D) It disappears



**Which stage of the water cycle forms clouds?**

- A) Precipitation
- B) Condensation
- C) Runoff
- D) Transpiration

**Which of the following is **NOT** a type of precipitation?**

- A) Rain
- B) Snow
- C) Hail
- D) Evaporation

**What is runoff?**

- A) Water soaking into the ground
- B) Water flowing over Earth's surface into lakes, rivers, and oceans
- C) Water turning into vapor
- D) Water freezing into ice

**8. What do we call water that moves underground through cracks and spaces?**

- A) Runoff
- B) Groundwater
- C) Evaporation
- D) Condensation

**9. What happens to precipitation that does not become runoff?**

- A) It turns into water vapor immediately
- B) It becomes groundwater by soaking into the soil
- C) It stays in the sky
- D) It stops moving

**10. Which two processes are directly responsible for returning water to the atmosphere?**

- A) Runoff and Precipitation
- B) Evaporation and Transpiration
- C) Condensation and Groundwater
- D) Rain and Hail

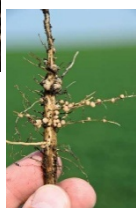
## The Nitrogen Cycle




### 1. What is the Nitrogen Cycle?

- The **nitrogen cycle** is the **continuous movement of nitrogen** between the air, soil, and living organisms.
- 1** 78% of the air is nitrogen, but most living things **cannot use it directly**.
- Nitrogen must be **fixed** (changed into a usable form) before plants and animals can use it.


### 2. How is Nitrogen Fixed?

Method	Description
<b>Bacteria in plant roots</b> <b>3</b>	Special bacteria in plant <b>root nodules</b> convert nitrogen gas into a form plant can use. <b>4</b> 
<b>Fertilizers</b>	Farmers add fertilizers to soil to provide nitrogen for plants.
<b>Volcanic activity &amp; lightning</b> <b>2</b>	Natural events that help fix nitrogen in the atmosphere.

### 3. How Do Living Things Use Nitrogen?

- Plants absorb nitrogen to make **proteins** for growth. 
- Animals get nitrogen by eating **plants** or **plant-eating animals**.

### 4. How is Nitrogen Returned to the Soil?

Process	Description
Animal waste 	Returns nitrogen to the soil.
Decay of plants and animals	Decomposers break down dead organisms, releasing nitrogen.
Bacteria	Convert nitrogen compounds back into gas, releasing it into the atmosphere.

**1. What is the **nitrogen cycle**?**

- A) The process of nitrogen moving through the air, soil, and living organisms
  - B) The process of water evaporating and condensing
  - C) The movement of oxygen in the air
  - D) The breakdown of rocks into soil
- 

**2. What percentage of air is made up of nitrogen?**

- A) 50%
  - B) 78%
  - C) 21%
  - D) 10%
- 

**3. How is **nitrogen fixed** into a form that plants can use?**

- A) By wind blowing across the soil
  - B) By bacteria, lightning, and volcanic activity
  - C) By animals eating plants
  - D) By rain carrying nitrogen from the sky
- 

**4. What is the role of **decomposers** in the nitrogen cycle?**

- A) They help plants grow faster
  - B) They break down dead plants and animals, returning nitrogen to the soil
  - C) They stop nitrogen from entering the atmosphere
  - D) They absorb nitrogen from the air
- 

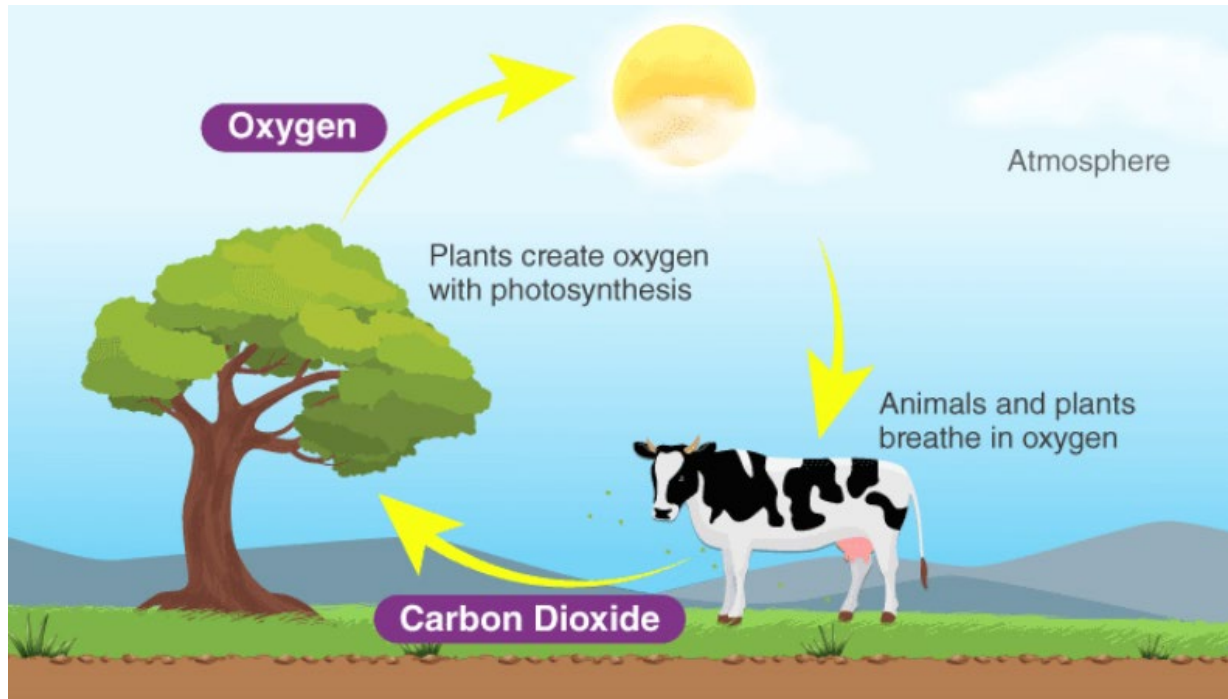
**5. How do animals get nitrogen?**

- A) By breathing in nitrogen gas
  - B) By drinking water
  - C) By eating plants or other animals that have nitrogen
  - D) By absorbing it through their skin
-

## The Carbon Cycle

### 1. What is the Carbon Cycle?

- The **carbon cycle** is the **continuous movement of carbon** through Earth's systems.



- Carbon is essential for **all living things**.
- It is found in different forms:
  - Atmosphere** → as **carbon dioxide (CO<sub>2</sub>)**
  - Oceans** → as **dissolved carbon**
  - Rocks & Soil** → as **carbonate compounds**

## 2. How Carbon Moves Through Living Things

Process	Description
<b>Photosynthesis</b>	Plants absorb CO <sub>2</sub> from the air to make food (glucose) and release oxygen.
<b>Consumption</b>	Animals get carbon by eating plants or other animals.
<b>Respiration</b>	Animals and plants release CO <sub>2</sub> back into the atmosphere when they breathe.
<b>Decomposition</b>	Dead plants and animals break down, returning carbon to the soil.

## 3. Carbon in the Environment

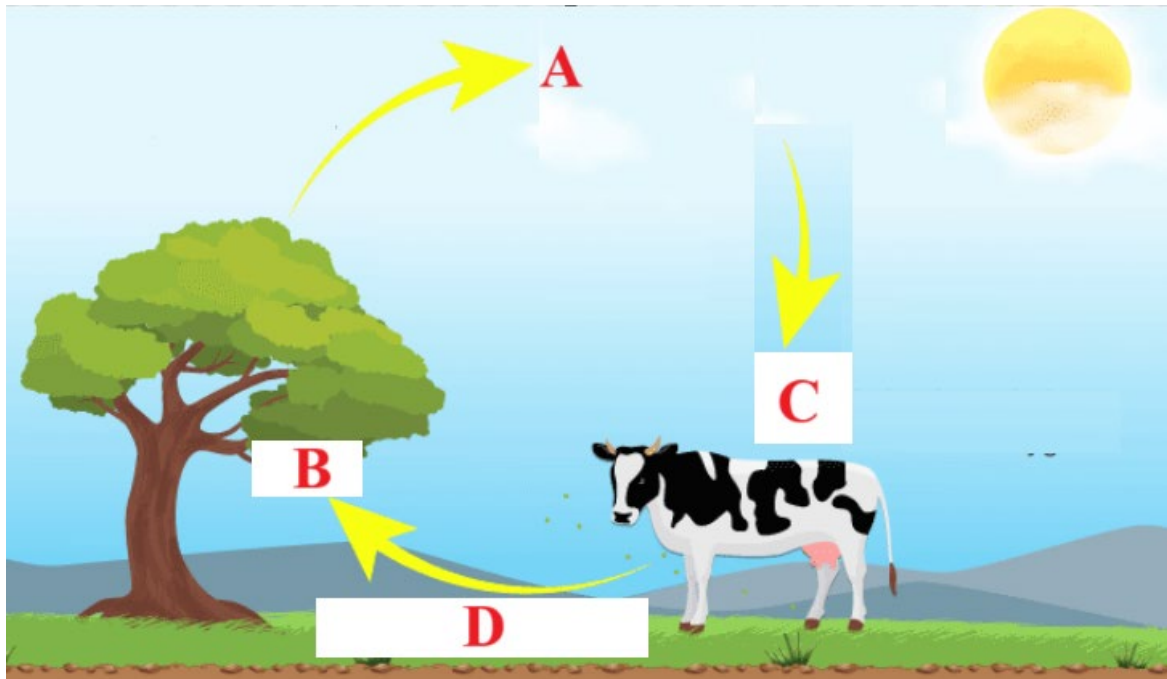
Source	How It Releases Carbon
<b>Fossil Fuels</b>	Over millions of years, dead organisms turn into coal, oil, and natural gas. Burning them releases CO <sub>2</sub> .
<b>Oceans</b>	Absorb CO <sub>2</sub> from the air and store it as dissolved carbon. Marine organisms use it for shells and skeletons.
<b>Volcanic Eruptions &amp; Forest Fires</b>	Release CO <sub>2</sub> into the atmosphere.

key processes and how they convert carbon are shown in the table below:

Process	Carbon starts as	Carbon ends as
Photosynthesis	Carbon dioxide	Glucose
Respiration	Glucose	Carbon dioxide
Combustion (burning)	wood	Carbon dioxide



Use the figure below that shows the Oxygen-Carbon cycle to answer the following questions.



- Animals breathe out carbon dioxide is represented by the letter .....
- Plants absorb carbon dioxide is represented by the letter .....
- Plants release oxygen is represented by the letter .....
- Animals use oxygen is represented by the letter .....

**Which part of the water cycle includes water vapor gas changing to a liquid?**

- a) condensation
  - b) evaporation
  - c) precipitation
  - d) transpiration
- 

**How do animals get nitrogen that is stored in the soil?**

- a) Animals do not take in the nitrogen stored in the soil.
  - b) Bacteria change the nitrogen into a gas that the animals breathe.
  - c) Plants absorb the nitrogen from the soil and animals can eat the plants.
  - d) The animals can eat the soil and absorb the nitrogen through their digestive system
- 

**What is the **carbon cycle**?**

- A) The movement of carbon through Earth's systems
  - B) The process of carbon turning into water
  - C) The movement of oxygen in the air
  - D) The cycle of rock formation
- 

**In what form is **carbon** found in the atmosphere?**

- A) Oxygen
  - B) Carbon dioxide (CO<sub>2</sub>)
  - C) Glucose
  - D) Nitrogen
-

**How do plants take in carbon dioxide?**

- A) Through their roots
  - B) By eating other plants
  - C) During photosynthesis
  - D) Through respiration
- 

**What do plants use carbon to produce?**

- A) Oxygen
  - B) Fossil fuels
  - C) Glucose (food)
  - D) Water
- 

**How do animals obtain carbon?**

- A) By breathing air
  - B) By eating plants or other animals
  - C) By drinking water
  - D) By absorbing it from the soil
- 

**Which process releases carbon dioxide back into the atmosphere?**

- A) Photosynthesis
  - B) Respiration
  - C) Sedimentation
  - D) Filtration
-

**What happens to dead plants and animals in the **carbon cycle**?**

- A) They release carbon into the soil as they decompose
  - B) They absorb more carbon from the air
  - C) They immediately turn into fossil fuels
  - D) They disappear without affecting the cycle
- 

**How are **fossil fuels** formed?**

- A) From fresh plants and animals
  - B) From decomposed organisms over millions of years
  - C) By burning wood
  - D) From ocean waves
- 

**What human activity releases **carbon dioxide** into the atmosphere?**

- A) Swimming in the ocean
  - B) Burning fossil fuels
  - C) Growing plants
  - D) Drinking carbonated water
- 

**How do oceans help regulate **carbon** levels?**

- A) By reflecting sunlight
  - B) By absorbing carbon dioxide from the atmosphere
  - C) By releasing oxygen into space
  - D) By preventing plant growth
-