

The cover features a central white area with text, surrounded by various school supplies. At the top are two pens (black and silver). On the left is a vertical stack of colorful highlighters. On the right is a vertical stack of colorful pencils. At the bottom are two pairs of scissors (red and blue), a magnifying glass, a ruler, and a pencil sharpener. The background is a dark green surface.

**Primary 3**

**Discover  
Revision**

**MRS.ZAHRA HASSAN**

**SCIENCE EDUCATOR**



**First term**

**Content:**

**Theme 1**

**Chapter 2**

- 1- Healthy & Unhealthy habits.
- 2- Diagram of the human body.
- 3- Bones and muscles work together.
- 4- What happens to the food you eat?
- 5- My heart.

**Chapter 3**

1. My diet.
2. Vitamins.
3. How much sugar?
4. What is in the package?
5. Why water matters?
6. Keeping food food.

**Theme 2**

**Chapter 1**

- 1- Habitats.
- 2- Living organisms.
- 3- Needs of living organisms.
- 4- Changes in the environment.

**Chapter 2**

1. The water cycle in nature.
2. Water issues.

**Healthy habits**



Eat healthy food



Brushing teeth



Get enough sleep



Drink milk



Drink water



Exercising

**Unhealthy habits**



Eat junk food and drink soda every day



Shouting at each other



Watch T.V all day

**Making choices to practice healthy habits will help us make healthy mind and body.**

## HEALTHY HABITS

**Get enough sleep:** When we do not get enough sleep, we get out of energy and mood. Getting enough sleep helps our bodies stay healthy, energetic and helps our brains think better.



Sleep helps you think better.

**Stay active:** Exercising, such as walking 1 hour every day, helps us stay active and help our bodies stay strong.



Sports help you stay active.

Staying active can improve our mood, strengthen our bodies and help us focus at school.

## HEALTHY HABITS

**Stay positive & calm:** When we spend too much time staring at TV screens and video games, this can be stressful. It is important to leave positive attitude when something goes wrong, to improve our mood and help our bodies fight illness. We must enjoy quite calm activities such as reading and walking.



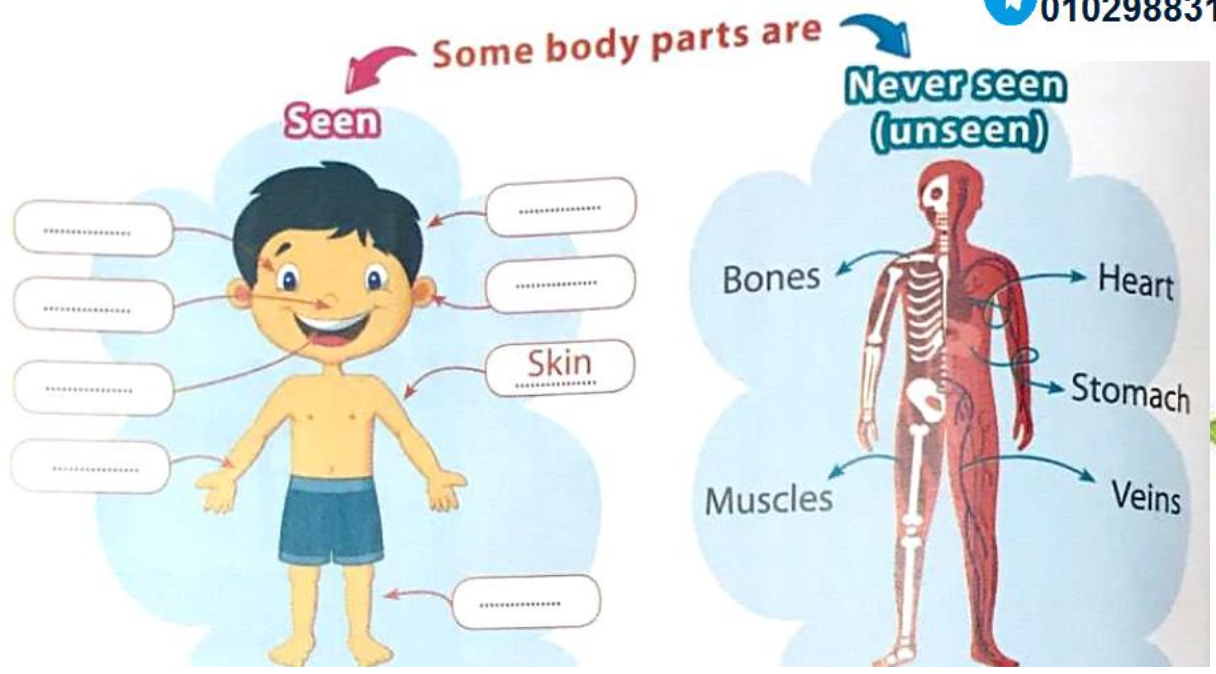
Taking a walk is a quite calm activity

**Eating healthy:** If we eat sweet snacks every day we can harm our bodies. It is important to think about our food choices. Healthy food gives us the nutrients our bodies need and energy to study and play.



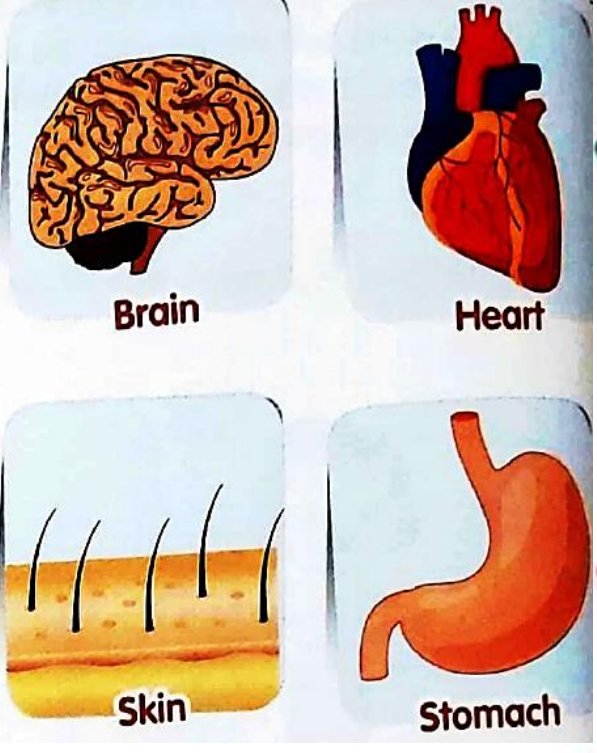
Fruits, vegetables and grains are healthy foods.

# Diagram of The Human Body



**Our body organs :**

- Organs are certain parts of our bodies that have a specific function.
- Our bodies have many organs, such as : brain, heart, stomach and skin.

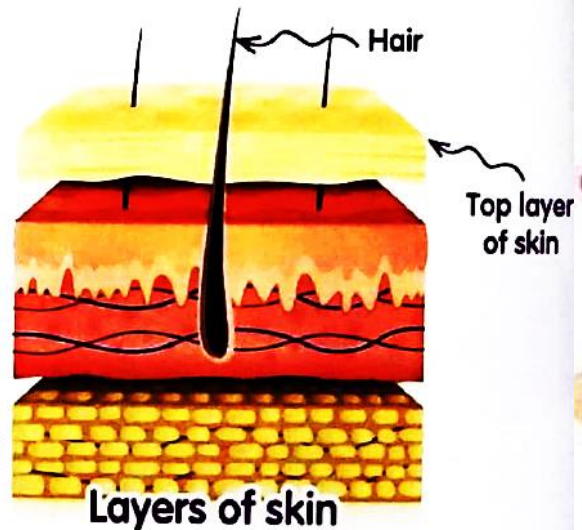


**Some facts about skin :**

- Our skin stands between us and the outside world.
- Our skin weighs about 4 kilograms.
- The skin is the largest organ in our body.

### ★ Structure of skin :

- Our skin is made up of multiple layers.
- You can see the top layer of the skin, while the other layers are under the surface.
- The top layer is about half as thick as a sheet of paper.
- We make new skin all the time. Over time the top skin on the surface flakes away and a new skin takes the journey to the surface.
- This journey takes around three weeks.
- Constantly making new layers keeps our skin healthy and perfect.



### ★ Importance of skin:

- It protects us from harmful germs.
- It protects us from harmful sun rays.
- It keeps fluids inside our bodies as water and blood.
- It keeps our temperature constant.

### ★ Skin protection :

- Cover up your skin using suitable clothes or umbrellas.
- Sunscreen can help protect against harmful Sun rays.



# Bones & Muscles Work Together

"Your body is made of many parts that work together to keep you alive."

**Activity 2** Read & understand, then answer:

I'm your "Muscles".

I'm your "Bones".

I make up your "Skeleton".

**"Bones & Muscles"**  
We always work together, and our job is to help you move and do all the activities you love.

● We also do a great job protecting your soft organs such as:

**1** Ribcage Lung Heart

The **Ribcage** protects the heart and the lungs.

**2** Eye Brain Skull

The **Skull** acts like a helmet, to protect the eyes and the brain.



## 1-Help you to move:

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- When you walk, muscles move bones in your legs and feet.



- When you chew, muscles pull your jaw up and down and side to side.



- When you sleep, muscles move your ribs to help you breathe.



## 2-Protect soft organs:

- If your head is bumped, your skull bones work like a helmet to protect your brain inside.



- If you get hit in your face with a football :
  - The bones behind your eyebrows will protect your eyes.
  - Muscles also protect your eyes by closing them immediately.





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And, she also said, that our bodies give us signals when we need to eat, such as stomach grumbling when we are hungry. And she explained what is digestion and how it happens.

## Digestion

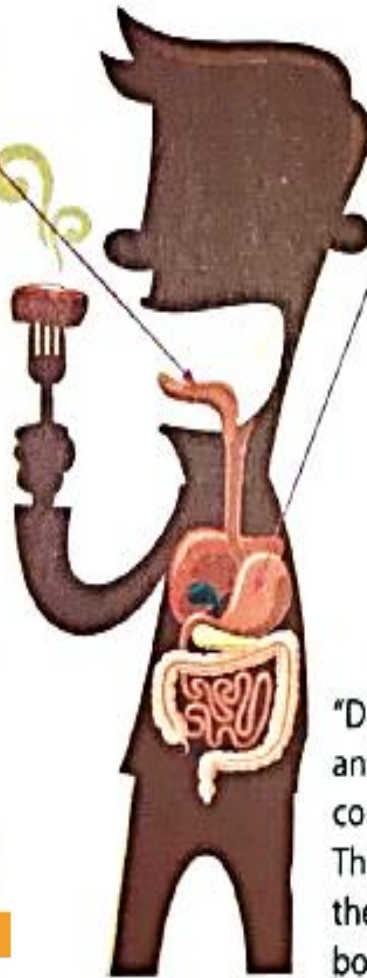
It is the process that changes the food we eat into a simpler form.

### (A) Mouth

- Digestion starts by chewing the food using our teeth to cut food into smaller pieces.
- Saliva (liquid in mouth) softens the food to break-down.
- After swallowing, the muscles push food into the "stomach".

### (B) Stomach

- It is a large muscular organ that helps to digest food.
- Inside the stomach, muscles move the acidic juice inside, to break down the food small enough to get nutrients.



"Digested food leaves the stomach and moves to the intestines to continue the digestion process. The nutrients are carried away in the blood, spreading energy to all body parts."

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## 4-The Heart



### I'm the heart.

I'm the strongest organ in your body. I do a great job, I beat and push blood through your body to keep you alive.

#### Structure:

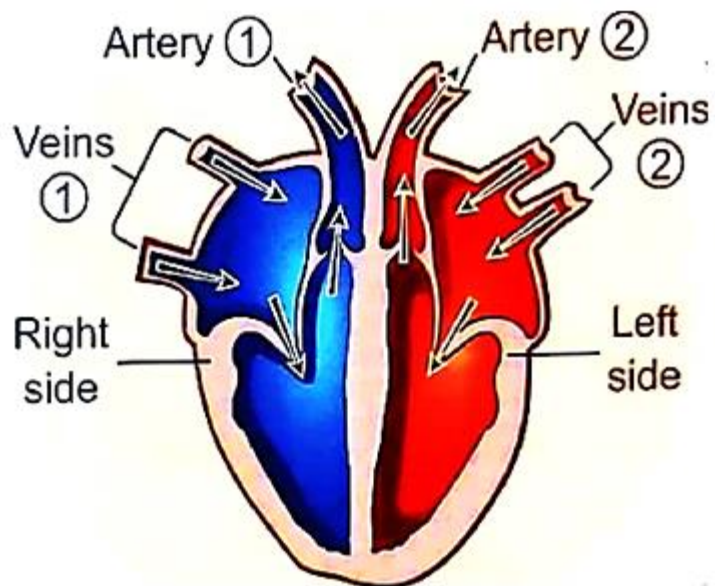
I am a muscular organ, in the size of your fist and as you grow, I grow too.

#### Location:

I lie behind your ribs, between your 2 lungs slightly to the left.



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### Key

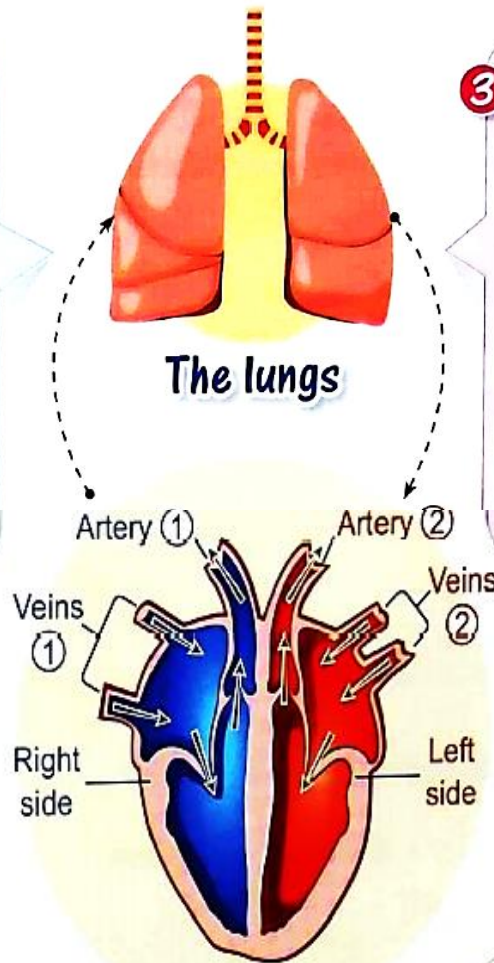
Red color = Blood filled with oxygen

Blue color = Blood does not have oxygen

## . The path of blood through the heart :

② The heart pushes blood through artery ① to the lungs.

- Oxygen from the air we breathe is added to the blood in the lungs.



③ Blood filled with oxygen travels from the lungs to the left side of the heart through veins ②.

① Blood comes from all the body parts to the right side of the heart through veins ①.



④ - The heart pumps blood through artery ② to all the body parts.

- This blood carries the oxygen and other nutrients to all the body parts.



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## Healthy food

### Fruits :

Banana, apple, orange, peach , strawberry and mango.

### Vegetables:

Tomato, cucumber, carrot, lettuce , broccoli and onion.

### Dairy:

Milk, cheese, yogurt.

### Other:

Egg, meat, chicken, fish, nuts, bread and honey



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## Unhealthy food

Junk food "fast food"



sweets



soda



Popcorn



Chips



## My Diet

### Activity 1

Read & Learn about the difference between "Diet" and "Nutrient":

**Diet:**  
Is the food we eat regularly which includes the amounts and types of food we eat.

**Nutrients:**  
Are the elements found inside our food which give our bodies energy.



# Nutrients

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Let's know about the nutrients in our food.

## Proteins

Make our muscles stronger  
As in: Meat, poultry, fish, dry beans, eggs and nuts.



## Carbohydrates

Give us energy  
As in: Bread, cereal, rice and pasta.



## Fats

Give us energy too.  
As in: Milk, yogurt, cheese, butter and oil.



# Lesson 4

# Vitamins and Minerals

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**Activity 1** Read & learn about "Vitamins" and "Minerals":

## Vitamins



are important nutrients that our bodies need in small amounts to grow and function well.

Example: Vitamin (A) in carrots which is good for our eyes.

## Minerals



are substances that our bodies need to stay healthy.

Example: Calcium in milk which is good for our bones and teeth.



## Vitamins

### Vitamin A

It is found in:



Carrots



Orange



Eggs

**A**

**Importance :** Keeps our eyes, skin, teeth and bones healthy.

### Vitamin B

**Note:** there are many types of vitamin B such as B<sub>1</sub>, B<sub>2</sub>, B<sub>6</sub> and B<sub>12</sub>.

It is found in:



Meats



Nuts



Fish



Milk



Yogurt

**B**

**Importance :** Keeps our nervous system, skin, muscles and blood healthy.

### Vitamin C

It is found in:



Orange



Lemon



Guava



Kiwi

**C**

**Importance :** Supports the immune system.

### Vitamin D

It is found in:



Liver



Fish



Milk

**D**

**Importance :** Important for strong bones and teeth.

## Vitamin E

It is found in:



Wheat



Broccoli



Vegetable oil  
(olive oil and sunflower oil)



Spinach

**E**

**Importance :** Important for heart and blood.

## Vitamin K

It is found in:



Pear



Cucumber



Broccoli



Cabbage

**K**

**Importance :** Important for bones and blood.

## Minerals

### Calcium Ca

It is found in:



Milk



Cheese



Yogurt



Broccoli

**Ca**

**Importance :** Helps the body to build strong bones.

### Iron Fe

It is found in:



Eggs



Wheat



Broccoli



Red meat

**Fe**

**Importance :** Iron transports oxygen from your lungs to the rest of your body.

### Potassium K

It is found in:



Banana



Tomato



Potato



Orange

**K**

**Importance :** Keeps our muscles and nervous system working properly.

### Zinc Zn

It is found in:



Chicken



Nuts



Beans

**Zn**

**Importance :** Helps our immune system work well.



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## How Much Sugar

**Activity 2** Learn, then answer:

Eating too much sugar causes some bad effects to our bodies.

### Effects of extra sugar



Causes  
Tooth decay.



Adds stress to our  
hearts.



Feeling anxious.

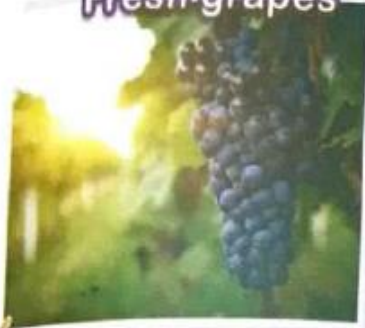


Gaining unhealthy  
weight.

# Time for a Snack

Activity 4 Learn, then answer:

Fresh grapes

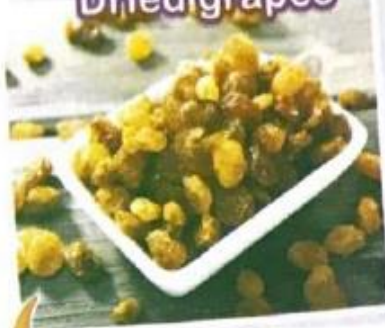


Natural sugar

Lots of nutrients

Contain water

Dried grapes



Natural sugar

Lots of nutrients

Dried in the Sun  
"lose water"

Processed grapes



Extra sugar is added.

Some nutrients  
are removed

Contain water

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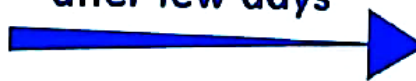
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**Dried food** : It is fresh food we put in the Sun to take water off it, but the Sun leaves the important nutrients we need inside it like dried fruits (Fig - Apricot - Date).



Fresh figs

after few days



Dried figs

# How to read nutrition facts?



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① Serving information

② Calories

③ Nutrients

Nutrition Facts	
4 servings per container	
Serving size	1 cup (227g)
Amount per serving	
<b>Calories</b>	<b>280</b>
	% Daily value
Total Fat 9g	12%
Saturated Fat 4.5g	23%
Trans Fat 0g	0%
Cholesterol 35 mg	12%
Sodium 850 mg	37%
Total Carbohydrate 34g	12%
Dietary Fiber 4g	14%
Sugars 6g	
Protein 15g	
Vitamin D 0mcg	0%
Calcium 320mg	25%
Iron 1.6 mg	8%
Potassium 510mg	10%

④ Quick Guide to percent Daily Value (% DV)

- 5% or less is LOW
- 20% or more is HIGH



**1- Serving Information (size)** : is the amount of the food a person would normally eat at one time.

**Example :**

	one serving of food	%DV	Two servings of food	%DV
Serving Size	1 cup		2 cups	
Calories	280		560	
Total Fat	9 g	12%	18 g	24%

**2- Calories** : are the amount of energy in one serving of the packaged food. (Sometimes the label will say energy instead of calories).

**3- Nutrients** : help us to look for food that contains more nutrients we want to get more of, such as (dietary fiber, vitamin D, calcium, iron, potassium) and less of the nutrients we may want to limit, such as (sugars, saturated fat and sodium).

**4- The percent Daily Value (%DV)** : is the percentage of the daily value for each nutrient in a serving of the food. It can tell you if a serving of food is high or low in each nutrient.



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★ **General Guide to (%DV) :**

- 5% DV or less of a nutrient per serving is considered low.
- 20% DV or more of a nutrient per serving is considered high.

**More often, choose foods that are :**

- Lower in %DV for saturated fat, sodium and sugar.
- Higher in %DV for dietary fiber, vitamin D, calcium, iron and potassium.

# Why Water Matters

Read & learn, then answer:

We are "Hydrated" when we drink enough amount of water, that keeps our bodies function well.



We are "Dehydrated" when we lose too much water without replacing it.  
We lose a lot of water during the day when we breathe, sweat, and when we go to the bathroom.

What are the benefits of water?

It:

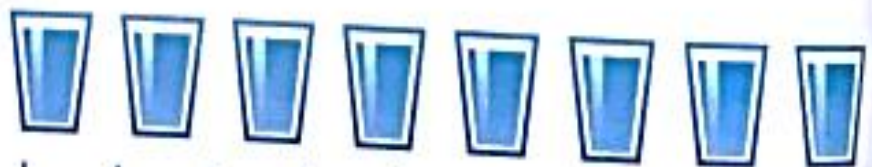
- Keeps our bodies temperature constant.
- Helps joints move properly.
- Protects bones.
- Gets rid of toxins and wastes.
- Dissolves some vitamins.

What happens when we lose too much water?

We will:

- Feel thirsty.
- Feel tired, dizzy and weak.
- Have a headache.
- Become dehydrated.

**Note:**  
Water occupies most of our body.



Drink 2 liters (8 cups) of water every day.

# 1. Keeping Food Cold

## In the past

No electricity

## Zeer pot

- It is made from 2 ceramic pots, inside each other.
- The space between them is filled with sand and water.



## How does it work?

- When water evaporates from the sand, it takes the heat away.
- This acts to cool the inside of the pot, to preserve the food inside.

## Zeer pot works best in:

- Breezy area with dry air. (as wind makes water evaporate faster)
- And in the Shadow (away from the sun)

## Nowadays

"Electricity".

## Refrigerator

- It is a type of containers that works with electricity.
- It keeps the food inside it cold, to last longer.



**Lesson 9**

# Food Storage Through Time

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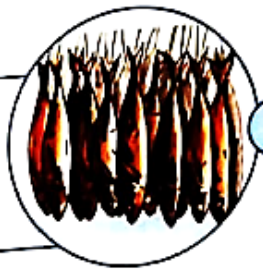
**Activity** Read then answer the questions :

► We have a history of how we can store food.  
Let's see the timeline that shows this history.

**Timeline**  
It is a method we can use to understand history.

**10,000 BCE**

People used fire to heat and smoke food to store these types of food like fish and meat for a long time.



**7,000 BCE**

People used to dry some fruits such as dates and figs in the Sun to store them for a long time.



**30 BCE**

People used salt to keep some food like fish to store them for a long time.



**In 1810**

People used glass jars for canning some types of food like vegetables to store them for a long time.






**In 1920**

People used refrigerators to keep all types of food cold and store them for a long time.





# Habitat

## Living organisms

- Humans
 
- Plants
 
- Animals
 

## Non-living things

### Natural non-living things

- Rocks
 
- Sun
 

### Man-made non-living things

- Chair
 
- Ball
 



Animals	Plants	Non-living things



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**Habitat :**

Is the environment where plants and animals normally live and grow

**Organism:**

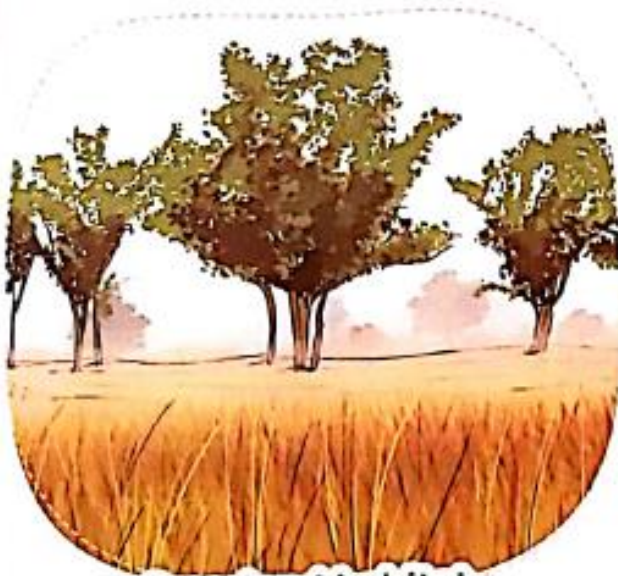
Is a creature such as plants and animals that usually needs basic needs to survive.



Polar habitat



Rainforest habitat



Grassland habitat



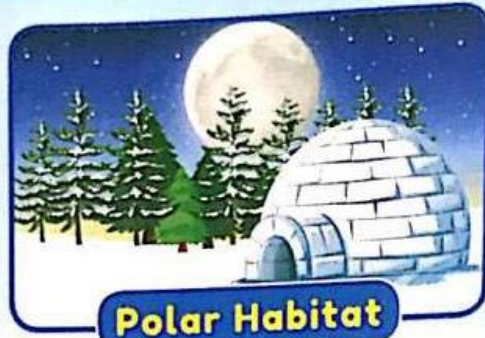
Wetland habitat

# 1 Polar Habitat (Tundra):

Found near the North and South poles.

## Weather

Cold and windy.  
Ice covers large areas.



Polar Habitat

## Plants

**Shrubs:** grow on the ground.  
**Moss:** grows on rocks.

## Animals



**Polar bear**  
(Swims to find food)



**Arctic fox**



**Whale**



**Penguin**



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# 2 Rainforest Habitat (Tropical Habitat):

Found near the equator.

## Weather

Rainy.  
Warm.



Rainforest Habitat

## Plants

**Tall trees:** Block sunlight from reaching the ground.  
**Ground plants:** with big leaves to capture light.

## Animals



**Macaw**



**Monkey**



**Frogs**



**Large snake**  
(Crawl on wet and dark ground)

### 3 Grassland Habitat:

Dry flat lands found all over the world.

#### Weather

- Tropical grassland is warm all the year.
- Temperate grassland is warm in summer but cold in winter.

#### Plants

Few trees. Tall grass and bushes.



Grassland Habitat

#### Animals



Prairie dog



Giraffe



Rabbits



Lions and Cheetahs

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### 4 Wetland Habitat:

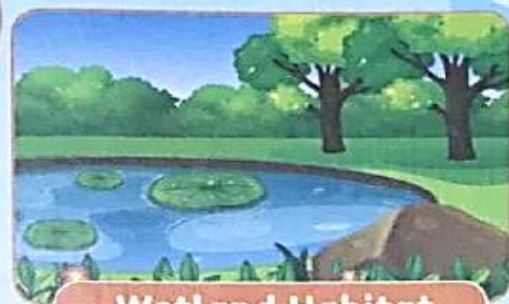
Found where land meets fresh or salty water.

#### Weather

Warm or cold or have multiple seasons.

#### Plants

Can grow at the top or under the water.



Wetland Habitat

#### Animals



Turtle



Frogs

# Needs of Living Organisms

Activity 2

Read & learn about the basic needs of living organisms in their habitats, then answer:

Shelter

Food

Water

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## 1-Shelter



Turtles, crayfish & frogs hide under rocks.



Birds build nests in trees.



Moles and rabbits make burrows in the ground.



Squirrels and owls use holes in trees.

## 2- Food



Rabbits eat plants.



Lions chase animals.



Vultures and Raccoons eat dead animals.

### 3-Water



Drink from ponds and streams.



Drink water drops on leaves.



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Zebras & elephants can walk many miles to look for water.



Monarch butterflies fly to the south in the winter, for warmer weather & more food.

**Cause :** It is something that creates a change.

**Effect :** It is the change we observe.

It is hot.

I am sweating.

A diagram illustrating cause and effect. On the left, a boy is shown under a sun with the text "It is hot." Below this is a dashed box containing the text "Cause : It is something that creates a change." A red arrow points from this box to a dashed box on the right containing the text "Effect : It is the change we observe." Below the effect box is a boy sweating with the text "I am sweating." The entire diagram is enclosed in a yellow border.

# Changes in the Environment



## Drought

### Cause

- No rain.
- OR
- Ponds, rivers, lakes dry up.

### Effect

- **Soil.**
  - Cracked and dry.
- **Plants.**
  - Can't survive.
- **Animals.**
  - Move to find water.



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## Flood

### Cause

- Heavy rains that cover lands.

### Effect

- **Useful:**
  - Bring seeds and nutrients.
- **Harmful:**
  - Plants washed away.
  - Animals leave their habitat.



## Fire

### Cause

- **Natural.**
  - From lightning.
- **Man-made.**
  - Fire.

### Effect

- **Useful:**
  - Remove dead litter so nutrients added to the soil.
- **Harmful:**
  - Animals leave their habitat.
  - Pollute the air.



## Pollution

### Cause

- Natural.
  - Volcanos.
- Man-made.
  - Throwing trash & chemicals in water.
  - Machines pollute air.

### Effect

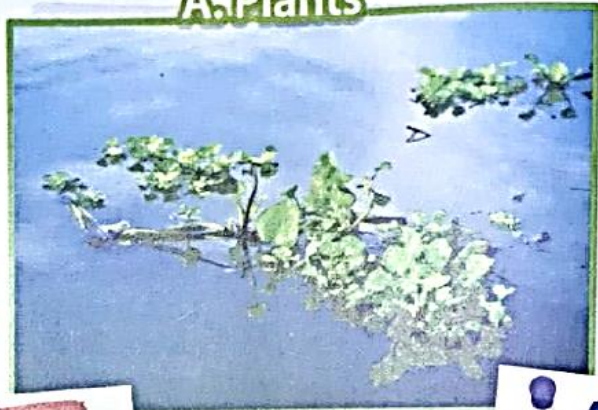
- Destroy the air, water and land in the habitats.



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## Plants and animals can cause change

### A. Plants



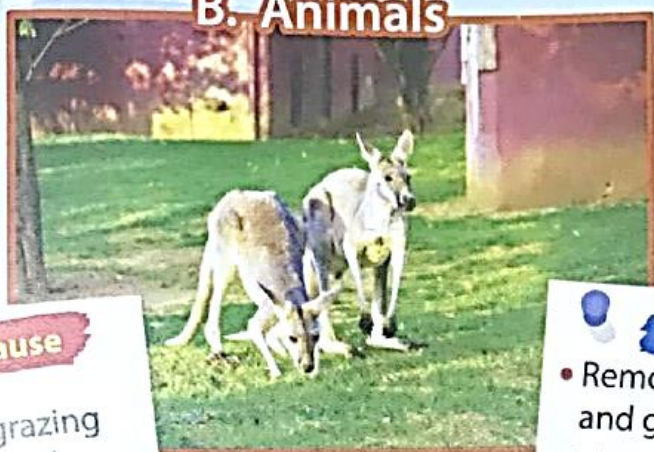
#### Cause

- Water hyacinth

#### Effect

- Use a lot of water.
- Prevent sunlight and oxygen to reach the aquatic plants.

### B. Animals



#### Cause

- Overgrazing of animals

#### Effect

- Remove plants and grass.
- The soil becomes hard and sandy.

# Importance of Water

Why we need  
**Water?**

Drinking



Producing electricity  
"High Dam".



Cooking



Transportation



Washing  
ourselves



Watering plants



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**"We all need water to live"**

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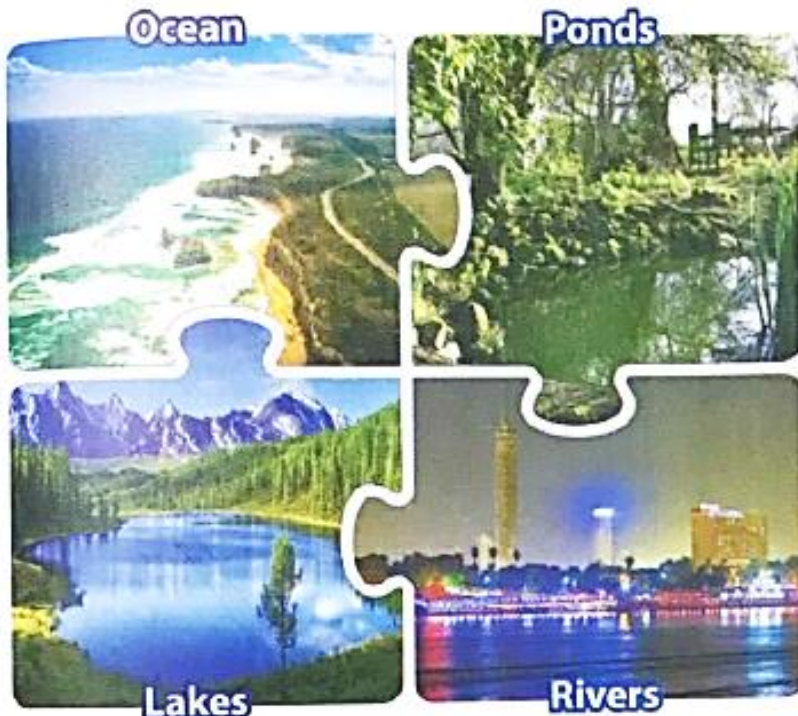
# Sources of Water



"Where can we find water?"

**Activity 2** Identify some of water sources, then answer

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**Note:**  
Almost 3/4 of the surface of our planet "Earth" is covered by water.



# Water in Our World

**Activity 3** Read, then answer:



**Do you know?**  
The small amount of liquid water is available for us to use.



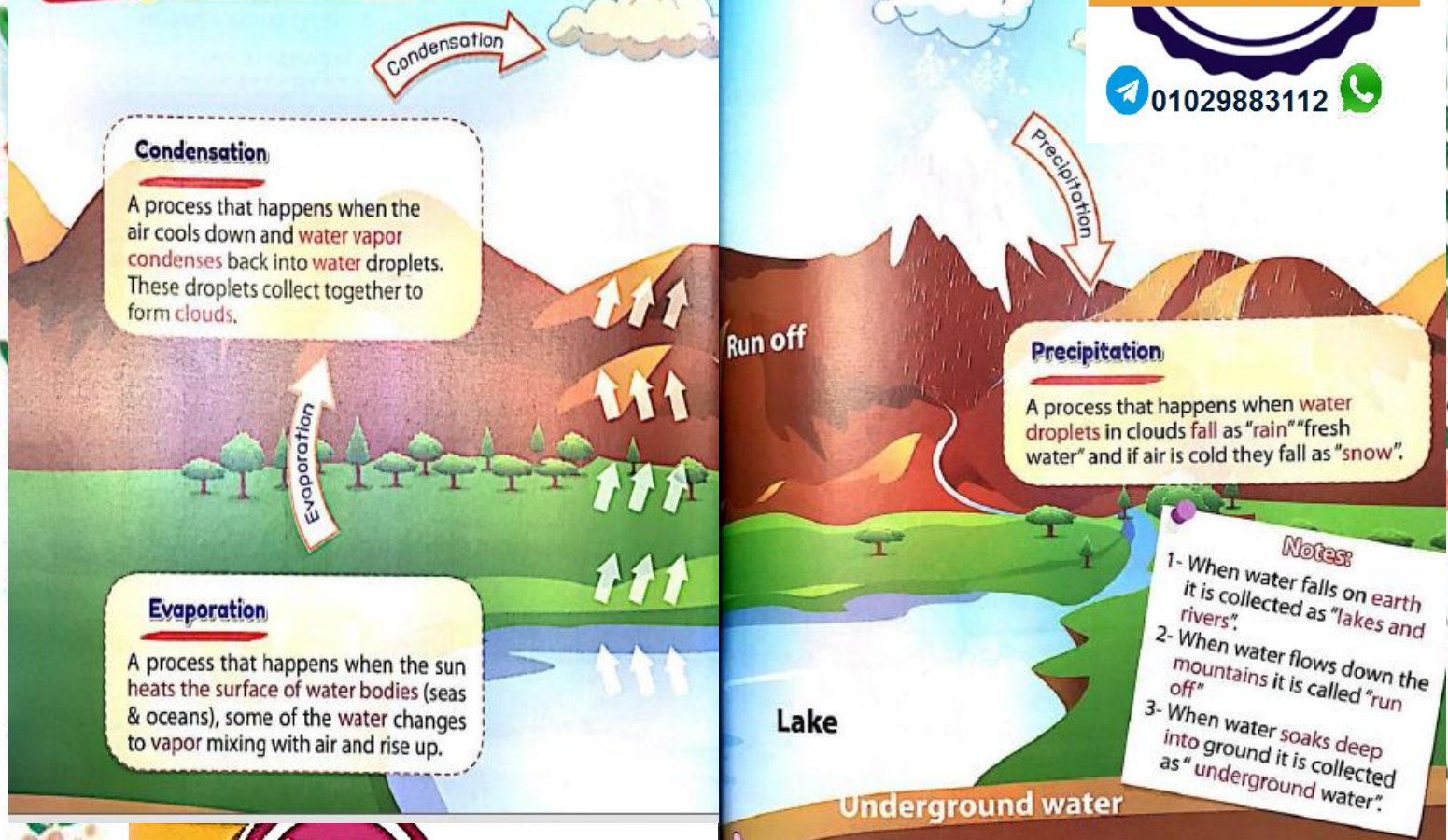
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# The Water Cycle in Nature

**Activity 2** Read and learn the "Path of Water Cycle":



### Condensation

A process that happens when the air cools down and water vapor condenses back into water droplets. These droplets collect together to form clouds.

### Evaporation

A process that happens when the sun heats the surface of water bodies (seas & oceans), some of the water changes to vapor mixing with air and rise up.

### Precipitation

A process that happens when water droplets in clouds fall as "rain" "fresh water" and if air is cold they fall as "snow".

### Notes:

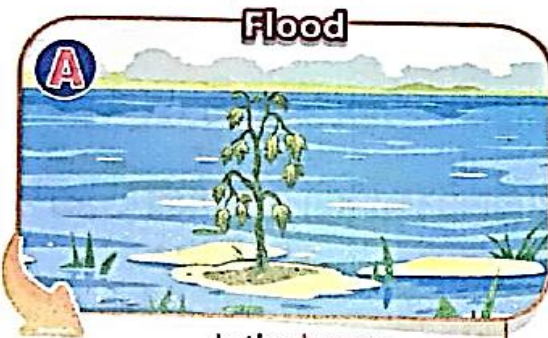
- 1- When water falls on earth it is collected as "lakes and rivers".
- 2- When water flows down the mountains it is called "run off"
- 3- When water soaks deep into ground it is collected as "underground water".

## Lesson 7

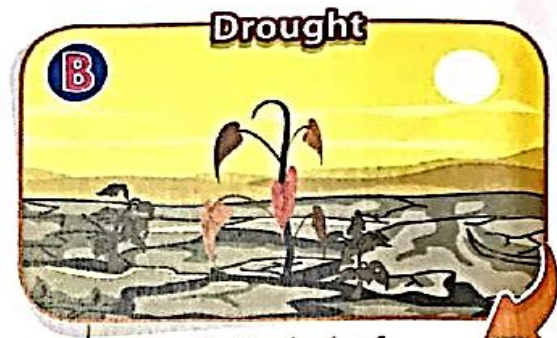
## Water Issues

"How would you think climate can impact living organisms?"

**Activity 1** Look at the pictures, then answer the questions below:



Is the heavy precipitation in a short period of time.



Is the lack of precipitation in a long period of time.

### Human



It causes contamination of drinking water sources.

### Effect Flood



### Impact on

### Environment

It causes rivers to over flow.



### Plants and animals



It causes the death of plants and animals due to destroying their habitats.

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### Human



It causes contamination of drinking water sources.

### Effect Drought



### Impact on

### Environment

It causes rivers and lakes to dry up.



### Plants and animals



It causes the death of plants and animals due to destroying their habitats.



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