

شكراً لتحميلك هذا الملف من موقع المناهج الإماراتية



مراجعة امتحانية ملخص وحلول وفق الهيكل الوزاري الجديد انسباير

[موقع المناهج](#) ← [المناهج الإماراتية](#) ← [الصف الرابع](#) ← [علوم](#) ← [الفصل الثالث](#) ← [الملف](#)

التواصل الاجتماعي بحسب الصف الرابع



روابط مواد الصف الرابع على تلغرام

[الرياضيات](#)

[اللغة الانجليزية](#)

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المزيد من الملفات بحسب الصف الرابع والمادة علوم في الفصل الثالث

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EoT3 Coverage G04 Science Inspire

Teacher: Reem Almeqbaali

Plants

Page 10 (احتياجات النبات plant needs)

VOCABULARY

Look for these words as you read:

adaptation

response

stimulus

transpiration

tropism

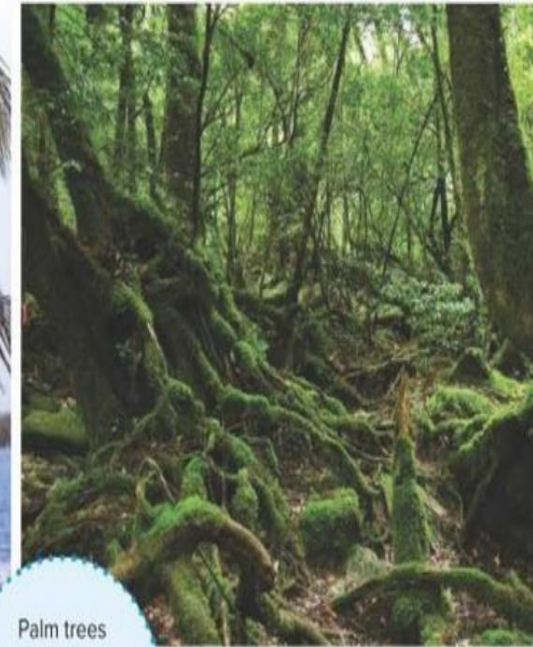
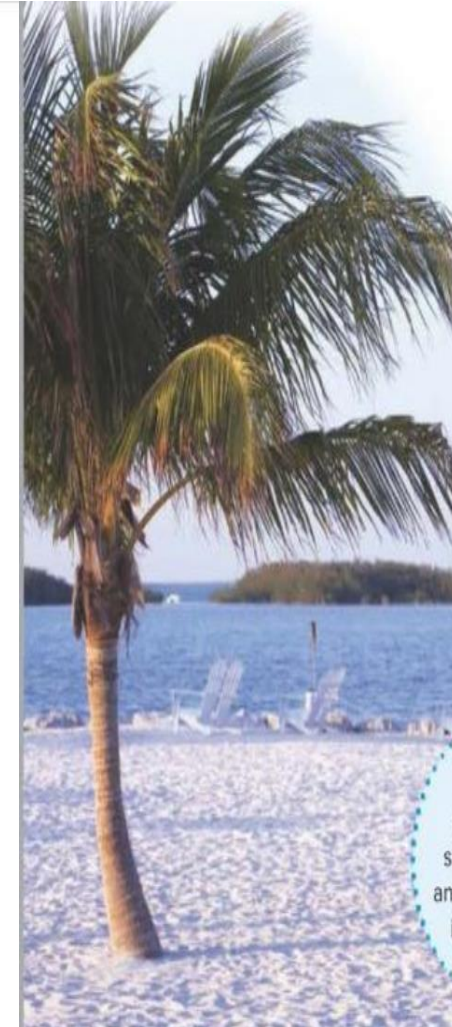
Plant Needs

The redwood trees that you saw in the lesson phenomenon and the two schoolyard plants you observed in the Inquiry Activity, *Plant Parts*, probably look very different. But they aren't as different as you might think. All plants have the same basic needs and a set of typical structures.

The basic needs of plants are air, water, sunlight, nutrients, and space. Plants must live in an environment where their needs are met.

The air around Earth is a mixture of gases. Plants need one of these gases, carbon dioxide, to make food. They need another gas, oxygen, to break down the food. Plants have pores, or stomata, in their leaves that allow gases to move in and out of the plant.

Plants use sunlight to make food. They use the energy from sunlight to make sugar. The sugar provides the energy plants need to survive. Some plants need more sunlight than others. Plants use their leaves to gather sunlight.



Palm trees require a lot of sunlight. Mosses and ferns can grow in shady areas.

Questions

1) What are the basic needs of plants?

Water, sunlight, air, space, and nutrients.

2) What is the gas that the plant needs to make food?

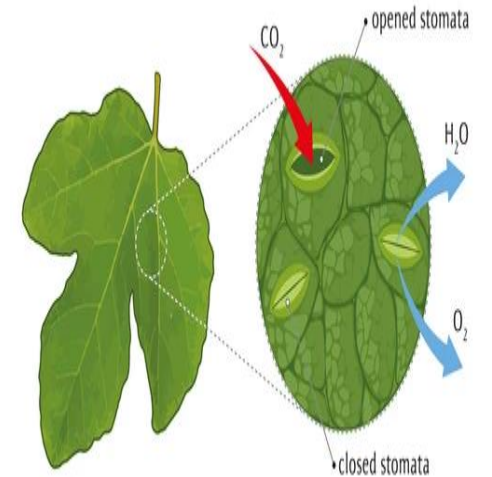
Carbon dioxide.

3) What is the gas that the plant needs to break down food?

Oxygen

4) Which structure in plant allows the sunlight and carbon dioxide to enter to the plant? Stomata on leaves

5) How plants get energy? They make their own food.



Page 12 (أجزاء النبتة plant parts)

Plant Parts

Most plants have roots, stems, and leaves. These parts, or structures, help the plant meet its needs and carry out life functions.

Roots

Plant roots take in water and dissolved nutrients from the soil. Roots also hold the plant in place. Some roots store food the plant has made.

Stem

The stem supports the plant. It is also part of a plant's transport system. There are two types of stems: soft stems and woody stems. Soft stems are green and are flexible. Woody stems are hard and are often covered in bark. Tree trunks are examples of woody stems.

Stems also allow materials to move inside the plant through a system of tubes. The tubes in the stems carry water and dissolved nutrients.



Label a Diagram: Roots, Stems, and Leaves

Label the different parts of the plant. Then describe the functions of each of the plant parts below.

Roots:

hold the plant in place,
take in water and
nutrients

Stems:

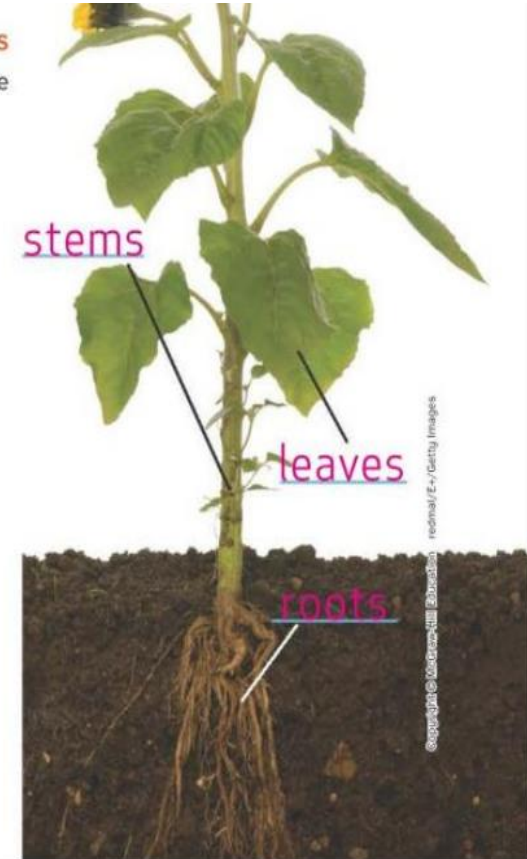
support the plant,
transport materials

Leaves:

capture light and are the
site of gas exchange

Talk About It

Use evidence to construct an argument that plant structures function to support survival.



Questions

- 1) Which part of the plant that **takes in water and nutrients**? Roots.
- 2) Which part of the plant **supports** the plant and **transport** water and nutrients? Stem
- 3) Which part of the plant **captures the light** and **exchange the gases** ? Leaves
- 4) Which part of the plant allow it to take **carbon dioxide** and **sunlight**? Leaves

***Maybe they will be asked to write one function for each part of the plant**



Page 14 (تكاثر النبات (plant reproduction

Plant Reproduction

Plants have many structures that are used for reproduction. Some of the structures are flowers, cones, seeds, and fruits.

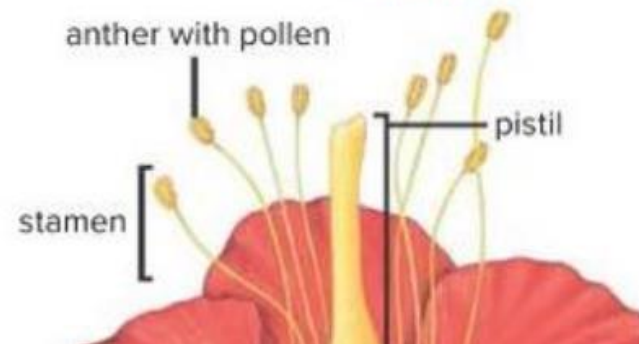
Flowers

Most flowers contain male and female parts. The stamen is the male part. It contains the anther, where pollen is produced. The pistil is the female part. It contains the ovary, where egg cells are produced. Insects, birds, and wind help move pollen. Fertilization occurs once the content inside the pollen joins the egg cells inside the ovary. Seeds develop after fertilization.

Although flowers come in different colors and shapes, they all contain the same structures used in reproduction.

Cones

Some seed plants reproduce with cones. These plants usually produce both male and female cones. The male cones produce pollen that is released into the wind. The female cones produce a sticky liquid that captures the pollen. Fertilization occurs in the female cone.



Questions (flowers الأزهار)

1) What are the reproduction parts of plants

Flower, cones, seeds, and fruit

2) What is the **male** part of the flower?

Stamen that contains the **anther** where **pollen** are produced

3) Which is the **female** part of the flower?

Pistil that contains the **ovary** where **eggs** are produced

4) What takes the **pollen** from the **anther** to the **ovary**?

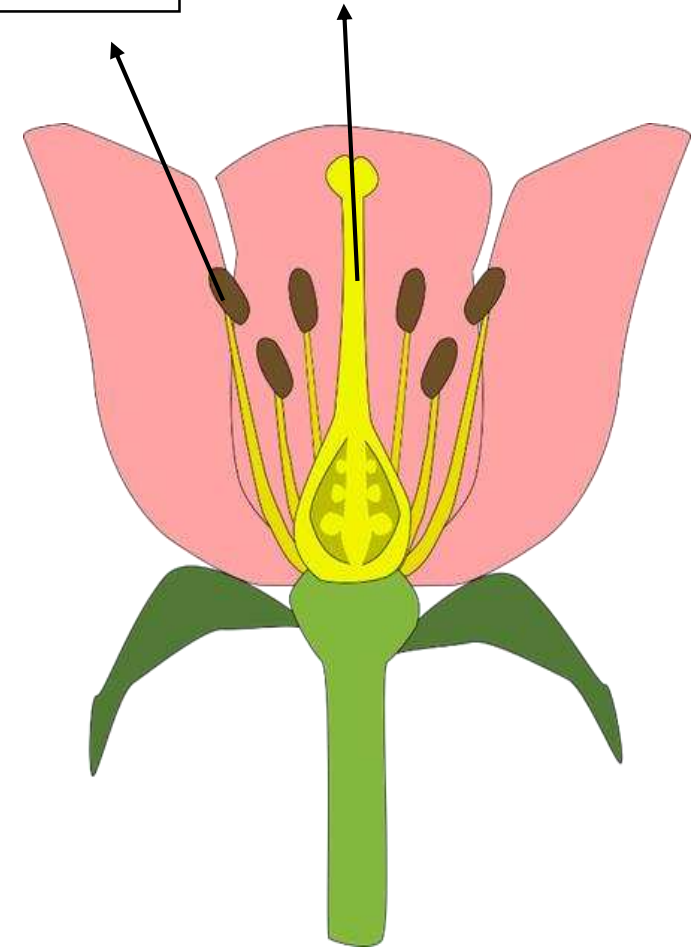
Insects, birds, and winds

5) What is **fertilization**?

When the content of the pollen joins the egg cells

Stamen

Pistil



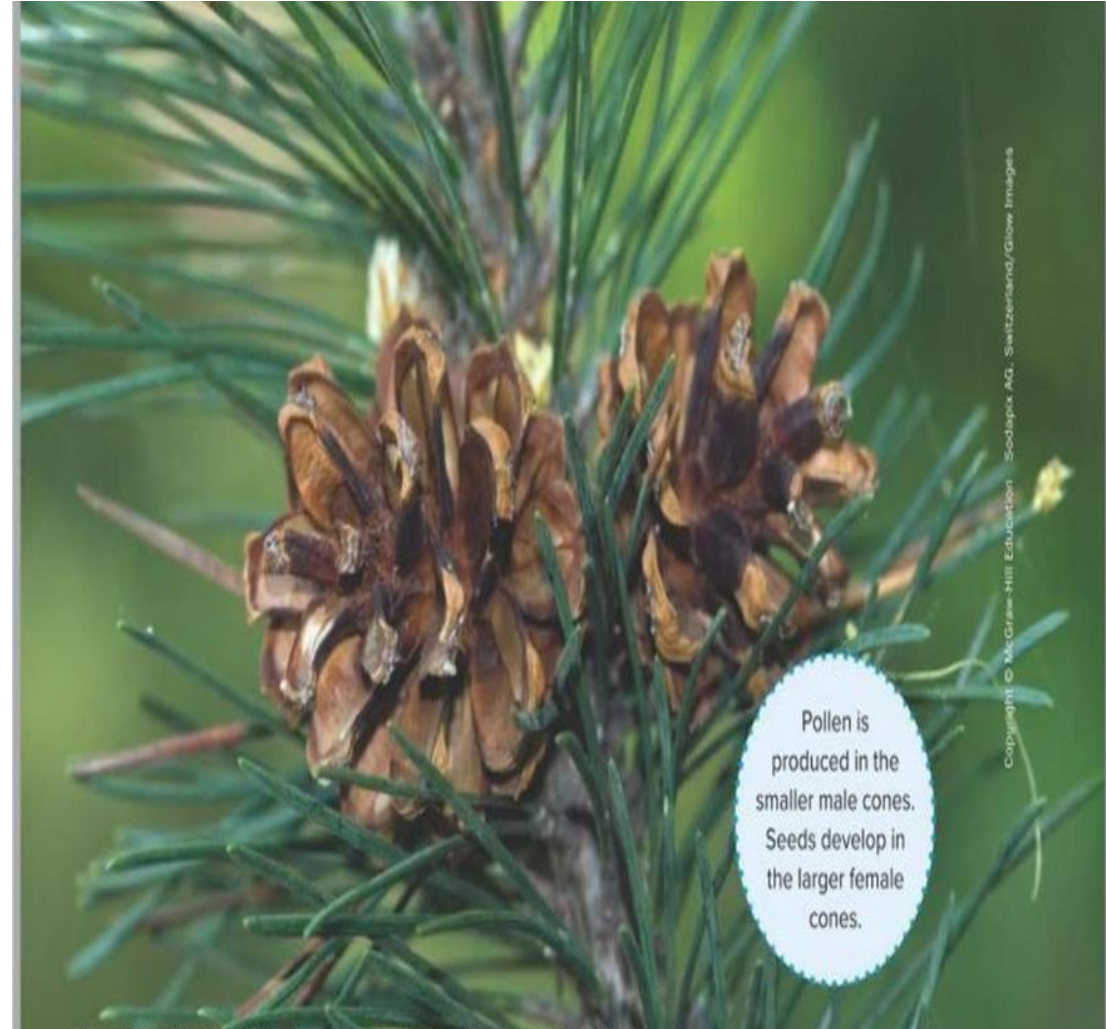
Questions (cones المخاريط)

1) What does the **male cone** produce?

Pollen

2) What does the **female cone** produce?

Sticky liquid that captures the pollen



Page 15 (تكاثر النبات (plant reproduction

Seeds

A seed contains an embryo surrounded by a food supply, or cotyledon, and an outer seed coat. An embryo is the beginning of a new organism. It will live off of the food supply until it is big enough to make its own food.

Fruits

As a seed develops, the ovary enlarges into a fruit, which protects the seed. Some fruits appeal to animals, which eat the fruits and spread the plant's seed in their droppings.

Use evidence to construct an argument that a plant's system has parts that work together to support reproduction.

Sample answer: An embryo is needed for reproduction. The embryo gets food from the seed and is protected by the seed coat.

Questions (seeds and fruits البذور والفواكه)

1) How plants help in scattering seeds?

Animals eat the fruit and throw the seeds every where

2) How the embryo gets the food?

From the seed

3) What is the function of seed coat?

To protect the embryo



Page 16 (Plant survival and behavior)

Plant Survival and Behavior

Environments can present challenges to the organisms that live there. An **adaptation** is a physical trait or behavior that helps an organism survive in its environment.

GO ONLINE Use the simulation *Plant Structures* to learn how the structures in plants function.

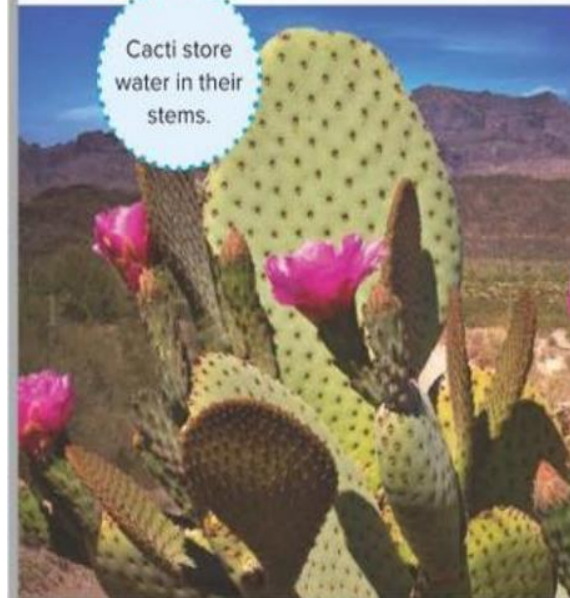
Many plants have parts that are physical adaptations. For example, desert plants have adaptations for living in a hot, dry environment. Cacti have thick, waxy stems that store water. They have dense, shallow roots to soak up rain quickly. Rainforest plants, such as orchids, have adaptations that help them survive in hot, wet conditions. An orchid's aerial roots absorb nutrients and anchor the plant high in a tree. Orchids also have leaves that are shaped to drain excess water to prevent rotting.

Many plants have adaptations to defend themselves from animals that would eat them. Some plants have thorns. Others produce chemicals that are poisonous or taste bad.



Construct an argument from evidence to explain how the parts of each plant's system help it survive.

Sample answer: The roots, stems, leaves, and flowers help them get the resources that they need to survive and reproduce in their unique habitats. Their structures look different but still have mostly the same purpose.



Cacti store water in their stems.



Orchids have aerial roots and drip tip leaves that help them survive in warm, moist conditions.

Questions (plant survival and behavior)

1) What is **adaptation** التكيف?

Physical trait or behavior that helps an organism survive in it's environment.

2) How **dessert plants** adapt to hot, dry environment?

Thick, waxy stem to store water, and dense, shallow roots to soak up rain quickly.

3) How **rainforest plants** adapt to hot, wet environment?

Aerial roots to absorb nutrients and anchor plants, and leaves that drain excess water

4) How **plants** **defense** themselves from animals?

Thrones or produce poisonous chemicals



Page 17 (Plant survival and behavior)

Plant Behavior

Plants have internal structures that enable them to react to changes in their environments. A change in an environment that causes an organism to respond is called a **stimulus**. The reaction or change in behavior of an organism is called a **response**. Plants respond to stimuli such as sunlight, water, and gravity.

A plant responds to a stimulus by changing its pattern of growth. A plant's response to water, gravity, light, and touch is called **tropism**.

Plants respond to light by growing toward the light source. This response is known as phototropism. Most plant roots grow downward, the same direction as the pull of gravity, while most stems grow upward. This is called gravitropism. Roots sense water in the soil and grow toward or away from it. This response is known as hydrotropism. Some plants respond to touch, or contact with an object, by curling around that object or clinging to it. This is known as thigmotropism.

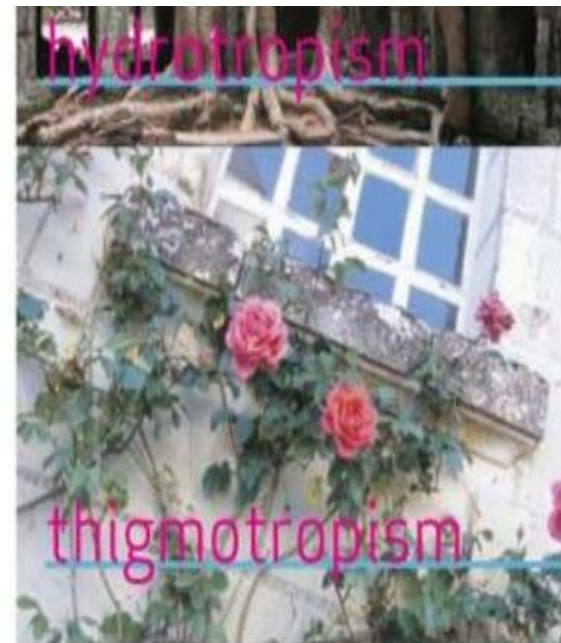


1. List the types of tropisms on the lines below. Identify and label the types of tropism shown in the photos on this page.

phototropism, _____
gravitropism, _____
hydrotropism, _____
thigmotropism _____

2. Use evidence to construct an argument that plants have structures that support behavior.

Sample answer: Plants have internal structures that allow them to react to a stimulus and change their behavior in order to get the resources they need to live and grow.



Questions (plant survival and behavior)

1) What is stimulus?

A change in the environment that causes an organism to respond.

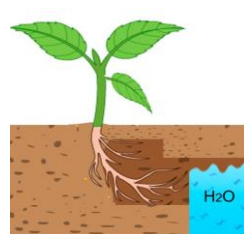
2) What is response?

The reaction or change in behavior of organism.

3) What is tropism?

The plant's response to water, light, gravity, or touch.

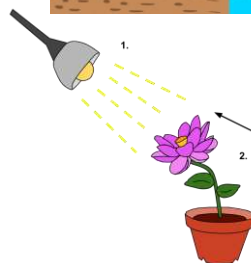
Response to **water** is **hydrotropism**



Response to **gravity** is **gravitropism**



Response to **light** is **phototropism**



Response to **touch** is **thigmotropism**



Animals


Page 33 (animals structures)

Structures

Structures inside and outside animals' bodies work together to obtain nutrients, digest food, eliminate waste, and reproduce. These parts keep an animal alive and help it reproduce.

Internal structures are structures found inside an organism's body. These structures, like the major organs, have specific functions. For example, the brain's main function is to process information. The stomach helps digest food. The intestines absorb nutrients. Kidneys help eliminate waste. Lungs help with the exchange of gases. Animals can reproduce once their reproductive organs reach maturity.

External structures are found outside of an organism's body. A shark's teeth and a bird's beak are examples of external structures that help these animals get food.

 **GO ONLINE** Watch the video *Animal Structures* to learn more about animal structures.



Orangutans move by swinging from tree to tree. They need plenty of space to find shelter and food.

- WRITING Connection** Revisit the Explore activity. Research the two different animals that you compared, focusing on their internal structures this time. Write a short summary explaining how these structures help each animal survive its environment. Use a separate piece of paper if needed.

Sample answer: Both mountain lions and lizards have many organs in common such as a brain to help process information, intestines to absorb nutrients, and kidneys to eliminate waste from their system.



Robins build nests that are high off the ground so that they can safely lay eggs and raise their young.



Fish take in oxygen from the water through their gills.

Questions (plant survival and behavior)

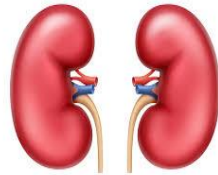
1) What are internal structures?

Structures found inside the organism's body. **Examples**

Brain: process information



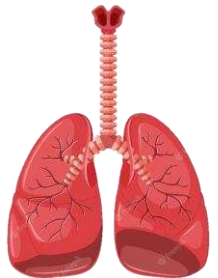
Kidney: eliminate waste



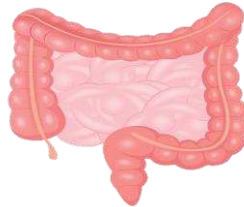
Stomach: digest food



Lungs: exchange gases



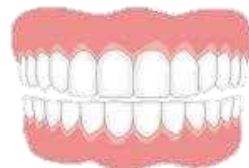
Intestines: absorb nutrients



2) What are external structures?

Structures found outside the organism's body. **Examples**

Teeth and **beaks** for food



Page 34 (structural adaptations)

Structural Adaptations

An organism's **structural adaptations** are inherited changes to physical features that help an organism survive and reproduce. Fur color, long limbs, strong jaws, and the ability to run fast are structural adaptations. Some structural adaptations help organisms survive in certain environments. Other structural adaptations protect prey from predators or enable predators to hunt more successfully.

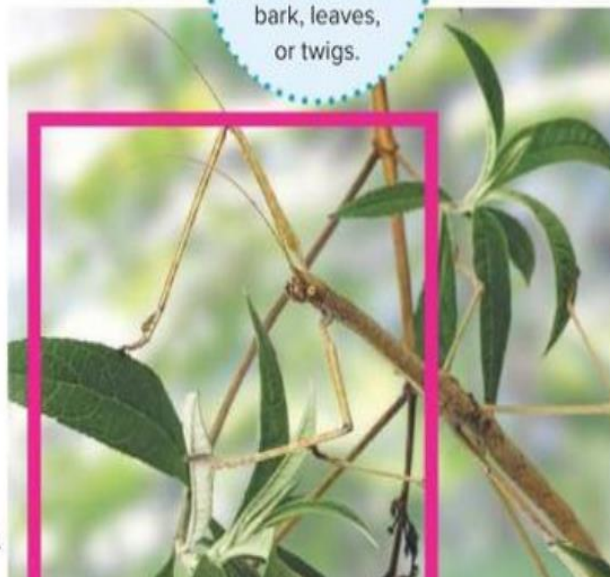
Camouflage

Camouflage is any coloring, shape, or pattern that allows an organism to blend in with its environment. Predators with camouflage sneak up on prey. Camouflage also helps prey animals hide from predators.

Mimicry

Mimicry is an adaptation in which an animal is protected against its predators by its resemblance to a different animal or object. For example, the spicebush swallowtail caterpillar's head has spots that look like a snake's head. This shape frightens away most predators.

This stick bug avoids predators by looking just like bark, leaves, or twigs.



1. Explain how structural adaptations help animals survive.

Structural adaptations can help prey escape from predators, or help predators hunt more successfully.

2. Circle the animal that shows mimicry. Put a square around the animal that is using camouflage.



Spicebush swallowtail caterpillar

Questions (Structural adaptations)

1) What is **structural** adaptation **تكيف هيكلية**?

Changes in the **physical** features of an organism to help them survive and reproduce.

2) What are the examples of **structural** adaptations?

Fur color, long limbs, strong jaws, and fast running.

3) What is camouflage **(تمويه)** ?

Any coloring or shaping that allow the plant to blend with its environment.



3) What is mimicry **(محاكاة)** ?

Resemblance of another animal or object.




Page 35 (behavioral adaptations)

Behavioral Adaptations

An adjustment in an organism's behavior is a behavioral adaptation. For example, many animals travel in herds for protection from predators. Others, such as wolves, hunt in packs to capture larger prey.

Many animals—such as birds, butterflies, and fish—migrate. Migration is the movement of animals from one place to another. Animals migrate to find food, reproduce in better conditions, or find a less severe climate.

Some animals endure cold winters by hibernating. Hibernation is a period of inactivity during cold weather. During this time, animals remain inactive until warmer temperatures return in spring. Grizzly bears prepare for hibernation around November. They will not eat, drink, or eliminate bodily wastes during hibernation, which lasts approximately five months.

 **GO ONLINE** Explore *How Animals Survive* to learn more about what helps animals stay alive.



1. Why do animals travel in herds?

Sample answer: Traveling in herds reduces the chance of being attacked by a predator.

2. What is the advantage of hunting in a group?

Sample answer: Animals that hunt in a group can work together to catch larger prey.

The desert kangaroo rat is adapted to get all of the water it needs from food. It never needs to drink.

Questions (behavioral adaptations)

1) What is **behavioral** adaptation **تكيف سلوكي**?

An adjustment in organism's behavior.

2) What are the examples of **behavioral** adaptations?

Travel in herds to protect themselves from predators.

3) What is migration **(هجرة)** ?

Movement of animals from one place to another to find food, reproduce, or less severe climate.

3) What is hibernating **(سبات)** ?

Period of inactivity during cold weather.



Information processing and transfer

معالجة المعلومات ونقلها

Page 62 (animals senses حواس الحيوانات)

VOCABULARY

Look for these words as you read:

brain

central nervous system

echolocation

nervous system

peripheral nerve

sensory organ

spinal cord

Animal Senses

Think about how you used your sense of touch in the Inquiry Activity, *Sense of Touch*. Animals also use their senses to learn about their environments. They have **sensory organs**, such as skin, eyes, nose, and tongue, that gather information from outside the body. Like humans, most animals can see, hear, smell, taste, and feel.

Many animals depend on their eyesight to survive. Colossal squids live in ocean waters. They have some of the largest eyes in the animal kingdom. Each eye is about 26 centimeters (10 inches) wide. Large eyes let in a lot of light. This helps the squid see in the dark depths of the ocean.

African elephants have the biggest ears of any animal. Their ears help them hear sounds from very far away. Elephants communicate by making low, rumbling noises that humans cannot hear; however, other elephants can hear them from miles away.



them from miles away.

Some animals use different sensory organs than humans. Ants do not have noses. They use their antennae to leave a scent after finding food and to detect smells. Butterflies use their feet to taste leaves. The taste tells them if the plant is a good place to lay their eggs.

1. Underline the sensory organs discussed in the paragraphs above. Circle them in the photos.
2. Draw and label a diagram to show how ants use their sensory organs to learn about their environments.

Students' diagrams should include antennae labeled as a sensory organ that detects smells. Eyes might also be labeled.

Questions (sensory organs)

1) What are the sensory organs?

Eyes, ears, nose, tongue, and skin

2) What is the function of sensory organs?

Gather information from outside the body.

3) What are the five senses?

Sight, hearing, smell, taste, and touch

Colossal squids: big eyes that allow them to see in dark

Elephants: big ears to communicate with far elephants

Ants: antennae to leave a scent after finding food

Butterflies: use their feet to taste leaves

Five senses



Page 63 (other animals senses)

Other Animal Senses

Some animals have senses that humans do not have. Pit vipers and some other snakes have sensory organs that detect infrared light given off by their warm-blooded prey. The light enters a small pit organ, which is located between the snake's eye and nostril. A heat-sensitive part in the organ sends a message to the brain, and the snake strikes.

The duck-billed platypus uses its bill to detect weak electrical fields put out by animals as they move. The bill can also detect movement in the water. The platypus uses this information to quickly locate its prey.

Some bats use echoes to help them navigate and locate prey.

Echolocation is the process of finding an object by using reflected sound or echoes. These bats send out a high-pitched sound. This sound hits the prey and bounces back to the bat. The bat then interprets this echo to judge the direction and distance of its prey. Some whales and dolphins use echolocation to gather information from their environment.



1. How are the senses of pit vipers different from yours?

Sample answer: Pit vipers detect infrared light, which helps them hunt for warm-blooded animals. They have a pit organ that detects heat.

2. Use an analogy to explain how echolocation works.

Sample answer: Echolocation is like throwing a rubber ball against a wall. Like an echo, the ball bounces back once it hits the wall.

Questions (other animal senses)

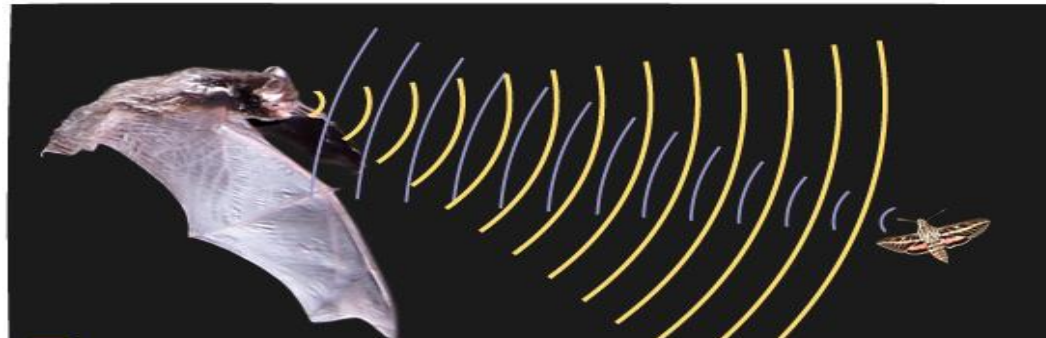
Pit vipers (snakes): pit organ that detect infrared light of prey



Duck-billed platypus: bill to detect weak electrical fields of animals



Echolocation: use reflected sounds to detect the prey place




All of them use their special organs to detect the place of preys

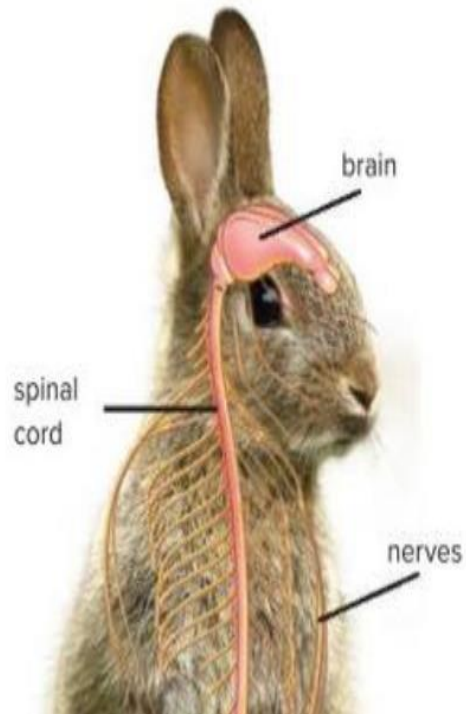
Page 64 (the nervous system)

The Nervous System

Sensory organs are part of the nervous system. The nervous systems of many animals are similar to the human nervous system. The **nervous system** is the set of organs that uses information from the senses to control all body systems. The **central nervous system** is the part of the nervous system made up of the brain and spinal cord.

The **brain** is an organ that interprets messages received from and sends messages to other body organs. The **spinal cord** is a thick band of nerves inside the spine. It carries messages to and from the brain. Nerves branch off from the spinal cord to all parts of the body. A nerve that is not part of the central nervous system and receives sensory information from other parts of the body is called **peripheral nerve**.

 **GO ONLINE** Explore the *Brain Illumination* simulation to learn more about how your brain interprets stimuli.



Stimulus and Response

Sensory organs have structures called sensory receptors. Different receptors help detect different types of stimulus from the environment. A stimulus is a thing or event that causes a given response. The process of recognizing and interpreting a stimulus is called perception. The brain then makes sense of the information and tells the body how to respond. Sensory information can be stored as memories that can guide future responses.

1. A rabbit sees a fox. Use the diagram to describe what happens in the rabbit's body that causes the rabbit to run away and hide.

Sample answer: The information travels from the eyes, to the nerves, to the spinal cord, and then reaches brain. The brain sends back a respond through the nerves, to run and hide.



Questions (the nervous system الجهاز العصبي)

1) What is the nervous system?

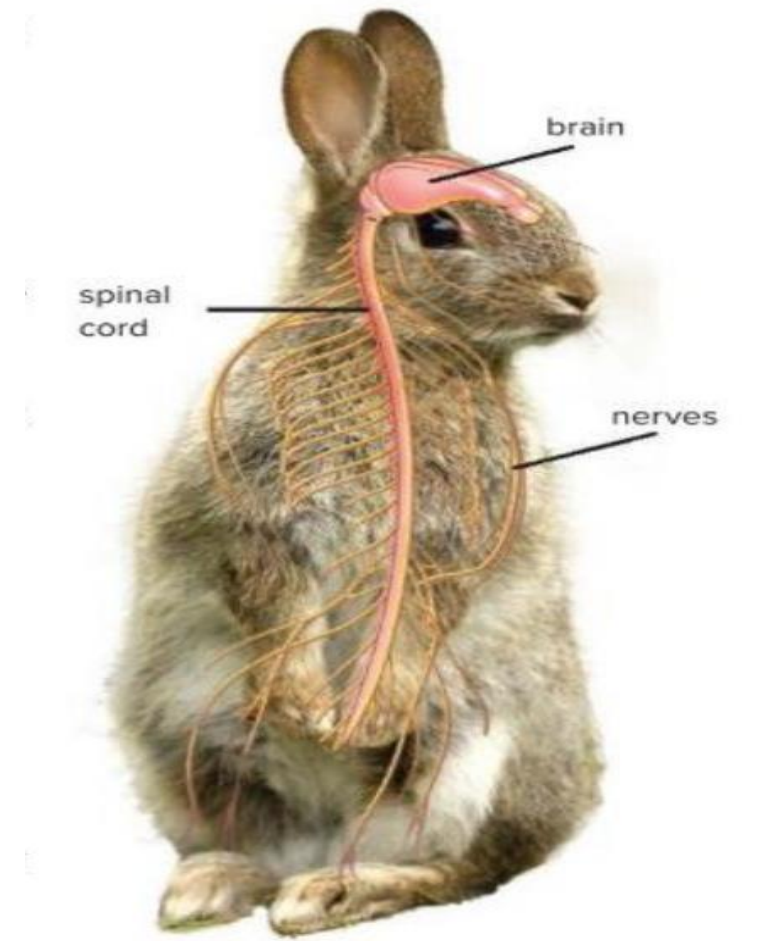
Set of organs that uses information from the senses to control all body systems.

2) Central nervous system made up of:

brain and spinal cord.

3) Peripheral nervous system made up of ?

Nerves.



Questions (the nervous system الجهاز العصبي)

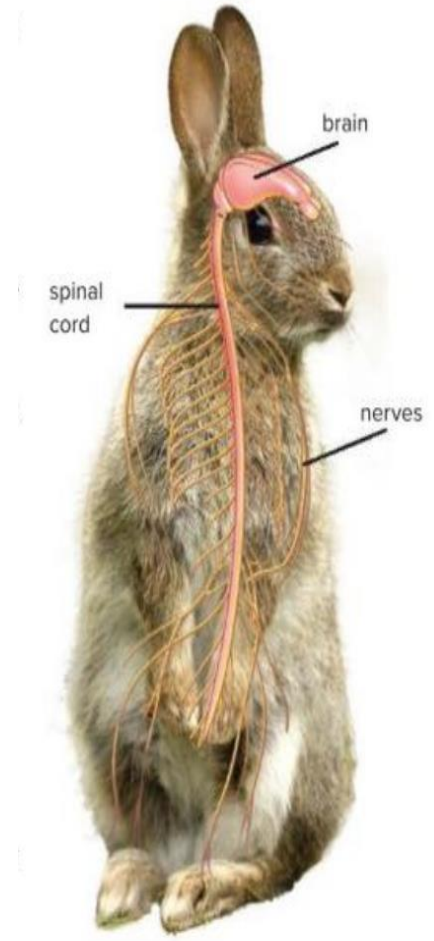
1) What is the function of the brain?

Interpret messages received from and send messages to all body organs.

2) What is the function of the spinal cord:

Carries messages to and from the brain.

So if the rabbit saw a fox the message will go from the **eyes** to the **nerves** to the **spinal** cord to the **brain** and the brain will **send a message** to the nerve to **run and hide**.



Questions (stimulus and response المحفز والاستجابة)

1) What is the function of sensory receptors?

Detect different types of stimulus from the environment.

2) What will happen if there is a stimulus?


The brain will tell the body how to response



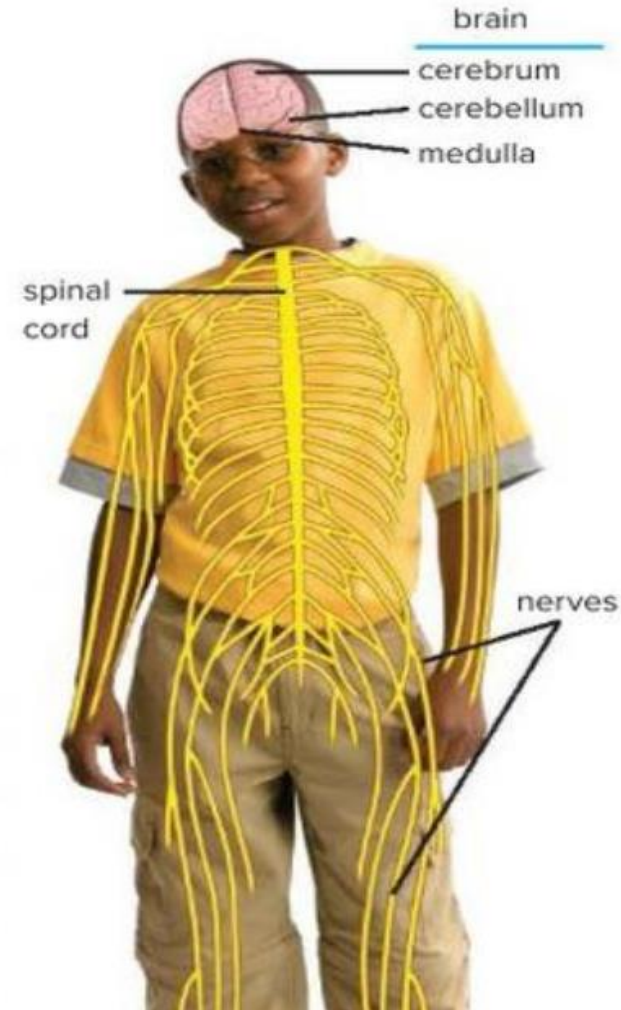
Page 65 (reflexes)

Reflexes

The body responds in different ways to stimuli. A reflex is a quick reaction that occurs without waiting for a message to be sent from nerves to the brain. For example, touching something hot causes the hand to quickly pull away. No conscious thought is involved in this response. Instead, this reflex is an action controlled by the spinal cord.

2.  **ENGINEERING Connection** Describe a type of technology or tool that has been designed to improve a human sense.

Sample answer:
Eyeglasses are a
technology that helps
people see better.



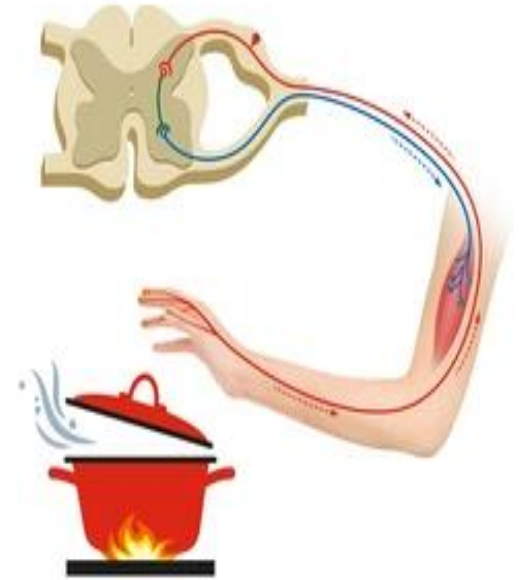
Questions (stimulus and response المحفز والاستجابة)

1) What is reflex?

Quick reaction that occurs without waiting for a message to be sent to the brain. Its controlled by the spinal cord.

2) Example of reflex:

Touching hot cup causes the hand to quickly pull away.



Page 78 (reflection and refraction انعكاس الضوء وانكساره)

Reflection and Refraction

Recall how the beam of light traveled in the Inquiry Activity *How Light Travels*. Light has the properties of reflection and refraction.

Reflection is the bouncing of light waves off a surface. Most of the light that reaches your eye is reflected light. Look at your desk. If the desk did not reflect light, you could not see it. Most surfaces reflect at least some light. Smooth, shiny surfaces such as mirror reflect almost all of the light falling on them. Dull, rough surfaces reflect the least amount of light. The colors that you see are the colors that are reflected from objects.

When light reflects off a surface, it changes direction. Think about the mirror and flashlight in the Explore activity. The light rays moving toward a surface are the incoming rays. The reflected light rays are the outgoing rays. The angles of the incoming and outgoing rays are always equal. This is called the law of reflection. The **image** you see in the mirror is a "picture" of the light source that light rays make when bounced off a polished, shiny surface.

A mirror that is convex, or curved outward, allows a driver to see a wide area behind the car.



1. Draw a diagram to show how light allows objects to be seen. Include the light source, the eye, and label the direction of the light rays. Use the diagram to describe what happens if the eye is closed. What happens if the light is blocked or its path is changed? What if the light source is removed?

Students could draw light coming from the Sun and traveling to an object. The light should change direction (reflect) off of the object and enter the eye.

Sample answer: If the eye is closed or the light source is removed, nothing can be seen. If the light is blocked or its path is changed, the object will not be seen because its reflected light will not enter the eye.

Questions (reflection and refraction)

1) What is reflection?

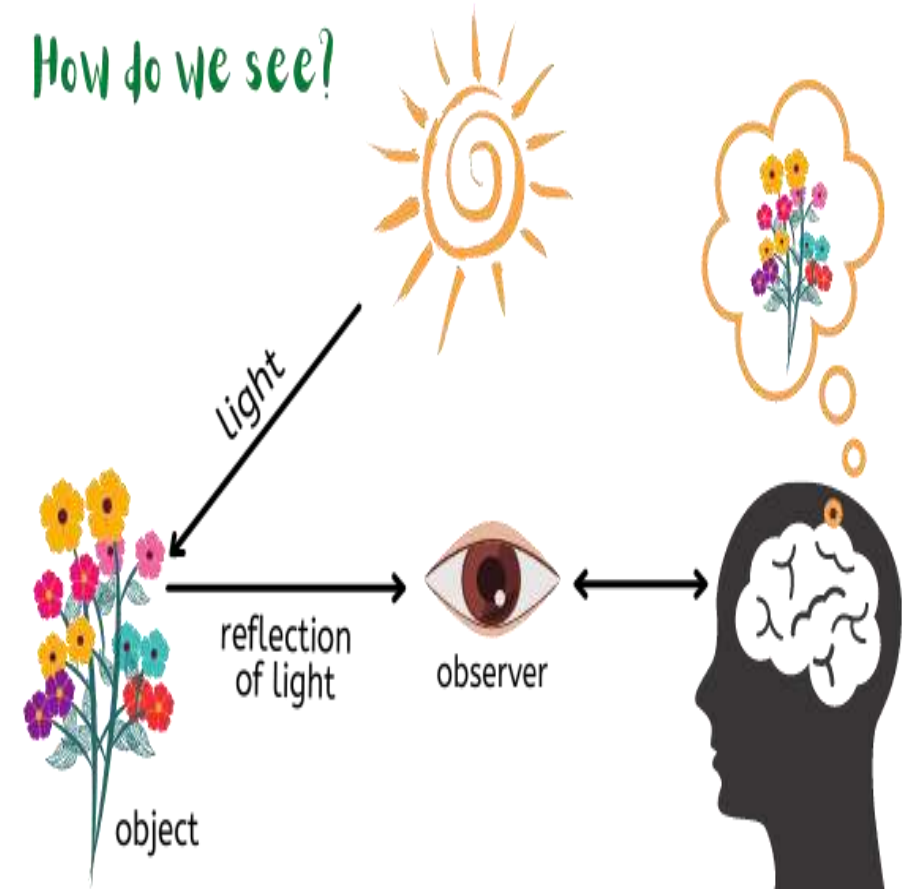
Bouncing of light wave off a surface

2) Which reflect more shiny smooth surface or rough surface?

Shiny smooth surface

3) What is the image we see in the mirror?

Picture of the light source that light rays when bounced off a surface.



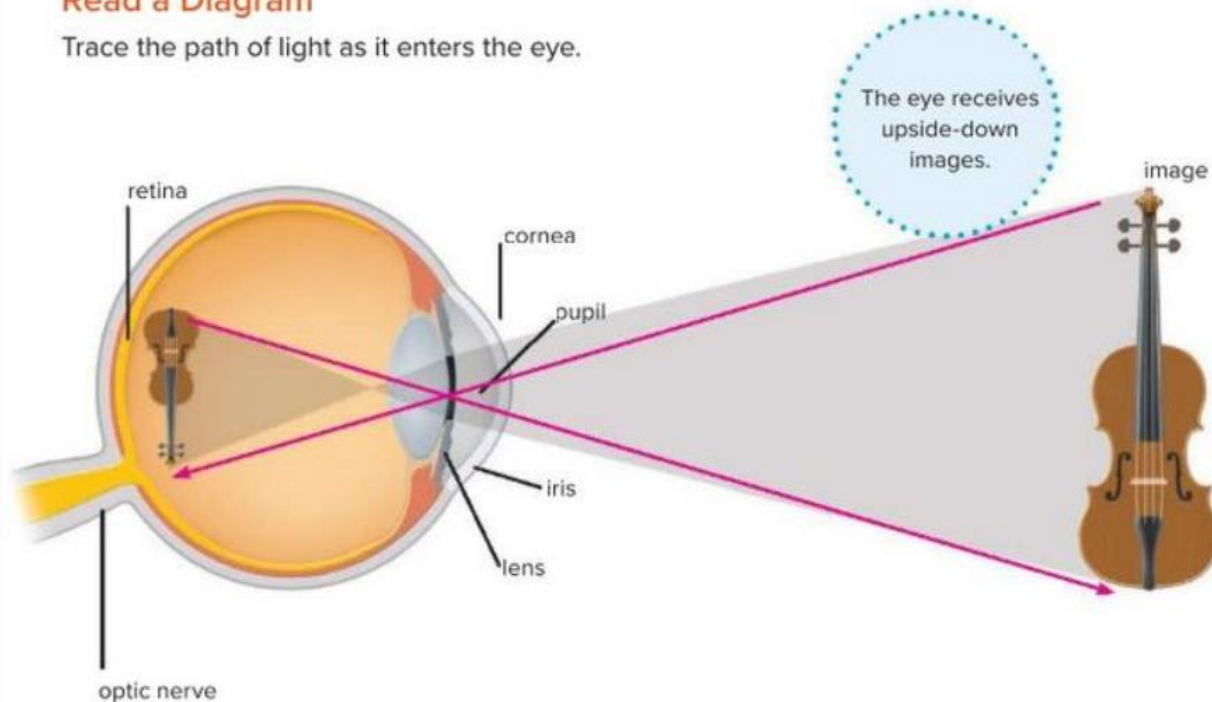
Page 80 (the human eye عین الانسان)

The Human Eye

You see an image when light reflects off an object and enters your eye. The diagram shows the different parts of the eye that light passes through. Light passes through the cornea and the pupil in your iris. The lens refracts the light so that it hits the retina on the back of the eye. The retina sends signals to the brain, and the brain interprets the signals as images. The eyes of other animals work in a similar way.

Read a Diagram

Trace the path of light as it enters the eye.



1. How do reflection and refraction allow animals to see?

Sample answer: Animals rely on reflection of light to be able to see objects. If light did not reflect off an object, the object would not be visible unless it gave off its own light. Light entering the eye is refracted. Without refraction, vision would be blurry.

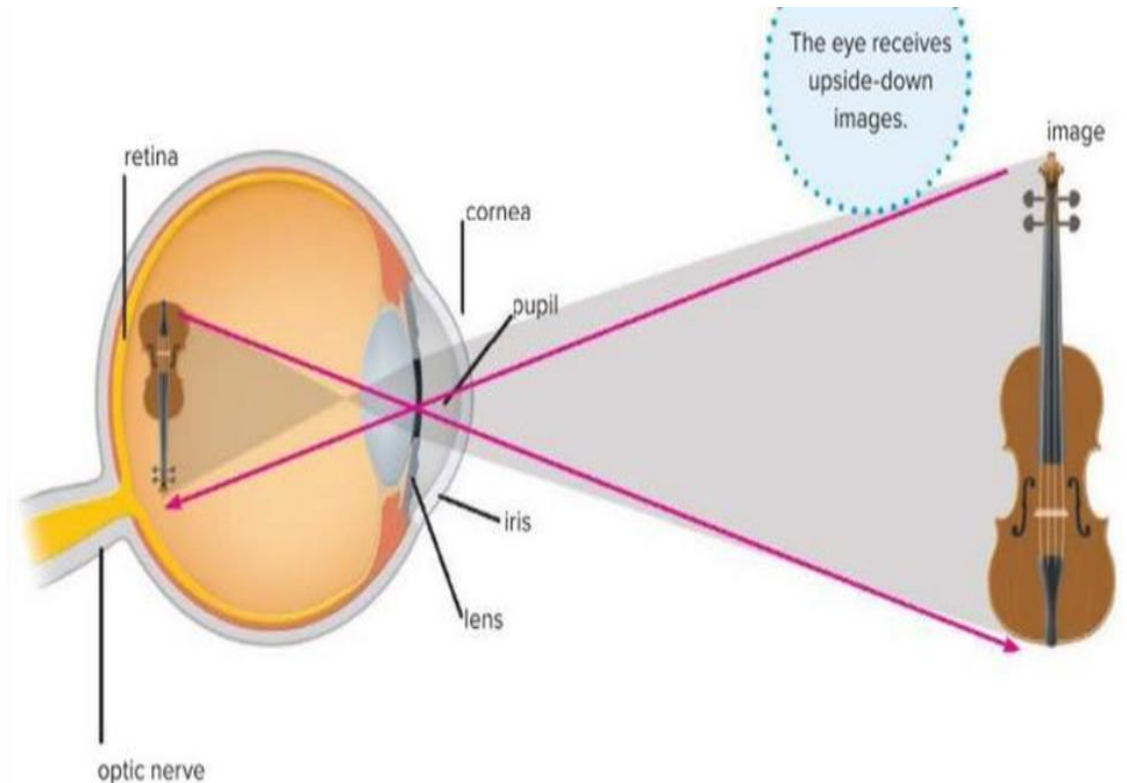
Questions (the human eye)

1) Human eye use reflection or refraction?

Use both reflection and refraction

2) What does the lens in eyes do?

Refracts the light to hit the retina in the back of the eye.



Page 83 (how animals use their eyes)

How Animals Use Their Eyes

The eyes of predators, animals that hunt other animals, are usually on the front of their head. This helps them to see how far away something is, especially when hunting for other animals. The eyes of prey, animals that predators eat, are usually on the sides of their heads. This helps them to see danger coming from the side and from behind them.

Most fish have eyes on the sides of their heads. These eyes have special structures that allow fish to see movement underwater. This feature helps fish see creatures that may want to eat them. It also helps fish catch prey moving past them.

Lions have reflectors in their eyes that help them see at night. This makes them appear to glow.



What can eyes located in front of the head do that eyes located on the sides of the head cannot do?

Sample answer: Eyes on the front of the head can see how far away something is.

Flies, bees, and other insects have compound eyes that look like two big bubbles. Each eye can have thousands of small lenses. These lenses allow the insect to detect danger coming from all directions. This is why it is so hard to swat a fly!

Owls have eyes that are up to a hundred times more sensitive to low light than human eyes. This helps the owl to see prey at night. The eyes of an eagle are similar in size to human eyes. Objects appear much larger to eagles than they appear to humans. This helps eagles see prey from a distance. Eyes help animals in many different ways.



Questions (how animals use their eyes)

1) Why **predators** المفترس eyes are on the front of their head?

Help them to see how far something is (hunting)



2) Why **prey** الفريسة eyes are on the sides of their head ?

Help them see danger coming from the side and behind them



3) Why **lions** can see at night?

Because they have reflectors in their eyes which make them appear to glow



Questions (how animals use their eyes)

4) Why **insects** have compound eyes?

They have thousands of lenses that allow them to detect danger from all directions.



2) How the eyes of owl help them to see at night?

They are hundred times more sensitive to light than humans.



Good luck

Term 3 الفصل الدراسي الثالث

Done By Ms. Arwa Al Messabi

ST name:

4 \

Question # رقم السؤال	Learning outcome- نتائج التعلم	Example/Exercise/ Figure مثال/تمرين / شكل	The Page رقم الصفحة
1	Structures and functions of plants تركيب ووظائف النباتات		U4M1L1 page 10 صفحة 10
2		Figure page 12 صورة صفحة 12	U4M1L1 page 12 صفحة 12
3			U4M1L2 page 14 صفحة 14
4			U4M1L2 page 14 صفحة 14
5		Figure page 15 صورة صفحة 15	U4M1L1 page 15 صفحة 15
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8	Structures and functions of animals تركيب ووظائف الحيوانات		U4M1L2 page 33 صفحة 33
9			U4M1L2 page 33 صفحة 33
10			U4M1L2 page 34 صفحة 34
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12	Information processing in animals تحليل المعلومات لدى الحيوانات		U4M2L1 page 62 صفحة 62
13			U4M2L1 page 63 صفحة 63
14			U4M2L1 page 64 صفحة 64
15			U4M2L1 page 64 صفحة 64
16		Figure page 64 صورة صفحة 64	U4M2L1 page 64 صفحة 64
17			U4M2L1 page 65 صفحة 65
18	Role of animals' eyes وظيفة عيون الحيوانات		U4M2L2 page 78 صفحة 78
19			U4M2L2 page 80 صفحة 80
20			U4M2L2 page 83 صفحة 83
أسئلة إضافية	21	A learning outcome from the SoW نتائج من الخطة الفصلية	Undisclosed غير مععلن
	22	A learning outcome from the SoW نتائج من الخطة الفصلية	Undisclosed غير مععلن

Structures and functions of plants تركيب ووظائف النبات U4M1L1 page

Q1: Choose the correct word to answer all questions:

1-Choose all Plants basic needs are:

(Shelter - Water - Air – CO₂- School - Sunlight - O₂ – Home – Space – Nutrients)

2-Air contain **Oxygen(O₂)** and **carbon dioxide (CO₂)**, plants used **gas** to break down food

Plants also use gas To make their food.

3- Which the plant part allows it to obtain **CO₂ or O₂** ? **a-Root** **b- Leaves**

4-Its function is gas exchange and control of water loss: **a-Stem** **b- Stomata**

5-Plants use the (**O₂ OR CO₂**) and Sunlight to make their food, its gathering by their **leaves**.

6-Plants use the (**water OR O₂**) To make food, its take them by their **roots**.

7-Which organism gets energy directly from the Sun? ما هو الكائن الذي يلتقط الطاقة مباشرة من الشمس?

a-Earthworm **b- Trees or Plants**

8- Which is **not** a basic need of plants? **a-Shelter** مأوى **b-Sunlight**

9- Where do plants obtain the energy to live and grow? من أي يحصل النبات على الطاقة يعيش وينمو

a- From soil they live in. **b-From oxygen in the air** **c-from food they produce**

U4M1L1 page 12 صفحة 12

Q 10: Put the correct plant's part (Root / Stem / Leaves) in the blank: page12-13

Supports plants دعم النباتات	Transport system نظام نقل	Materials can move inside the plant through	
Transpiration النتج اخراج الماء	Gas exchange	Collect sunlight and Food production	وظائف الأوراق ص 13 لم تُذكر في الهيكل Leaves role NOT in EoT3 Exam coverage
Hold plant in space	Take water and nutrients	Some can be store food	

11- Which plant part plays the biggest role in supporting the plant? **a-Leave** **b-Stem**

12-Which part of the plant makes most of the plant's food? **a-Root** **b-Leaves**

13- Its take in water and nutrients from the soil: **a-Roots Or roots hair** **b-Leaves**

14- Green plants use sunlight, water, and carbon dioxide to create their own food. Which explains best why humans can't create their ownfood? ما هو الأصح لعدم قدرة البشر على تصنيع الغذاء ذاتيا

a-Humans don't use water **b- Humans don't have leaves.**

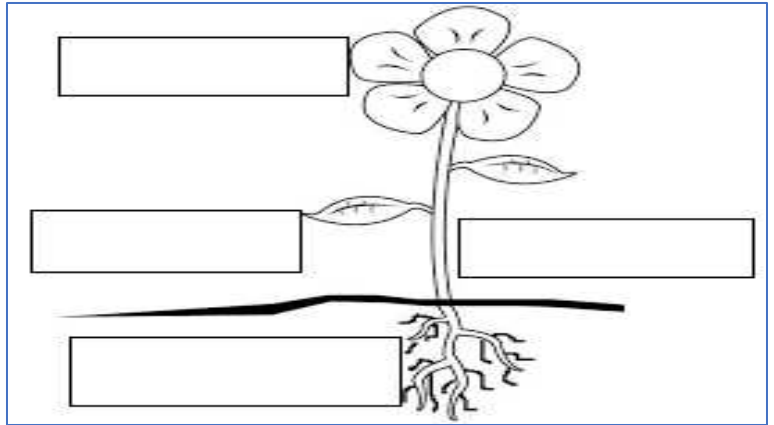
15-Write the plant parts on the picture:

Picture in Page 12

U4M1L2 page 14 صفحة

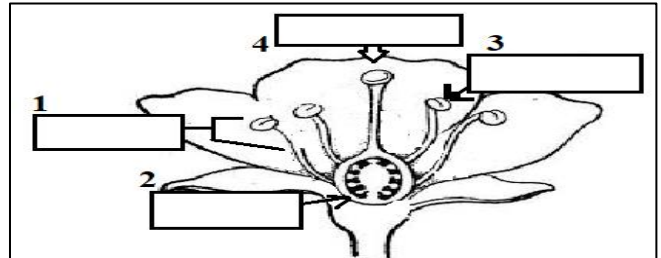
16-Choose Plant reproduction parts are: اختر
أجزاء التكاثر للنباتات

(Flower - Stem – Cone – Root
– Seeds - Leaves – Fruits)



17-Look to the Flower picture, write the correct number near its name:

- (.....) Pistil
- (.....) Ovary
- (.....) Anther with pollen
- (.....) Stamen



18-Pine trees can reproduce with (**Flower OR Cone**) that produce pollen or a sticky liquid that captures pollen.

19-Flowers contain structures that are responsible for: a-**Take in water** b-**Reproduction**

20-How are a coconut seed and a watermelon seed most alike? ما وجه التشابه بين بذور جوز الهند والبطيخ؟

a-Each has similar shape and size.

b- Each grows into an adult plant.

21- The fertilization occurs in flower inside (**Stamen OR Ovary**) But in pine trees occur inside (**Male OR Female**) cones. يحدث الاخصاب في الزهرة داخل (**المبيض**) بينما في نبات الصنوبر في المخروط المؤنث.

22- Fertilization occur when (**Pollen OR Seed**) joins the (**Egg OR Cone**) in ovary, then seeds develop. يحدث الاخصاب عندما تتحد حبة لقاح مع بيوضة في المبيض ثم تتطور البذور.

U4M1L2 page 15 صفحة

23-What properties of seeds make them good for reproduction?

a-**Seeds coat.**

b- **Carried new places**

c- **Have cotyledon.**

d-**All of them.**

24-What is the function of the seed coat? a- **It contains food** b- **It protects the new plant.**

25- What is the function of the cotyledon? a- **It have food** b- **It protects the new plant.**

26-The (**Ovary OR Stamen**) enlarges into Fruits which protect seeds.

27- Write the number of seed parts near its correct name:

..... **Seed coat** - **cotyledon** - **embryo**

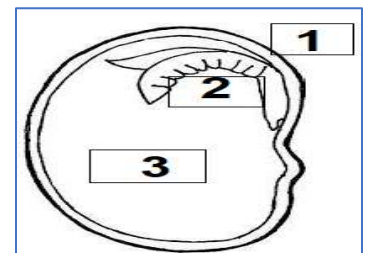


Figure page 15 صورة صفحة 15



Use evidence to construct an argument that a plant's system has parts that work together to support reproduction.

Sample answer: An embryo is needed for reproduction. The embryo gets food from the seed and is protected by the seed coat.

هات ادلة تثبت ان أجهزة جسم النبات تعمل معا لدعم التكاثر؟ تكون الجنين مطلوب للتكاثر، يحصل الجنين على الغذاء من البذرة وهو محمي بواسطة غلاف البذرة.

U4M1L2 page 16 صفحة 16

28- Physical trait or behavior help an organism survive in its environment. سلوك او صفة مفيدة.

a-Adaptation. تكيف **b-Response. استجابة**

29-Write the correct word in the table in page 16:

Plant Name	(Orchid OR Cacti)	(Orchid OR Cacti)
Plant type	Desert plants نباتات صحراء	Rainforest plants نباتات غابات ممطرة
Climate المناخ	Hot dry environment بيئة جافة حارة	Hot wet environment بيئة حارة رطبة
Adaptations التكيفات	<p>a-Thick, (Soft OR Waxy) Stems to store (Food OR Water) ساق سميكة شمعية لتخزين المياه</p> <p>b-Dense, shallow (Stem OR Roots) To soak up (Snow OR Rain) جذور كثيفة وضحلة لامتصاص مياه الامطار.</p>	<p>a-aerial (Leaves OR Roots) to absorb (Sunlight OR nutrients) and anchor plant high in a tree.- جذور هوائية لامتصاص المغذيات وتعلق النبات.</p> <p>b-Special (Leaves OR Roots) shaped to drain excess (Water OR CO2) to prevent rotting. أوراق لها شكل خاص لتصريف الماء الزائد لمنع التعفن.</p>

30-Which is adaptation used by this plant to survive in a hot, dry environment? تكيف نباتي لبيئة حارة؟

a-Thick stems to hold water **b-Deep roots to soak up the rain**

31-Plants adaptations structures to defend themselves from animals: تكيفات دفاعية للنباتات ضد الحيوانات:

a-Thorns اشواك **b-Chemicals كيميائيات** **c-Poisonous سموم** **d- All of them**

32- Why do plants found in hot, dry areas often have smaller leaves than plants found in

warm, wet areas? لماذا نباتات المناطق الحارة والجافة أوراقها صغيرة مقارنة بنباتات المناطق الدافئة الرطبة؟

a-Smaller leaves allow plants to grow in smaller spaces. الاوراق الصغيرة تسمح للنبات بالنمو في مكان صغير.

b- Smaller leaves limit the amount of transpiration that occurs. الاوراق الصغيرة تحد وتقلل من النتح.

U4M1L2 page 17 صفحة 17

33-Change in an environment that cause an organism to respond. تغيير بالبيئة يؤدي لاستجابة الكائن.

a-Adaptation. تكيف **b- Stimulus. منبه**

34-Plant's response to water, gravity, light and touch. استجابة النبات للماء والجاذبية.

a-Adaptation. تكيف

b-Tropism. انتحاء

35-Reaction or change in behavior of an organism. رد فعل او تغير بسلوك الكائن.

a-Adaptation. تكيف

b-Response. استجابة

36--Which is an example of a plant responding to its environment? مثال لاستجابة النبات للبيئة?

a- Phototropism

b-Stimulus





37-Which is true about tropisms? ما هي الحقيقة عن الانتحاء

A-They are a plant part.

B-They help plants get what they need.

38 -Choose the correct stimulus for each type of tropism:

PLANT TROPISMS

Phototropism Plant response to Water OR Light  انتحاء ضوئي	Gravitropism Plant response to انتحاء ارضي  Gravity OR Light
Thigmotropism Plant response to Water OR Touch/ Contact  انتحاء لمسي	Hydrotropism انتحاء مائي Plant response to Light OR Water 

Structures and functions of animals تركيب ووظائف الحيوانات U4M1L2 page 33 صفحة 33

Q1: Choose the correct word to answer all questions:

1-Choose all Animals basic needs are:

(Shelter - School - Water - CO₂ - O₂ - Space - Sunlight - Food)

2-Choose all animal's Internal structures: اختر كل التراكيب الداخلية للحيوانات

(Lung - Wings - Heat - Claws - Stomach - Kidney - Teeth - Brain - Fur - Intestines)

3-Choose all animal's External structures: اختر كل التراكيب الخارجية للحيوانات

(Beaks - Wings - Heat - Claws - Stomach - Antennae- Teeth - Brain - Fur - Intestines)

4-Connect each animal's part to its function:

Function الوظيفة	Correct Number	Organ العضو
1-Information Processing تحليل المعلومات		Stomach معدة
2-Food digest هضم الطعام		Lungs الرئة
3-Absorb nutrients امتصاص الطعام		Brain الدماغ
4-Eliminate waste التخلص من الفضلات		Intestines الأمعاء
5-Gas exchange تبادل الغازات		Kidney الكلى

5-Why do bears have sharp claws?

a- -to help them catch their food.

b- to help them see their food

6-Choose feature **used** to help animals stay safe? جميع التراكيب الخارجية تساعد على بقاء الحيوان في أمان-اخترها

(Strong jaws -Lungs - Shells - Scales – Heat – Claw – Beak)

7- Which is structural adaptation used to help animals move? a- Lungs b- Wings

8- The shark's teeth and a bird's beak are examples of structures: a-External b-Internal

9- Fox can use its_ to catch its prey. a-Beak b-Teeth c-hand

10 - Not an example of how internal structures function support an animal's survival?

10- لبقاء الحيوان على قيد الحياة اعضاءه وتراكيب جسمه الداخلية هي الأهم, لذلك ماهي التي ليست مهمة لبقاء الحيوان حيا:

a-The brain process information.

b-Teeth help animals chew food.

11- Which feature do all birds have in common? **Select all that apply**

a-Beaks

b-Feathers

c- Teeth

d-Wings

e-Powerful claws

12- Why bird's beak and claws are different? Because of:

a-Birds eat different food.

b-Birds life in different place

U4M1L2 page 34 صفحة 1-Structural Adaptation التلون والتقليد

13-The brown fur of a deer helps it blend in with its wooded environment. This adaptation is

a- Mimicry

b- Camouflage

14- How do animals use camouflage to survive? كيف يستخدم الحيوان التمويه: يندمج مع بيئته نفس لون البيئة?

a-Standing out from their environment

b- Blending into their environment

15- Why animals camouflage or mimicry? لماذا تستخدم الحيوانات التمويه والتقليد?

a-Prey can avoid predators.

b- Predators can sneak up on prey.

c-All are correct

16- Mimicry occurs when: يحدث التقليد عندما: يقلد حيوان حيوانا آخر

a- An organism needs like food, oxygen to survive

b- One organism imitates another organism.

2-Behavioral Adaptation سلوكيات وتصرفات تكيفية يؤديها الحيوان لحماية نفسه مثل الهجرة والسبات الشتوي

17-Most animals migrate: تهاجر أغلب الحيوانات: بحثا عن طعام- تكاثر- تجنب مناخ قاسي

a-Food& water

b-Reproduction

c-Avoid hard climate

d- All of this

18- Why Some of animals hibernate? لماذا تلتجأ الحيوانات الى السبات الشتوي : تجنبنا للمناخ القاسي

a-Avoid hard climate

b-Reproduction

19- Which adaptation will help an organism find food? تعتمد الحيوانات على حاسة..... لإيجاد الطعام: الشم

a-Sense of smell

b-Thick fur

20-Why do animals travel in herds? لماذا تتحرك الحيوانات في قطع كبير

a-To eat a lot of food

b- Protection from predators.

21-Why do lions or wolves hunt in packs? لماذا تصطاد الأسود والذئاب في مجموعات

a- To capture larger prey.

Protection from predators

20- Write the correct concept near each definition: page 34 and 35

The definition	Correct #	Concept
1- Adaptation by resemblance, look like to a different animal or object , to protect themselves against other		Migration
2- Inherited change to physical features to help organism Survive and reproduce.		Hibernation
3- Any coloring, shape or pattern that allows an organism to blend in with its environment.		Mimicry
4- Period on inactivity during cold weather		Structural Adaptation
5- Movement of animals from one place to another		Camouflage

Information processing in animals تحليل المعلومات لدى الحيوانات U4M2L1 page 62-63 صفحة

1- Gather, collect information from outside animal's body by **(Sensory Organ OR Brain)**

2- Animals use their **(Kidney OR Sense)** to gather information from outside.

3- How do whales, bats, and dolphins make use of echolocation?

a- They use echolocation to help scare away predators.

b- They use echolocation to find food and find their location.

4-How would having larger eyes benefit a nocturnal animal? حيوان ليلي?

a- Large eyes maybe scare off predators.

b-Large eyes maybe able to gather more lighter to see better.

5-put correct number of the animal near each sensory:

Animal name	Number	Sensory
1. Colossal squids		Taste by feet
2. Elephants		Small by antennae
3. Ants		have biggest ears
4. Butterflies		have largest eyes
5. Snakes		Use Echolocation- Echoes- reflect sound
6. Duck billed platypus		Heat sensitive part- detect infrared
7. Bats- dolphin - Whales		Detect weak electrical field or moving in water.

7-How snakes use their pit viper's organ? كيف تستخدم الافاعي عضو حساس الحرارة

a-Detect infrared light given off by warm-blooded prey.

b-Detect normal light given off by animal's body.

8: Put the correct letter of the word near each meaning:

a-Spinal Cord

b-Brain

c- Central Nervous System

d- Nervous System

e- Peripheral Nerves

1-Organs that uses information from senses to control all body (.....).

2-Part of NS made of brain and spinal cord (.....).

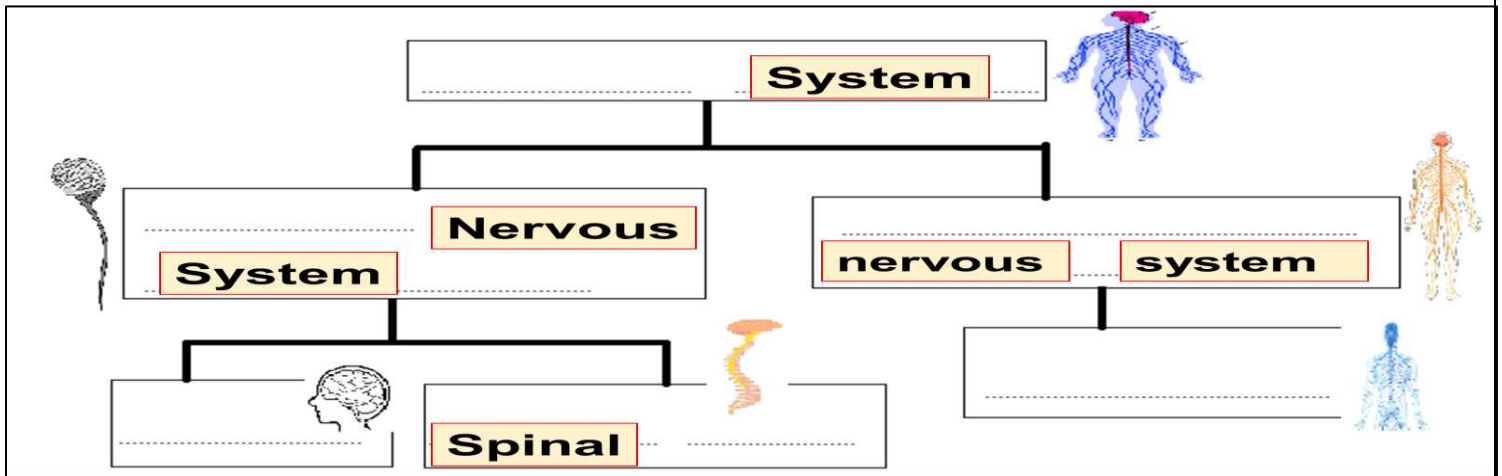
3-Organ that interprets, explain massages received from and sends massages to other body(.....).

4-Thick band of nerves inside spine, moves information to and from the brain and peripheral nerves (.....).

5-Nerve outside CNS that receives sensory information from other parts of body (.....).

Q 9: Complete this diagram correctly by using this word:

Brain - Central - Nerves – cord – Nervous- Peripheral



10-The brain and spinal cord are part of which system?

a-Circulatory system

b-Central nervous system

c-Peripheral nervous system.

11-Which are directly connected to the peripheral nerves? Select all that apply.

a-Tongue

b- skin

c- brain

d-nose

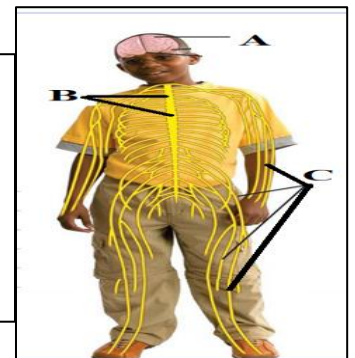
e-Ears

12 Look to this image answer which A, B and C then choose between ():

A is the (**Brain OR Spinal cord**) its part of (**CNS / PNS**).

B is the (**Brain OR Spinal cord**) its part of (**CNS / PNS**).

C is the (**Nerves OR Spinal cord**) its part of (**CNS or PNS**)



13- Choose the correct path of sensory information from the environment to the brain:

a- Sense organ, peripheral nerve, spinal cord, brain.

b- Peripheral nerve, sense organ, spinal cord, brain.

14- Something in the environment that causes a living thing to respond is (Brain OR Stimulus)

14- Why its advantage that the nervous system allows animals to feel pain?

a-Animal can stop doing something that harmful to it.

b- Animal may die.

15-How the body reacts to a stimulus?

a-Sensory organs are not part of the nervous system.

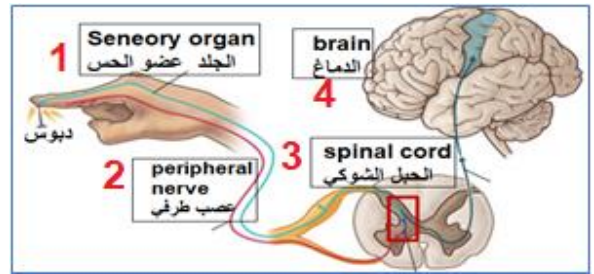
b-Different sensory receptors can detect different types of stimuluses from the environment.

Q16: Arrange this sentence according to How can animals use their senses and memories to guide their actions?

(.....) - The memory can be used to guide future Responses.

(.....) -The senses detect a stimulus which is interpreted by the brain.

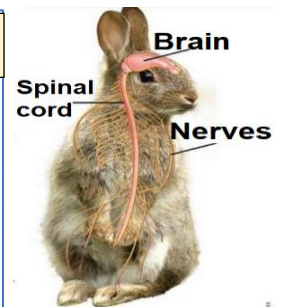
(.....) -The sensory information is stored as a memory.



1. A rabbit sees a fox. Use the diagram to describe what happens in the rabbit's body that causes the rabbit to run away and hide.

صورة صفحة 64 Figure page

The information travels from the eyes, to the nerves, to the spinal cord, and then reaches brain. The brain sends back a respond through the nerves, to run and hide.



س- شاهد الارنب الثعلب, استخدم الصورة لتصف ماذا حدث في جسم الأرنب سبب هروب او اختباء الارنب؟؟
-انتقلت المعلومات من عين وحواس الأرنب عبر الاعصاب ثم الحبل الشوكي ووصلت الى الدماغ, ثم ارسل الدماغ رد فعل خلال الاعصاب بالهروب او الاختباء.

18- (Reflex OR Stimulus) is a quick reaction that happens without a message from the brain.

19- Part of the central nervous system which responsible of the reflex (Brain OR Spinal cord).

20-An action or movement of the body that happens automatically as a reaction to something:

a- Reflex

b- Stimulus

Role of animals' eyes وظيفة عيون الحيوانات U4M2L2 page 78 صفحة

Q1: Answer all questions correctly:

1-The bouncing of light waves off a surface (Reflection OR Refraction)

2-A "picture" that light rays make by bouncing off object (**Refraction OR Image**)

3-The bending of light as it passes from one transparent material into another

(**Reflection OR Refraction**)

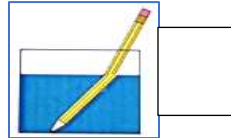
4- Light is a form of energy that: a-Does work b- Lets you see

5-We see objects when..... bounces off of the object's surface: a-Light b- Sound

6-Look to each picture then write the correct number near each picture:

1- Reflection

2- Refraction



U4M2L2 page 80 صفحة

7-12- Which structure is at the back of the human eye where light through the lens is focused?

a-Cornea

b-Pupil

c-Retina

d- Rod.

Q8:Write the correct eye part then Put the number of eye's part on the image:

A- Its (Pupil OR cornea) where light enter firstly. اختر اجابة

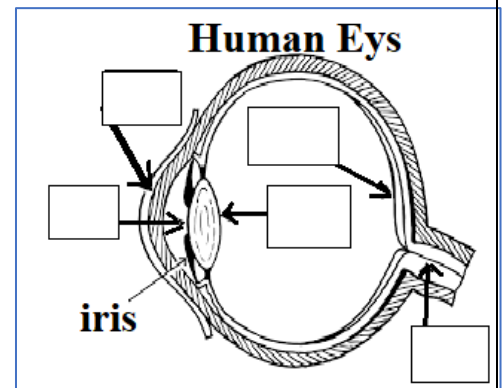
B- Its (Pupil OR cornea) light can enter the eye through it. اختر

C- Its (Pupil OR lens) refract the light to hit inside the eye.

D- (Lens OR retina) where image form small, upside down, send a signal to the brain.

E- The (Retina OR Optical nerve) carry signal to the brain.

F-Brain interprets the signal as image. يفسر الدماغ الإشارات الى صور



9-Light enters through..... Thesends signals to the brain to be interpreted as images.

a-Retina, Cornea

b- Cornea, Retina

10-Which part of the eye are transparent? (**Lens – retina – cornea – optic nerve- Pupil**) اختر

11- In the human eye which sends signals to the Brian. (**Cornea OR Retina**)

12-Human eyes have (**Concave OR Convex**) lens to (**Refract OR Reflect**) the light.

13-The (Lens OR Pupil) . eye part can dilated depend on light amount.. في العين وتتوسع تبعاً للضوء..

14- How does most light reach the eyes? كيف يصل اغلب الضوء الى العين؟

a-It is transferred through waves in atmosphere. تنتقل الأمواج خلال الجو

b-It is reflected off another object. تنعكس عن الاجسام الاخرى

15- How can transparent eye part help the function of the eye? كيف يمكن لأجزاء العين الشفافة المساعدة في الرؤيا؟

a-Light can pass through them to reach the retina. يمر الضوء من خلالها ليصل الى الشبكية

b-Light can pass through them to reach optical nerve. يمر الضوء من خلالها للوصول الى العصب البصري

16-Farrah injured one of her eyes while playing in a sand box. Since her injury, her vision is very blurry. Which statement possibly explains why the blurriness is occurring?

a- Her eye is not focusing light properly.

b-Her eye is absorbing too much light.

17-How do reflection and refraction allow animals to see? كيف يمكن للانعكاس والانكسار المساعدة على الرؤية?

Animals' eyes depend on reflection of light to see objects. If NO light they do not see, When light entering the eyes is refracted, without refraction, seeing will be blurry.

تعتمد عيون الحيوانات على انعكاس الضوء للرؤية , بدون الضوء لا ترى اغلب الحيوانات. يحدث الانكسار للضوء عند دخوله للعين , بدون الانكسار تكون الرؤيا ضبابية غير واضحة.

صفحة 83 U4M2L2 page

Q18: Join the passion of eye to the kind of animals.

1-Eyes on front of their head. عيون في مقدمة الرأس.

2-Eyes can see in the dark. عيون ترى في الظلام.

3- Eyes can see on far distance. عيون ترى على مسافة كبيرة.

4- Have compound eyes. لديها عيون مركبة.

5-Eyes on top of head. عيون أعلى الرأس.

6-Eyes on side of their head avoid dangers. عيون على جانبي الرأس.

A-(.....) Frog ضفدع

B-(.....) Owl بومة

C-(.....) Eagle صقر

D-(.....) Pray فرائس

E-(.....) Flies & Bees

F-(.....) Predators مفترسات

G-(.....) Fish. اسماك

19-Nocturnal animals can see better at night because theiris

dilated and allows more light to reach the back of the eye. يرى افضل ليلا بسبب

حيوان ليلا توسع لتسمح لضوء اكثر بالمرور

a- Cornea

b-Pupil



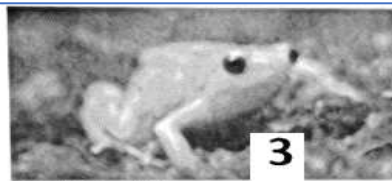
اكتب رقم الحيوان عند كل سؤال:

20- a- Have compound eyes (.....). لديه عيون مركبة.

b-Eyes in sides of head (.....)

c- see prey far distance (.....). يرى الفريسة على بعد مسافات.

d- Eyes on the top of head (.....)



21-Some animals can enlarge their pupils so more light pass through special night, why this is advantage? حيوانات تستطيع توسيع الحدقة ليلا لماذا هذا مفيد

a-They able to see better

b-They not able to see.

22-How would having larger eyes benefit a nocturnal animal? (البومة) فائدة العيون الكبيرة للحيوان الليلي

- a- Able to scare off predators. b- Able to gather more light to see better.**

23- Which of the following is true about how animals see objects? **Select all that apply.**

- a-Some animals eyes allow more light in so that animals can see better in light.**
b-Some animals have different structural adaptations that allow them to see differently.
c-Visible light reflects off of an object and passes through the cornea and pupil to reach the retina.
d-Some animals have eyes that allow them to see when no visible light is present without the help of other detection systems.

24- Which statement helps explain the position of eyes on predators?

- a. Sideways-facing eyes allow predators to see prey at night.**
b. Forward-facing eyes allow predators to judge the distance and depth of objects.

I WISH YOU GREAT ACHIEVEMENT, GOOD LUCK, OUTSTANDING HIGH GRADES

MS. ARWA AL MESSABI. SCIENCE TEACHER 😊

أرجو لكم إنجازا عظيما، حظا موقفا، درجات عالية متميزة

الأستاذة: أروى المصعبي معلمة العلوم :)

Structures and functions of plants U4M1L1 page

Q1: Choose the correct word to answer all questions:

1-Choose all Plants basic needs are:

(Shelter - Water - Air - CO₂ - School - Sunlight - O₂ - Home - Space - Nutrients)

2-Air contain **Oxygen(O₂)** and **carbon dioxide (CO₂)**, plants used gas **O₂**. to break down food

Plants also use gas **CO₂** To make their food.

3- Which the plant part allows it to obtain **CO₂ or O₂** ? a-Root b- Leaves

4-Its function is gas exchange and control of water loss: a-Stem b- Stomata

5-Plants use the (**O₂ OR CO₂**) and Sunlight to make their food, its gathering by their leaves.

6-Plants use the (**water OR O₂**) To make food, its take them by their roots.

7-Which organism gets energy directly from the Sun? ما هو الكائن الذي يلتقط الطاقة مباشرة من الشمس?

a-Earthworm b- Trees or Plants

8- Which is not a basic need of plants? a-Shelter مأوى b-Sunlight

9- Where do plants obtain the energy to live and grow? من أي يحصل النبات على الطاقة يعيش وينمو?

a- From soil they live in. b-From oxygen in the air c-from food they produce

U4M1L1 page 12 صفحة 12

Q 10: Put the correct plant's part (Root / Stem / Leaves) in the blank: page12-13

Supports plants دعم النبات	Transport system نظام نقل	Materials can move inside the plant through	STEM الساق
Transpiration النتح اخراج الماء	Gas exchange	Collect sunlight and Food production	وظائف الأوراق ص 13 لم تُذكر في الهيكل Leaves role NOT in EoT3 Exam coverage
Hold plant in space	Take water and nutrients	Some can be store food	ROOT الجذور

11- Which plant part plays the biggest role in supporting the plant? a-Leave b-Stem

12-Which part of the plant makes most of the plant's food? a-Root b-Leaves

13- Its take in water and nutrients from the soil: a-Roots Or roots hair b-Leaves

14- Green plants use sunlight, water, and carbon dioxide to create their own food. Which explains best why humans can't create their ownfood? ما هو الأصح لعدم قدرة البشر على تصنيع الغذاء ذاتيا

a-Humans don't use water b- Humans don't have leaves.

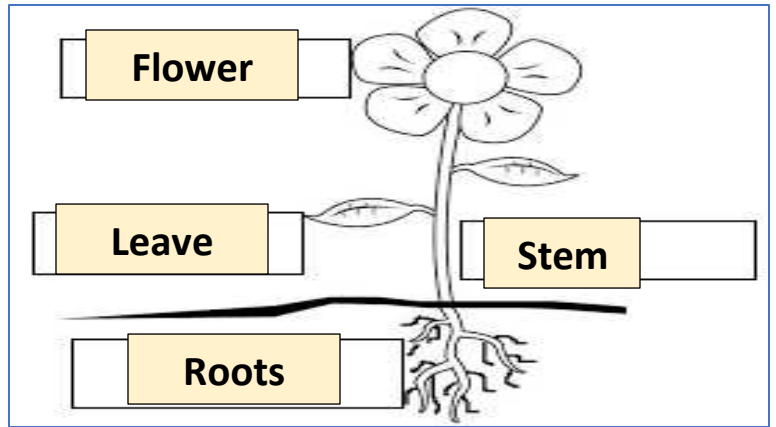
15-Write the plant parts on the picture:

Picture in Page 12

U4M1L2 page 14 صفحة

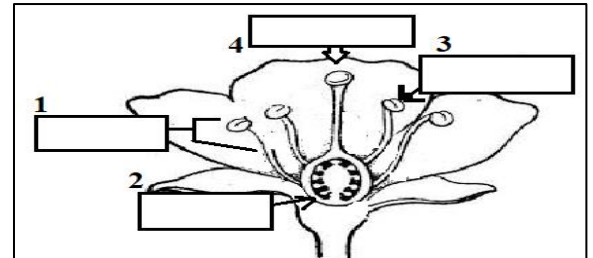
16-Choose Plant reproduction parts are: اختر أجزاء التكاثر للنباتات

(Flower - Stem - Cone - Root)
 (Seeds - Leaves - Fruits)



17-Look to the Flower picture, write the correct number near its name:

(4) Pistil
 (2) Ovary
 (3) Anther with pollen
 (1) Stamen



18-Pine trees can reproduce with (Flower OR Cone) that produce pollen or a sticky liquid that captures pollen. يتكاثر الصنوبر بالمخاريط تنتج المذكرة حبوب لقاح والمؤنثة بويضات ومادة لاصقة لالتقاط حبة اللقاح.

19-Flowers contain structures that are responsible for: a-Take in water **b-Reproduction**

20-How are a coconut seed and a watermelon seed most alike? ما وجه التشابه بين بذور جوز الهند والبطيخ?

a-Each has similar shape and size. **b- Each grows into an adult plant.**

21- The fertilization occurs in flower inside (Stamen OR Ovary) But in pine trees occur inside (Male OR Female) cones. يحدث الاخصاب في الزهرة داخل (المبيض) بينما في نبات الصنوبر في المخروط المؤنث.

22- Fertilization occur when (Pollen OR Seed) joins the (Egg OR Cone) in ovary, then seeds develop. يحدث الاخصاب عندما تتحد حبة لقاح مع بيوضة في المبيض ثم تتطور البذور.

U4M1L2 page 15 صفحة

23-What properties of seeds make them good for reproduction?

a-Seeds coat. b- Carried new places c- Have cotyledon. **d-All of them.**

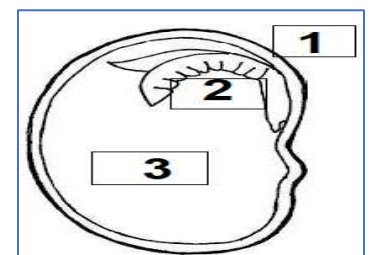
24-What is the function of the seed coat? a- It contains food **b- It protects the new plant**

25- What is the function of the cotyledon? **a- It have food** b- It protects the new plant.

26-The (Ovary OR Stamen) enlarges into Fruits which protect seeds.

27- Write the number of seed parts near its correct name:

... 1 ... Seed coat - ... 3 cotyledon - 2 ... embryo



صورة صفحة 15 Figure page 15



Use evidence to construct an argument that a plant's system has parts that work together to support reproduction.

Sample answer: An embryo is needed for reproduction. The embryo gets food from the seed and is protected by the seed coat.

هات ادلة تثبت ان أجهزة جسم النبات تعمل معا لدعم التكاثر؟ تكون الجنين مطلوب للتكاثر، يحصل الجنين على الغذاء من البذرة وهو محمي بواسطة غلاف البذرة.

صفحة 16 U4M1L2 page 16

28- Physical trait or behavior help an organism survive in its environment. سلوك او صفة مفيدة.

a-Adaptation. تكيف

b-Response. استجابة

29-Write the correct word in the table in page 16:

Plant Name	(Orchid OR Cacti)	(Orchid OR Cacti)
Plant type	Desert plants نبات صحراء	Rainforest plants نبات غابات ممطرة
Climate المناخ	Hot dry environment بيئة جافة حارة	Hot wet environment بيئة حارة رطبة
Adaptations التكيفات	<p>a-Thick, (Soft OR Waxy) Stems to store (Food OR Water) ساق سمكية شمعية لتخزين المياه</p> <p>b-Dense, shallow (Stem OR Roots) To soak up (Snow OR Rain) جذور كثيفة وضحلة لامتنصص مياه الامطار.</p>	<p>a-aerial (Leaves OR Roots) to absorb (Sunlight OR nutrients) and anchor plant high in a tree.- جذور هوائية لامتنصص المغذيات وتعلق النبات.</p> <p>b-Special (Leaves OR Roots) shaped to drain excess (Water OR CO2) to prevent rotting. أوراق لها شكل خاص لتصريف الماء الزائد لمنع التعفن.</p>

30-Which is adaptation used by this plant to survive in a hot, dry environment? تكيف نباتي لبيئة حارة؟

a-Thick stems to hold water

b-Deep roots to soak up the rain

31-Plants adaptations structures to defend themselves from animals: تكيفات دفاعية للنباتات ضد الحيوانات:

a-Thorns اشواك

b-Chemicals كيميائيات

c-Poisonous سموم

d- All of them

32- Why do plants found in hot, dry areas often have smaller leaves than plants found in warm, wet areas? لماذا نباتات المناطق الحارة والجافة أوراقها صغيرة مقارنة بنباتات المناطق الدافئة الرطبة؟

a-Smaller leaves allow plants to grow in smaller spaces. الاوراق الصغيرة تسمح للنبات بالنمو في مكان صغير.

b- Smaller leaves limit the amount of transpiration that occurs. الاوراق الصغيرة تحد وتقلل من النتح.

صفحة 17 U4M1L2 page 17

33-Change in an environment that cause an organism to respond. تغير بالبيئة يؤدي لاستجابة الكائن.

a-Adaptation. تكيف

b- Stimulus. منبه

34-Plant's response to water, gravity, light and touch. استجابة النبات للماء والجاذبية

a-Adaptation. تكيف

b-Tropism. انتحاء

35-Reaction or change in behavior of an organism. رد فعل او تغير بسلوك الكائن.

a-Adaptation. تكيف

b-Response. استجابة

36--Which is an example of a plant responding to its environment? مثال لاستجابة النبات للبيئة

a- Phototropism

b-Stimulus

37-Which is true about tropisms? ما هي الحقيقة عن الانتحاء

A-They are a plant part.

B-They help plants get what they need.

38 -Choose the correct stimulus for each type of tropism:

PLANT TROPISMS

Phototropism Plant response to Water OR Light انتحاء ضوئي	Gravitropism Plant response to انتحاء ارضي Gravity OR Light
Thigmotropism Plant response to انتحاء لمسي Water OR Touch/ Contact	Hydrotropism Plant response to انتحاء مائي Light OR Water

Structures and functions of animals U4M1L2 page 33 صفحة تركيب ووظائف الحيوانات

Q1: Choose the correct word to answer all questions:

1-Choose all Animals basic needs are:

(**Shelter** - School - **Water** - CO₂ - O₂ - **Space** - Sunlight - **Food**)

2-Choose all animal's Internal structures: اختر كل التراكيب الداخلية للحيوانات

(**Lung** - **Wings** - **Heat** - **Claws** - **Stomach** - **Kidney** - **Teeth** - **Brain** - **Fur** - **Intestines**)

3-Choose all animal's External structures: اختر كل التراكيب الخارجية للحيوانات

(**Beaks** - **Wings** - **Heat** - **Claws** - **Stomach** - **Antennae** - **Teeth** - **Brain** - **Fur** - **Intestines**)

4-Connect each animal's part to its function:

Function الوظيفة	Correct Number	Organ العضو
1-Information Processing تحليل المعلومات	2	Stomach معدة
2-Food digest هضم الطعام	5	Lungs الرئة
3-Absorb nutrients امتصاص الطعام	1	Brain الدماغ
4-Eliminate waste التخلص من الفضلات	3	Intestines الأمعاء
5-Gas exchange تبادل الغازات	4	Kidney الكلى

5-Why do bears have sharp claws?

a- -to help them catch their food.

b- to help them see their food

6-Choose feature **used** to help animals stay safe? جميع التراكيب الخارجية تساعد على بقاء الحيوان في أمان-اخترها

(**Strong jaws** -Lungs - **Shells** - **Scales** - Heat - **Claw – Beak**)

7- Which is structural adaptation used to help animals move? **a- Lungs** **b- Wings**

8- The shark's teeth and a bird's beak are examples of structures: **a-External** **b-Internal**

9- Fox can use its_ to catch its prey. **a-Beak** **b-Teeth** **c-hand**

10 - Not an example of how internal structures function support an animal's survival?

10- لبقاء الحيوان على قيد الحياة اعضاءه وتراكيب جسمه الداخلية هي الأهم, لذلك ماهي التي ليست مهمة لبقاء الحيوان حيا:

a-The brain process information.

b-Teeth help animals chew food.

11- Which feature do all birds have in common? **Select all that apply**

a-Beaks

b-Feathers

c- Teeth

d-Wings

e-Powerful claws

12- Why bird's beak and claws are different? Because of:

a-Birds eat different food.

b-Birds life in different place

U4M1L2 page 34 صفحة 1-Structural Adaptation التراكيب جسدية تكيفية تساعد على التموه والتلون والتقليد

13-The brown fur of a deer helps it blend in with its wooded environment. This adaptation is

a- Mimicry

b- Camouflage.

14- How do animals use camouflage to survive? كيف يستخدم الحيوان التمويه: يندمج مع بيئته نفس لون البيئة?

a-Standing out from their environment

b- Blending into their environment

15- Why animals camouflage or mimicry? لماذا تستخدم الحيوانات التمويه والتقليد?

a-Prey can avoid predators. **b- Predators can sneak up on prey.**

c-All are correct.

16- Mimicry occurs when: يحدث التقليد عندما: يقلد حيوان حيوانا آخر

a- An organism needs like food, oxygen to survive.

b- One organism imitates another organism.

2-Behavioral Adaptation سلوكيات وتصرفات تكيفية يؤديها الحيوان لحماية نفسه مثل الهجرة والسبات الشتوي

17-Most animals migrate: تهاجر أغلب الحيوانات: بحثا عن طعام- تكاثر- تجنب مناخ قاسي

a-Food& water

b-Reproduction

c-Avoid hard climate

d- All of this.

18- Why Some of animals hibernate? لماذا تلجأ الحيوانات الى السبات الشتوي: تجنبنا للمناخ القاسي

a-Avoid hard climate

b-Reproduction.

19- Which adaptation will help an organism find food? تعتمد الحيوانات على حاسة..... لإيجاد الطعام: الشم

a-Sense of smell

b-Thick fur.

20-Why do animals travel in herds? لماذا تتحرك الحيوانات في قطع كبير

a-To eat a lot of food

b- Protection from predators.

21-Why do lions or wolves hunt in packs? لماذا تصطاد الأسود والذئاب في مجموعات

a- To capture larger prey.

Protection from predators

20- Write the correct concept near each definition: page 34 and 35

The definition	Correct #	Concept
1- Adaptation by resemblance, look like to a different animal or object , to protect themselves against other	5	Migration
2- Inherited change to physical features to help organism Survive and reproduce.	4	Hibernation
3- Any coloring, shape or pattern that allows an organism to blend in with its environment.	1	Mimicry
4- Period on inactivity during cold weather	2	Structural Adaptation
5- Movement of animals from one place to another	3	Camouflage

Information processing in animals تحليل المعلومات لدى الحيوانات U4M2L1 page 62-63 صفحة

1- Gather, collect information from outside animal's body by **(Sensory Organ OR Brain)**

2- Animals use their **(Kidney OR Sense)** to gather information from outside.

3- How do whales, bats, and dolphins make use of echolocation?

a- They use echolocation to help scare away predators.

b- They use echolocation to find food and find their location.

4-How would having larger eyes benefit a nocturnal animal? حيوان ليلي?

a- Large eyes maybe scare off predators.

b-Large eyes maybe able to gather more lighter to see better.

5-put correct number of the animal near each sensory:

Animal name	Number	Sensory
1. Colossal squids	4	Taste by feet
2. Elephants	3	Small by antennae
3. Ants	2	have biggest ears
4. Butterflies	1	have largest eyes
5. Snakes	7	Use Echolocation- Echoes- reflect sound
6. Duck billed platypus	5	Heat sensitive part- detect infrared
7. Bats- dolphin - Whales	6	Detect weak electrical field or moving in water.

7-How snakes use their pit viper's organ? كيف تستخدم الافاعي عضو حساس الحرارة?

a-Detect infrared light given off by warm-blooded prey.

b-Detect normal light given off by animal's body.

8: Put the correct letter of the word near each meaning:

a-Spinal Cord

b-Brain

c- Central Nervous System

d- Nervous System

e- Peripheral Nerves

1-Organs that uses information from senses to control all body (... **d** ...).

2-Part of NS made of brain and spinal cord (.... **c** ..).

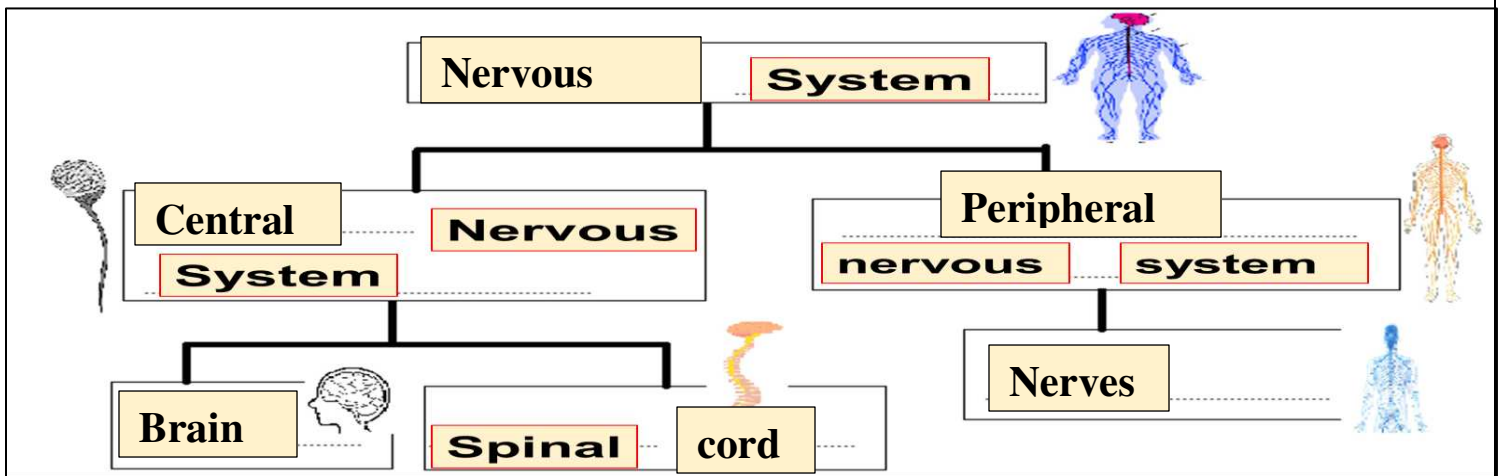
3-Organ that interprets, explain massages received from and sends massages to other body(.....). **b**

4-Thick band of nerves inside spine, moves information to and from the brain and peripheral nerves (... **a** ...).

5-Nerve outside CNS that receives sensory information from other parts of body (.. **e** ..).

Q 9: Complete this diagram correctly by using this word:

Brain - Central - Nerves - cord - Nervous- Peripheral



10-The brain and spinal cord are part of which system?

a-Circulatory system

b-Central nervous system

c-Peripheral nervous system.

11-Which are directly connected to the peripheral nerves? Select all that apply.

a-Tongue

b- skin

c- brain

d-nose

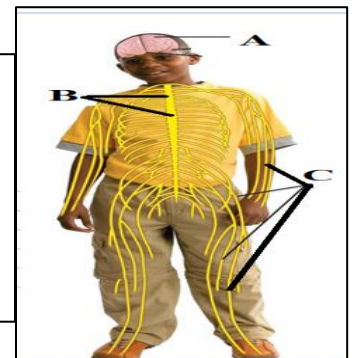
e-Ears

12 Look to this image answer which A, B and C then choose between ():

A is the (**Brain** OR Spinal cord) its part of (**CNS** / PNS).

B is the (**Brain** OR **Spinal cord**) its part of (**CNS** / PNS).

C is the (**Nerves** OR Spinal cord) its part of (CNS or **PNS**)



13- Choose the correct path of sensory information from the environment to the brain:

a- Sense organ, peripheral nerve, spinal cord, brain.

b- Peripheral nerve, sense organ, spinal cord, brain.

14- Something in the environment that causes a living thing to respond is (Brain OR Stimulus)

14- Why its advantage that the nervous system allows animals to feel pain?

a-Animal can stop doing something that harmful to it.

b- Animal may die.

15-How the body reacts to a stimulus?

a-Sensory organs are not part of the nervous system.

b-Different sensory receptors can detect different types of stimuluses from the environment.

Q16: Arrange this sentence according to How can animals use their senses and memories to guide their actions?

(... 3 ...) - The memory can be used to guide future Responses.

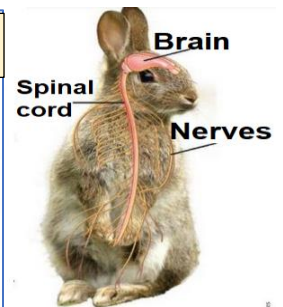
(... 1 ...) -The senses detect a stimulus which is interpreted by the brain.

(... 2 ..) -The sensory information is stored as a memory.

1. A rabbit sees a fox. Use the diagram to describe what happens in the rabbit's body that causes the rabbit to run away and hide.

صورة صفحة 64

The information travels from the eyes, to the nerves, to the spinal cord, and then reaches brain. The brain sends back a respond through the nerves, to run and hide.



س- شاهد الارنب الثعلب, استخدم الصورة لتصف ماذا حدث في جسم الأرنب سبب هروب او اختباء الارنب؟؟
-انتقلت المعلومات من عين وحواس الأرنب عبر الاعصاب ثم الحبل الشوكي ووصلت الى الدماغ, ثم ارسل الدماغ رد فعل خلال الاعصاب بالهروب او الاختباء.

18- (Reflex OR Stimulus) is a quick reaction that happens without a message from the brain.

19- Part of the central nervous system which responsible of the reflex (Brain OR Spinal cord).

20-An action or movement of the body that happens automatically as a reaction to something:

a- Reflex

b- Stimulus

Role of animals' eyes وظيفة عيون الحيوانات U4M2L2 page 78

Q1: Answer all questions correctly:

1-The bouncing of light waves off a surface (Reflection OR Refraction)

2-A "picture" that light rays make by bouncing off object (**Refraction OR Image**)

3-The bending of light as it passes from one transparent material into another

(**Reflection OR Refraction**)

4- Light is a form of energy that: a-Does work

b- Lets you see

5-We see objects when..... bounces off of the object's surface:

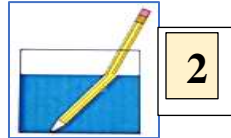
a-Light

b- Sound

6-Look to each picture then write the correct number near each picture:

1- Reflection

2- Refraction



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7-12- Which structure is at the back of the human eye where light through the lens is focused?

a-Cornea

b-Pupil

c-Retina

d- Rod.

Q8:Write the correct eye part then Put the number of eye's part on the image:

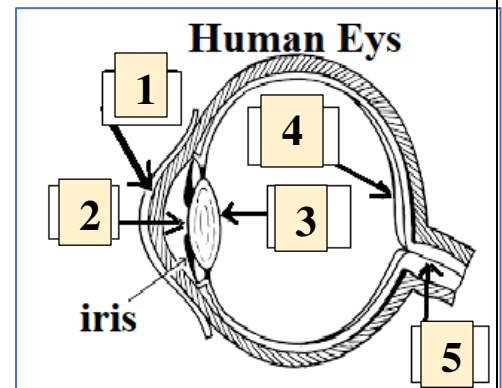
A- Its (**Pupil OR cornea**) where light enter firstly. اختر اجابة

B- Its (**Pupil OR cornea**) light can enter the eye through it. اختر

C- Its (**Pupil OR lens**) refract the light to hit inside the eye.

D- (**Lens OR retina**) where image form small, upside down, send a signal to the brain.

E- The (**Retina OR Optical nerve**) carry signal to the brain.



F-Brain interprets the signal as image. يفسر الدماغ الإشارات الى صور

9-Light enters through..... Thesends signals to the brain to be interpreted as images.

a-Retina, Cornea

b- Cornea, Retina

10-Which part of the eye are transparent? (**Lens - retina - cornea - optic nerve- Pupil**) اختر

11- In the human eye which sends signals to the Brian. (**Cornea OR Retina**)

12-Human eyes have (**Concave OR Convex**) lens to (**Refract OR Reflect**) the light.

13-The (**Lens OR Pupil**) . eye part can dilated depend on light amount.. في العين وتتوسع تبعاً للضوء..

14- How does most light reach the eyes? كيف يصل اغلب الضوء الى العين؟

a-It is transferred through waves in atmosphere. تنتقل الأمواج خلال الجو

b-It is reflected off another object. تنعكس عن الاجسام الاخرى

15- How can transparent eye part help the function of the eye? كيف يمكن لأجزاء العين الشفافة المساعدة في الرؤية؟

a-Light can pass through them to reach the retina. يمر الضوء من خلالها ليصل الى الشبكية.

b-Light can pass through them to reach optical nerve. يمر الضوء من خلالها للوصول الى العصب البصري.

16-Farrah injured one of her eyes while playing in a sand box. Since her injury, her vision is very blurry. Which statement possibly explains why the blurriness is occurring?

a- Her eye is not focusing light properly.

b-Her eye is absorbing too much light.

17-How do reflection and refraction allow animals to see? كيف يمكن للانعكاس والانكسار المساعدة على الرؤية؟

Animals' eyes depend on reflection of light to see objects. If NO light they do not see, When light entering the eyes is refracted, without refraction, seeing will be blurry.

تعتمد عيون الحيوانات على انعكاس الضوء للرؤية , بدون الضوء لا ترى اغلب الحيوانات. يحدث الانكسار للضوء عند دخوله للعين , بدون الانكسار تكون الرؤية ضبابية غير واضحة.

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Q18: Join the passion of eye to the kind of animals.

1-Eyes on front of their head. عيون في مقدمة الرأس.

2-Eyes can see in the dark. عيون ترى في الظلام.

3- Eyes can see on far distance. عيون ترى على مسافة كبيرة.

4- Have compound eyes. لديها عيون مركبة.

5-Eyes on top of head. عيون أعلى الرأس.

6-Eyes on side of their head avoid dangers. عيون على جانبي الرأس.

A-(... 5 ...) Frog ضفدع

B-(... 2 ...) Owl بومة

C-(... 3 ...) Eagle صقر

D-(... 6 ...) Pray فرائس

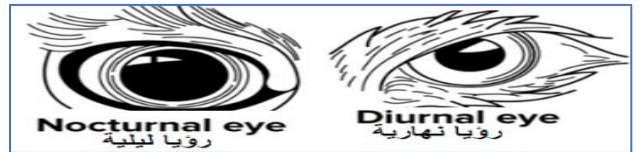
E-(... 4 ...) Flies & Bees

F-(... 1 ...) Predators مفترسات

G-(... 6 ...) Fish. اسماك

19-Nocturnal animals can see better at night because theiris dilated and allows more light to reach the back of the eye.

حيوان ليلي يرى افضل ليلا بسبب توسع لتسمح لضوء اكثر بالمرور



a- Cornea

b-Pupil

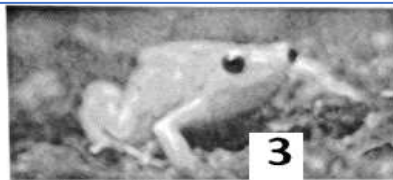
اكتب رقم الحيوان عند كل سؤال:

20- a- Have compound eyes (... 1 ...). لديه عيون مركبة.

b-Eyes in sides of head (. 4 .)

c- see prey far distance (. 2 ..). يرى الفريسة على بعد مسافات.

d- Eyes on the top of head (3 .)



21-Some animals can enlarge their pupils so more light pass through special night, why this is advantage? حيوانات تستطيع توسيع الحدقة ليلا لماذا هذا مفيد

a-They able to see better

b-They not able to see.

22-How would having larger eyes benefit a nocturnal animal? (البومة) فائدة العيون الكبيرة للحيوان الليلي

a- Able to scare off predators.

b- Able to gather more light to see better.

23- Which of the following is true about how animals see objects? **Select all that apply.**

a-Some animals eyes allow more light in so that animals can see better in light.

b-Some animals have different structural adaptations that allow them to see differently.

c-Visible light reflects off of an object and passes through the cornea and pupil to reach the retina.

d-Some animals have eyes that allow them to see when no visible light is present without the help of other detection systems.

24- Which statement helps explain the position of eyes on predators?

a. Sideways-facing eyes allow predators to see prey at night.

b. Forward-facing eyes allow predators to judge the distance and depth of objects.

I WISH YOU GREAT ACHIEVEMENT, GOOD LUCK, OUTSTANDING HIGH GRADES

MS. ARWA AL MESSABI. SCIENCE TEACHER 😊

أرجو لكم إنجازا عظيما، حظا موقفا، درجات عالية متميزة

الأستاذة: أروى المصعبي معلمة العلوم (:)