

THE ANIMAL KINGDOM

UNIT 8

All animals have got common characteristics:

- They are **multicellular**. They are made up of **many cells**. These cells have a **specific** function.
- Their cells are **eukaryotic** cells. They have got **nucleus** but have not got **cell wall**.
- They are **heterotrophus**. They are **consumers** so they have to take food from the **environment**.
- Depending on their **nutrition** (the things they eat) we can divide this kingdom into **three** different groups:
 - ✓ **Herbivores**. They eat plants (for example **cows** and **horses**)
 - ✓ **Carnivores**. They **hunt** other animals and eat **fresh meat** (for example **lions**)
 - ✓ **Omnivores**. They eat both plants and animals (for example **pigs** and **chimpanzees**)
- They have got **keen senses**. They can detect changes in their **environment**. This information goes through the **sensory organs**.
- The majority of them can **move, look for** food or escape from **danger**.

(Vocabulary: to hunt: cazar / keen senses: sentidos finos, agudos / environment: medio ambiente / fresh meat: carne fresca / sensory organs: órganos de los sentidos / to look for: buscar / danger: peligro)

Match the words on the left column with the sentences on the right

- | | |
|--------------------|--|
| 1 Multicellular | A With them animals can detect changes in their environment |
| 2 Heterotrophus | B Animals that eat both plants and animals (for example pigs) |
| 3 Eukaryotic cells | C Animals that hunt other animals and eat fresh meat (for example lions) |
| 4 Herbivores | D Animals that eat plants (for example cows and horses) |
| 5 Carnivores | E Living beings that are made up of many cells |
| 6 Omnivores | F They are cells that have got nucleus |
| 7 Sensory organs | G They have to take food from the environment |

Answers: 1 2 3 4 5 6 7

Fill the gaps with the following words from the list

Multicellular environment nucleus cell wall function sensory heterotrophus chimpanzees herbivores meat carnivores omnivores.

All the animals are living beings. They are made up of many cells. These cells have got a specific

The animal cells are eukaryotic cells. They have got but have not got

Animals are,so they have to take food from the environment.

When animals eat plants (for example cows and horses), they are called

Animals are called when they hunt other animals and eat fresh (for example lions).

When animals eat both plants and animals (for example pigs and), they are called

Animals can detect changes in their This information goes through theorgans.

Answer the following questions

1. What kind of cells have animals got?

2. Are animals unicellular or multicellular living beings?
3. Why are animals heterotrophus?
4. What are carnivorous animals?
5. What is the diet of omnivorous animals?
6. What have a lion and a chimpanzee in common in relation to their diet?
7. Does a horse eat other animals?
8. Why can animals detect changes in their environment?
9. Can all animals move?
10. Why do animals move?

Vertebrates and invertebrates

Depending on their *backbone* or *spinal column* we can distinguish two groups:

- **Vertebrates.**
They are animals that have got a *backbone*. It is a part of an *internal skeleton*.
- **Invertebrates**
They are animals that *have not got* an *internal skeleton* with a backbone. Some of them have *not* got a *skeleton* (like worms and jelly-fish) and others have got an *external skeleton* (like insects, spiders, and crabs).

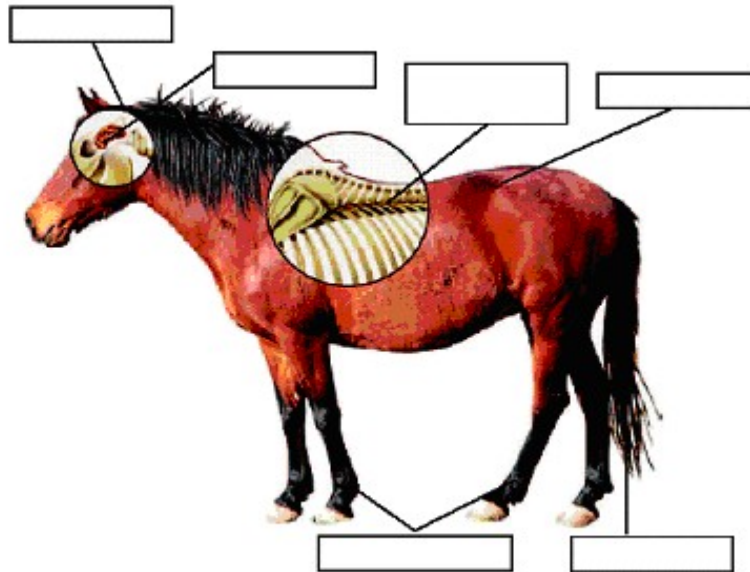
Vertebrates

All *vertebrates* have got a *backbone* that is part of an internal skeleton or *endoskeleton*. It is made up of joint *pieces* called *vertebra*.

- *Vertebrates* are divided in *five* groups: *Mammals*, *birds*, *reptiles*, *amphibians*, and *fish*.
- Their bodies are divided in *three* parts: *head*, *trunk*, and *tail*. Some of them, like *apes*, have not got tail.
- *Vertebrates* have got *joint limbs*, such as *legs*, *wings*, and *fins*. Some of them, like *snakes*, have not got limbs.
- They have got a complex and well-developed *nervous system*. The main part is the *brain* in the *skull* covered by the *cranium*. Most *sensory organs* are in the head.
- *Vertebrates* have got *bilateral symmetry*. This means that their bodies can be *divided* in *two* equal parts.

(Vocabulary: backbone: columna vertebral / ape: simio / worm: gusano / jelly-fish: medusa / crab: cangrejo / joint pieces: piezas articuladas / limb: extremidad / joint limbs: extremidades articuladas / trunk: tronco / leg: pata / wing: ala / fin: aleta / brain: cerebro / complex: complejo / well-developed: bien desarrollado / cranium: cráneo / skull: calavera / to mean: significar / equal: igual)

Fill the boxes marked in the picture



Match the words in the left column with the sentences on the right

- | | |
|----------------------|---|
| 1 Vertebrates | A It is made up of joint pieces called vertebra |
| 2 Invertebrates | B Their body can be divided in two equal parts |
| 3 Backbone | C It is the main part of the nervous system |
| 4 Bilateral symmetry | D They are animals that have got an internal skeleton |
| 5 Brain | E They are animals that can have an external skeleton |

Answers: 1 2 3 4 5

Fill the gaps with the following words from the list

trunk backbone equal internal skeleton joint limbs head tail snakes bilateral symmetry three invertebrates joint pieces brain fins jelly-fish skull

Vertebrates are animals that have got a It is a part of an skeleton.

Some have not got a skeleton (like worms and) and others have got an external (like insects, spiders, and crabs)

The backbone is formed by called vertebrae.

The vertebrate's body is divided in parts: head,, and tail

Some vertebrates, like apes, have not got

Vertebrates have got, such as legs, wings, and Some of them, like have not got limbs.

The main part of the nervous system in vertebrates is the It is in the covered by the cranium. Most sensory organs are in the

The vertebrate's body has got This means that their bodies can be divided in two parts

Answer the following questions

1. What is the main difference between vertebrate and invertebrate animals?
2. Give two examples of invertebrate animals that have not got skeleton at all
3. What is the difference between a worm and a spider?
4. What is the name of the joint pieces that form the backbone?
5. Give an example of vertebrate with no tail
6. Have snakes got limbs?
7. What is the main part of the nervous system in vertebrates?
8. What does bilateral symmetry mean?

Mammals

An *elephant*, a *mouse*, and a *dog* are **mammals**.

Most of them are *terrestrial* animals. But *dolphins* are *aquatic animals* and *bats* are **mammals** that can *fly*.

The body

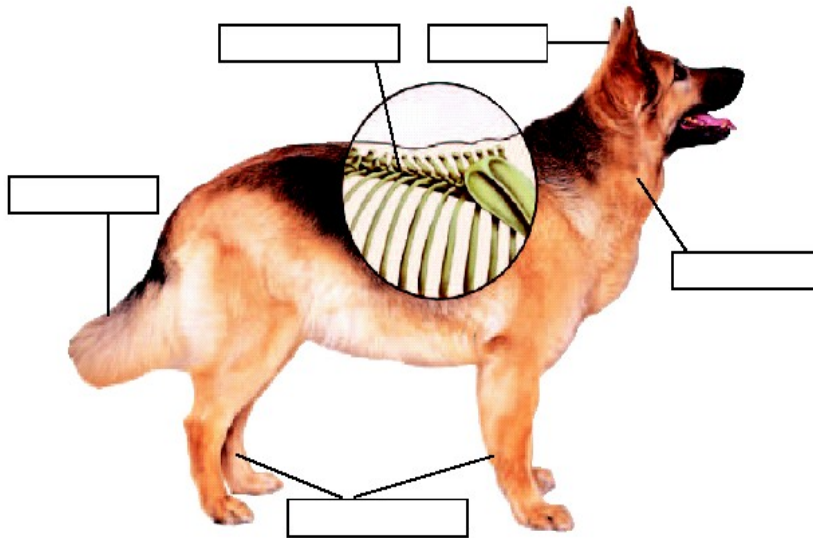
- The *head* is close to the *trunk* by the *neck*. The backbone reaches the *tail*. They are the only vertebrates that have got *ears*.
- **Mammals** have got *four limbs*. The *limbs* are adapted to the kind of mobility. The limbs are *legs* in terrestrial mammals, *fins* in aquatic mammals, and *wings* in bats.
- **Mammals** have got *hair* or *fur* covering their body. It is *useful* as a temperature *insulator*, helping to keep them *warm*. Aquatic **mammals**, like *whales*, have got *fins* and a *smooth* skin with no hair.
- They have got *lips* and *teeth* in their mouth. The *shape* of the teeth is different depending on their *diet* (the food they eat).
- **Mammals** have got many *glands*. For example, the *sweat glands* or the *mammary glands* which produce *milk*

Functions

- All **mammals** are *homeothermal* or *warm-blooded* animals. They keep their body temperature *constant* and *independent* from the *environment*
- **Mammals** *breathe* through *lungs*. Aquatic **mammals** have *to come up* to surface of water *to breathe*
- Their *diet* is varied. They can be herbivores, carnivores, and omnivores
- **Mammals** have got *internal fertilization*. The young **mammals** grow inside the mother's *womb*. They are *viviparous* animals; they are born from their mothers through *live birth*. The babies *feed* on their mother's milk. Parents *look after* them.

(*Vocabulary: kind of: tipo de / bat: murciélago / to reach: llegar hasta / limb: extremidad / fur: piel / useful: útil / insulator: aislante / warm: cálido, caliente / whale: ballena / smooth: suave / sweat gland: glándula sudorípara / mammary gland: glándula mamaria / homeothermal, warm-blooded: homeotermo / to come up: subir / to breathe: respirar / lung: pulmón / to look after: cuidar / to grow: crecer, desarrollarse / womb: útero / live birth: parto / to feed: alimentarse*)

Fill the boxes marked in the picture



Match the words on the left column with the sentences on the right

- | | |
|----------------|--|
| 1 Bat | A It is the place where young mammals grow |
| 2 Whale | B It is part of the internal skeleton |
| 3 Womb | C With this organ mammals can hear |
| 4 Homeothermal | D They are mammals that can fly |
| 5 Ear | E They are mammals that live in sea |
| 6 Sweat gland | F It is a gland that makes body temperature decrease |
| 7 Backbone | G They are animals with constant temperature |

Answers: 1 2 3 4 5 6 7

Fill the gaps with the following words from the list

aquatic terrestrial bats whales ears milk four insulator womb environment warm-blooded viviparous neck diet wings smooth lips hair mobility glands fins

Most of mammals are animals. But dolphins are animals and are mammals that can fly.

The head of mammals is close to the trunk by the Mammals are the only vertebrates that have got

Mammals have got limbs. The limbs are adapted to the kind of The limbs are legs in terrestrial mammals, in aquatic mammals, and in bats.

Most mammals have got covering their body. It is useful as a temperature

Aquatic mammals, like, have got fins and a skin with no hair.

The teeth of mammals are different depending on their They have got and teeth in their mouth

Mammals have got many ; like the mammary glands which produce

All the mammals are animals. They keep their body temperature constant and independent from the

The young mammals grow inside the mother's, so they are animals

Answer the following questions

1. How is the trunk close to the head in mammals?
2. What kind of limbs have dolphins got?
3. How does a horse breathe?
4. What does homoeothermic mean?
5. Give an example of omnivorous mammals
6. What is the importance of hair in mammals?
7. Do the young mammals eat for themselves?
8. How does a whale breathe?
9. What is the function of mammary glands?
10. What is the name of mammals which eat plants?

Birds

A *canary*, an *owl*, and a *duck* are **birds**. **Birds** are *terrestrial* vertebrates. Most of them can *fly*. Only some **birds** like *ostriches* cannot fly.

The body

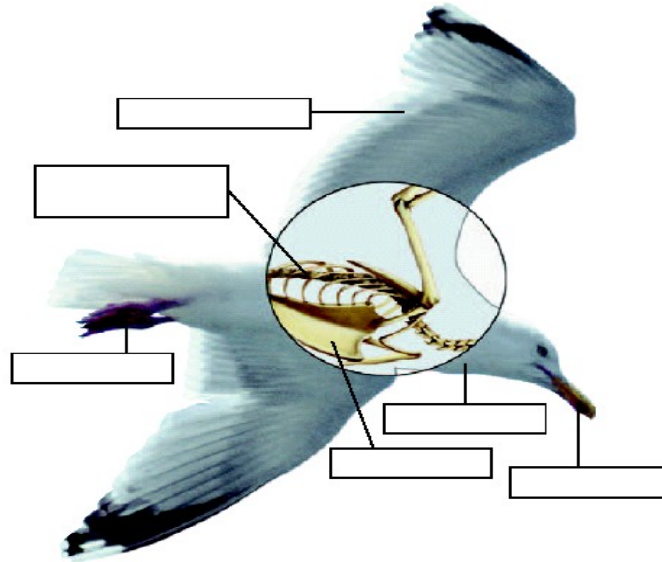
- Their bodies have got an *aerodynamic shape*, adapted for *flight*. The head is close to the *trunk* by the *neck*. In the *stork* the neck is very long.
- **Birds** have got *four* limbs. The *back limbs* are *legs* with *four* fingers, and covered by *scales*. The *fore limbs* are *wings*
- Their body is covered in *feathers*, which stop heat being lost through the *skin*.
- The *skeleton* of **birds** has got very *lightweight* bones. Their bones are *hollow*. For this reason their bodies are light, which is very important for the flight. The *sternum* or *chestbone* is very *developed* as a *keel* for the *attachment* of strong flight muscles that move the *wings*.
- **Birds** have a *hornlike beak* and they have not got teeth. The *beak* is adapted to their *diet*.

Functions

- **Birds** are *homoeothermic* or *warm-blooded* animals. They keep their temperature (around 42 °C) *constant* and *independent* from the *environment*.
- All **birds** *breathe* through *lungs*. These *lungs* connect with cavities *filled* with air, called *air sacs*. All this *benefits* the breathing and the flight
- **Birds** are *oviparous* animals; they *lay* eggs .They have got *internal fertilization*. They are born from *eggs* with *hard shells*. The eggs are *incubated* until the chicks *hatch*. Adults *look after* their babies until they grow and can leave the *nest*.
- Their *diet* is varied. They can be *carnivores*, *herbivores* and *omnivores*. The *shape* of a **bird's beak** depends on the food it eats: They can eat grain, fruit, insects, and meat

(Vocabulary: owl: buho / ostrich: avestruz / stork: cigüeña / flight: vuelo / neck: cuello / fore limb: extremidad delantera / scale: escama / feather: pluma/ to fill: llenar/ air sac: saco aéreo / lightweight: ligero, liviano / hollow: hueco / chestbone: esternón / to develop: desarrollar / keel: quilla / attachment: unión, acoplamiento / to benefit: favorecer / hornlike: córneo / beak: pico / to lay eggs: poner huevos / shell: cáscara / to incubate: incubar / chicks: pollos / to hatch: salir del huevo, eclosionar / to look after: cuidar / nest: nido)

Fill the boxes in the following picture



Match the words in the left column with the sentences on the right

- | | |
|-------------|--|
| 1 Skeleton | A It covers the main part of a bird body |
| 2 Oviparous | B It is very developed as a keel |
| 3 Feather | C It has got very lightweight bones |
| 4 Beak | D It depends on the kind of food. |
| 5 Chestbone | E It means that they lay eggs |

Answers: 1 2 3 4 5

Fill the gaps with the following words from the list

trunk hollow neck scales chestbone four feathers keel teeth air sacs fore lightweight lungs aerodynamic beak flight

The birds bodies have got an shape, so they can fly. The head is close to the by the neck. In the stork the is very long.

Birds have got four limbs. The back limbs are legs with fingers, and covered by The limbs are wings

The birds body are covered with

The skeleton of birds has got very bones, and they are For this reason their bodies are light. The sternum or is very developed as a for the attachment of strong flight muscles that move the wings.

Birds have got a hornlike and they have not got

Birds connect with cavities filled with air, called All this benefits the breathing and the

Answer the following questions

1. What is the reason of the aerodynamic shape body of birds?

2. Has the birds' body got scales? Where?
3. Why are the birds' bones hollow?
4. What kind of fertilization have birds got?
5. Have birds got beak or teeth?
6. Are young birds born from eggs or from live birth?
7. What is the name of the cavities inside the birds' body?
8. How is the temperature of birds in relation to their environment?
9. What is the name of the structures which cover the birds' body?
10. Why does the chestbone of birds have shape of keel?

Reptiles

A *snake*, a *crocodile*, a *lizard*, and a *turtle* are **reptiles**. They are *terrestrial* vertebrates, although *turtles* are *aquatic* vertebrates.

The body

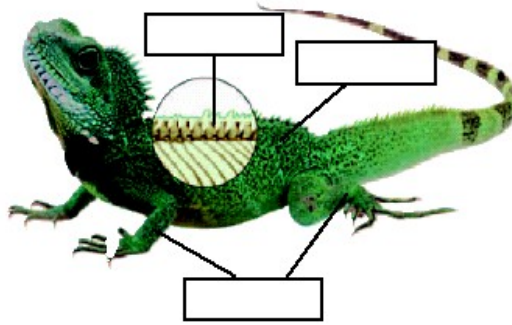
- *All of them* have got **four limbs** or **legs**, except *snakes*, that have **no** limbs.
- Their bodies are covered with hard **scales** that are close together to avoid **drying**
- *Lizards* and *snakes* **shed** their **skin**. *Turtles* have got a **hard shell** called **carapace**

The function

- **Reptiles** are *poikilotherms* or **cold-blooded** vertebrates, because the **temperature** of their body depends on the **environment**
- *All reptiles* breathe through **lungs**
- *Most reptiles* are **carnivores**. They have got **teeth** to capture their **preys**. *Turtles* have got a **hornlike beak** with no teeth, and *snakes* have got **fangs** connected with **poison** glands.
- **Reptiles** are **oviparous** animals and they have got **internal** fertilization. Their **eggs** are protected by a **leathery shell** to avoid **drying**. The eggs are **not incubated**.
Some snakes are **ovoviviparous**; the embryo **develops** inside an egg that **remains** inside the **female** until **hatching** and **gives birth** to living young.

(**Vocabulary:** *snake: serpiente / lizard: lagarto / turtle: tortuga marina / to avoid: evitar / drying: desecación / to shed: mudar / carapace: caparazón / cold-blooded: poiquilotermino / environment entorno / preys: presas / hornlike: córneo / poison: veneno / fang: colmillo / leathery shell: cáscara correosa, como de cuero / to develop: desarrollar / to remain: permanecer / hatching: eclosión, salida del huevo / female: hembra*)

Fill the boxes marked in the picture



Match the words in the left column with the sentences on the right

- | | |
|----------------|--|
| 1 Scales | A They have not got limbs. |
| 2 Eggs | B They are close together to avoid drying |
| 3 Fangs | C It means that temperature of the body depends on its environment |
| 4 Poikilotherm | D They are connected with poison glands |
| 5 Snakes | E They are not incubated. |

Answers: 1 2 3 4 5

Fill the gaps with the following words from the list

cold-blooded fangs skin snakes legs hard scales hornlike drying shell environment

All reptiles have got four, except, that have not got limbs.
 Reptiles bodies are covered in that are close together to avoid
 Lizards and snakes change their Turtles have got a
 Reptiles are vertebrates, because the temperature of their body depends on their
 Turtles have got a beak, and snakes have got connected with poison glands.

Answer the following questions

1. How many legs have snakes got?
2. Do you know any aquatic reptiles?
3. Why are reptiles called poikilotherm vertebrates?
4. What is the difference between reptiles and birds in relation with eggs?
5. Why are some snakes dangerous?
6. What is a carapace?
7. What is the difference between eggs laided by birds and the ones laided by reptiles?
8. Do you know any reptiles which give birth to live youngs?

Amphibians

A *frog*, a *toad*, a *nwt*, and a *salamander* are **amphibians**. They are born in the *water* and when they *grow up* they can live on *land*. They were the first vertebrates to *colonize* land even though they still depend on water to reproduce.

Amphibians can be divided into *two* groups:

- **Anurans** have not got a tail. They are *frogs* and *toads*.
- **Urodeles** have got a tail. They include *salamanders* and *newts*

The body

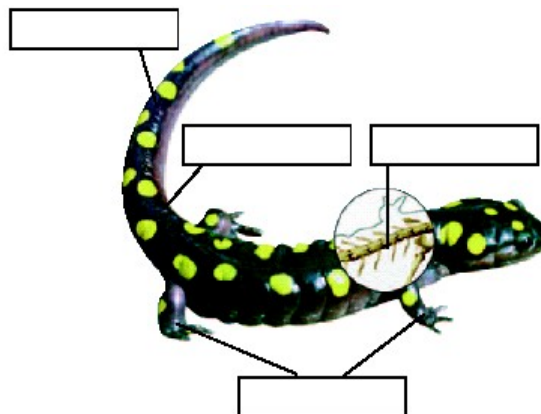
- **Amphibians'** body is divided into the *head* and *trunk*. **Amphibians** have *not* got a *neck*.
- The *head*, which is joined directly to the *trunk*, has got a *wide mouth* with *thin* teeth and a muscular *tongue*. **Amphibians** have got *prominent* eyes with moving *eyelids* and *auditory openings* covered by a membrane or *eardrum*.
- The *trunk* of the adult **amphibian** has got *four* limbs or legs. The *fore legs* have got *four* toes and the *back legs* have got *five* toes. All the toes of the *back legs* are joined together by *membranes* to make *swimming* easier (*webbed feet*). *Frogs* have got *back legs* very developed so they can make big *jumps*.
- All **amphibians** have got *smooth, moist, thin skin*, with *no* hair or scales. It is not protected against drying out. For this reason, **amphibians** need water to survive.
- *Frogs* and *toads* have *not* got a *tail*. The babies, called *tadpoles*, have got tail and no legs.

Functions

- **Amphibians** are *poikilotherms* or *cold-blooded* vertebrates. They *cannot control* their temperature, for this reason they do not live in *cold* places.
- *Adult amphibians breathe* through *lungs* and through the *skin* so they need *humidity* to survive. *Young amphibians* are called *tadpoles*. They are aquatic and *breathe* through *gills*.
- Most of **amphibians** are *carnivores* when they are adults, they usually eat insects. But *tadpoles* are *herbivores*.
- Most of **amphibians** are *oviparous*, although *salamanders* are *ovoviviparous*. They can have *external* and *internal* fertilization. The females *lay* eggs, in a *jelly-like mass*, in the water and the tadpoles *hatch* from the eggs.
- The tadpoles *change* enormously as they are adults. This change is called *metamorphosis*.

(Vocabulary: frog: rana / toad: sapo / newt: tritón / anurans: anuros / urodeles: urodelos / gills: branquias / to grow up: crecer / to colonise: colonizar / even though: aunque / still: todavía / swimming : la natación / webbed feet: patas membranosas / developed: desarrollado / drying out: desecación / to jump: saltar / thin: delgado / tongue: lengua / prominent: prominente, saltón / eyelid: párpado / auditory openings: orificios auditivos / eardrum: tímpano / tadpole: renacuajo / moist: húmedo / humidity: humedad / to lay: poner, depositar / to hatch: salir del huevo, eclosionar / to become: convertirse en)

Fill the boxes in the following picture



Match the words in the left column with the sentences on the right

- | | |
|-----------------|--|
| 1 Poikilotherm | A It is the change from tadpoles to adults |
| 2 Tadpoles | B It is smooth with no hair or scales. |
| 3 Salamanders | C They have got four legs and tail |
| 4 Metamorphosis | D They have got tail and no legs |
| 5 Skin | E They cannot control their temperature |

Answers: 1 2 3 4 5

Fill the gaps with the following words from the list

smooth water tadpoles back toads land humidity jumps metamorphosis fertilization hair gills cold lungs hatch

Amphibians are born in the and when they grow up they can live on

Frogs have got limbs very developed so they can make big

All amphibians have got..... thin skin, with no or scales.

Frogs and have not got a tail. Salamanders have got a tail. The young, called, have got tail and no legs

Amphibians do not live in places because they are poikilotherm vertebrates

Adult animals breathe through and through the skin so they need to survive. The tadpoles are aquatic and breathe through

Amphibians can have external and internal The females lay eggs into the water and the tadpoles from the eggs.

The tadpoles change enormously as they become adults. This change is called

Answer the following questions

1. What is the difference between fore and back limbs in frogs?
2. How is the amphibians' skin?
3. How many legs have tadpoles got?
4. What is the difference between adult amphibians and tadpoles breathings?
5. What is the name of the change that tadpoles suffer when they become adults?
6. Why do amphibians have to live in humid places?
7. Do the frogs incubate its eggs?
8. What are the differences in the external shape between an adult frog and a tadpole?

FISH

A *trout*, a *shark*, a *ray*, and a *tuna* are **fish**. All fish are *aquatic* vertebrates. Some of them, like *sharks*, live in the *sea* and some of them live in *fresh waters*, like the *trout*

The body

- **Fish** are *tube-shaped* or *fusiform*. Their body is *wide* in the middle and *narrow* in the end. This reduces water resistance and makes movement easier.

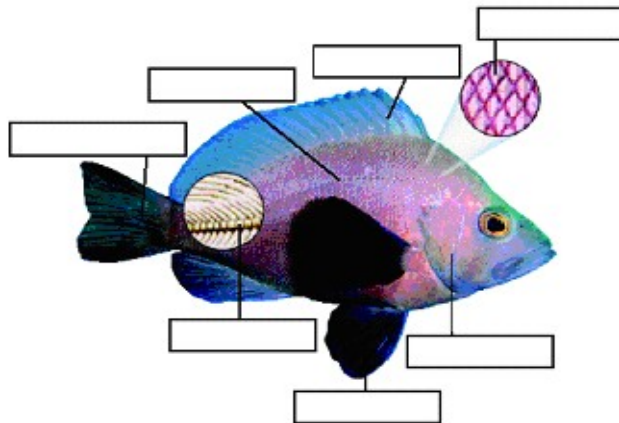
- **Fish limbs** are called **fins**. Fins are located in **thorax, stomach, back,** and **tail**. Fins allow them to **propel** themselves and change direction easily.
- Their body is covered by **scales**. This protect them and helps them move in water
- **Fish** have got a **lateral line**. It is a **sensory organ** that helps the animal feel the **vibrations** through the water.
- Most of **fish** have got **swim-bladder**. It is an organ with the shape of a **bag** which is **filled** with **air** and so the **fish controls** the **depth**.

Functions

- **Fish** cannot control their **temperature**. They are **poikilotherms** or **cold-blooded** vertebrates.
- **Fish breathe** through **gills**. The gills are **behind** the head, and they are protected by a kind of **bone** called **operculum** (gills covers). Water enters the mouth and passes through the gills. **Sharks** and **rays** have **not** got operculum but five **gill slits**.
- Most of **fish** are **carnivores**, but there are **omnivores** and **herbivores** as well.
- **Fish** are **oviparous** animals with **external** fertilization (the male **deposits** its **sperms** on the **ovules** that the female **lays** in the water). The **young fish hatch** from the eggs. They are called **fry**.

(Vocabulary: trout: trucha / shark: tiburón / ray: raya / tuna: atún / tube-shaped: forma hidrodinámica / wide: ancho / narrow: estrecho / to propel: impulsar lateral line: línea lateral / swim-bladder: vejiga natatoria / depth: profundidad / gills: branquias / operculum: opérculo / gill slits: hendiduras branquiales / as well: también / to deposit: depositar / sperm: espermatozoide / ovule: óvulo / to lay: poner, depositar / to hatch: salir del huevo, eclosionar / fry: alevin)

Fill the boxes in the following picture



Match the words in the left column with the sentences on the right

- | | |
|-----------------|---|
| 1 Operculum | A This means that the body is wide in the middle and narrow in the end. |
| 2 Swim-bladder | B It is a sensory organ to feel the vibrations through the water. |
| 3 Tube-shaped | C It is an organ with the shape of a bag, so the animal controls the depth. |
| 4 Fry | D It is a bone that protects the gills |
| 5 Lateral line. | E They are young fish that hatch from the eggs |

Answers: 1 2 3 4 5

Fill the gaps with the following words from the list

Lateral line fry wide tube-shaped gills end sea swim-bladder depth scales trout fins operculum vibrations bag water

Some fish, like sharks, live in the and some of them live in fresh waters, like the

Fish are, their body is in the middle and narrow in the

Fish have got and their body is covered by

All fish have got a It is a sensory organ that helps the animal feel the through the water.

Most of fish have got It is an organ with the shape of a which is filled with air and so the animal controls the

Fish breathe through They are behind the head protected by the (gills covers).

Fish females lay eggs in the The young fish, called, hatch from the eggs.

Answer the following questions

1. Do all fish live in salty waters ?
2. How is the body of fish?
3. How do fish breathe?
4. What is the function of swim-bladder?
5. Is fish fertilization internal or external?

Complete the following table

	Limbs shapes	Skin covering	Temperature control	Type breathing of	Type of diet	Type of reproduction
Mammals						
Birds						
Reptiles						
Amphibians						
Fish						

Answer the following questions

1. Give the name of a mammal that has got fins
2. Do all birds fly? If not, give the name of one that cannot fly
3. What have a turtle and a duck got in common in relation to the mouth?
4. Why cannot a whale stay under the water for a long time?

5. What is the main difference between a tadpole and a fry?
6. What are the main similarities between a tadpole and a fry?
7. What have a dolphin and a turtle got in common in relation to the mouth?

Complete the following table

Vertebrate organs	What are they?	What group do they belong to?
Backbone		
Lungs		
Fins		
Swim-bladder		
Lateral line		
Carapace		
Wings		