

15.



Subject: SCIENCE

- A. BIOLOGICAL CLASSIFICATION
- B. KINGDOMS
- C. THE TREE OF LIFE
- D. FLORA AND FAUNA
- E. SCIENTIFIC NAMES

Name:

A. BIOLOGICAL CLASSIFICATION

I. Read the information and discuss:

Living things are called organisms.

CLASSIFICATION helps us to give order and a general plan on the diversity of living things. Classification can be defined as grouping organisms according to their structural similarities.

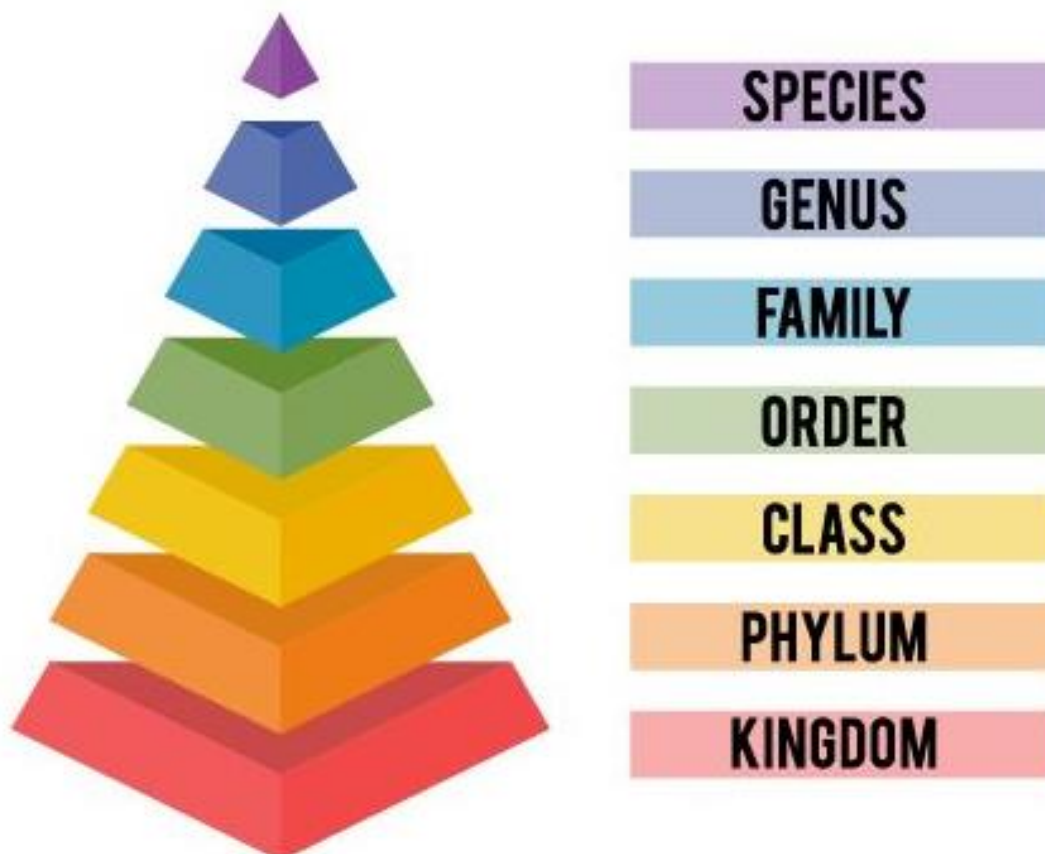
This means that organisms that share similar features are placed in one group. These groups are arranged from the largest group of organisms to the smallest group of organisms

The species is the smallest group of organisms.

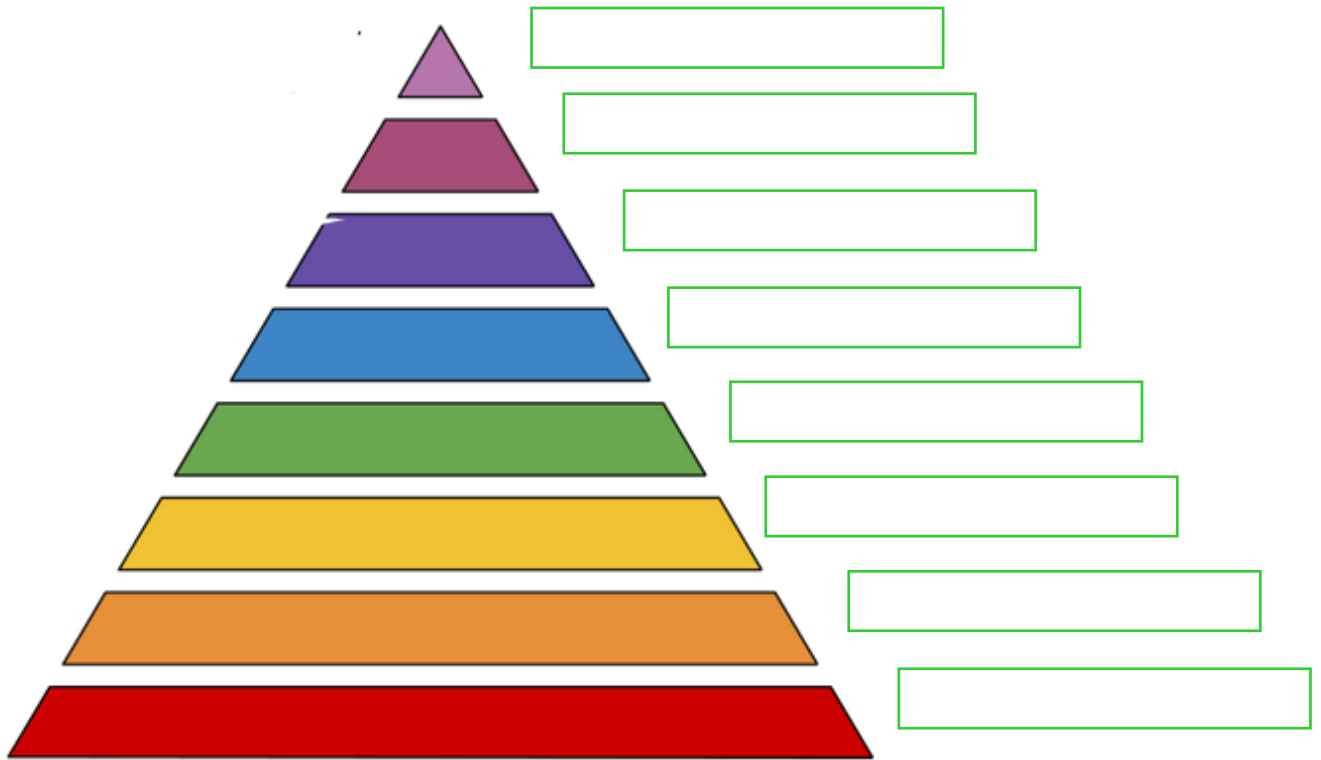
In biology, kingdom (Latin: regnum, plural regna) is the second highest taxonomic rank, just below domain. Kingdoms are divided into smaller groups called phyla.

Every living creature on Earth belongs to a kingdom.

HIERARCHY OF BIOLOGICAL CLASSIFICATION



2. Complete the hierarchy of biological classification:



3. Choose a plant or animal. Research its classification and write below:

- Scientific name: _____
- Common Name: _____

Classification:

- a) -Domain: _____
- b) -Kingdom: _____
- c) -Phylum: _____
- d) -Class: _____
- e) -Order: _____
- f) -Family: _____
- g) -Genus: _____
- h) -Species: _____

EXAMPLE:

Scientific name: *Bradypus tridactylus*
 Common Name: Pale-throated three-toed sloth
 Classification:
 -Domain: Eukarya
 -Kingdom: Animalia
 -Phylum: Chordata
 -Class: Mammalia
 -Order: Xenarthra
 -Family: Bradypodidae
 -Genus: Bradypus
 -Species: Bradypus tridactylus

4. In pairs, or your group, answer the questions.



a) What organisms are shown?

b) Do they look the same?

c) Do the pictures show the same species?

d) How are the elephants similar?

e) How are they different?

f) Show the classification of each.

B. KINGDOMS

Kingdoms represent a very large group of lifeforms that are all similar in some ways but can be very different from one another in other ways. The five kingdoms that biologists have developed are the Monera Kingdom, the Protist Kingdom, the Fungi Kingdom, the Plant Kingdom, and the Animal Kingdom.

I. Complete the sentences:

sunlight, water, nervous, mushrooms, Bacteria

MONERA

Monera are single-celled organisms that don't have a nucleus. _____ make up the entire kingdom.

PROTISTS

Protists are mostly single-celled organisms that have a nucleus. They usually live in _____. Examples of protists include some algae and amoeba.

FUNGI

Fungi are usually motionless organisms that absorb nutrients for survival. They include _____, moulds, and yeasts.

PLANTS

Plants contain chlorophyll, a green pigment necessary for photosynthesis, a process in which plants convert energy from _____ into food. They include garden flowers, agricultural crops, grasses, shrubs, ferns, mosses, and conifers.

ANIMALS

Animals are the most complex organisms on Earth. Animals eat food for survival and have _____ systems. They are divided into vertebrates and invertebrates and include mammals, amphibians, reptiles, birds and fish.



2. Give 2 examples from each of the kingdoms below:

a) Monera Kingdom

b) Protist Kingdom

c) Fungi Kingdom

d) Plant Kingdom

e) Animal Kingdom

3. Classify yourself!

Scientific name: -----

Common Name: -----

Classification:

a) -Domain: -----

b) -Kingdom: -----

c) -Phylum: -----

d) -Class: -----

e) -Order: -----

f) -Family: -----

g) -Genus: -----

h) -Species: -----



4. Compare your answers with members of the same species!

C. THE TREE OF LIFE

1. Read and discuss:



The tree of life is a metaphor which expresses the idea that all life is related by common descent.

Charles Darwin was the first to use this metaphor in modern biology.

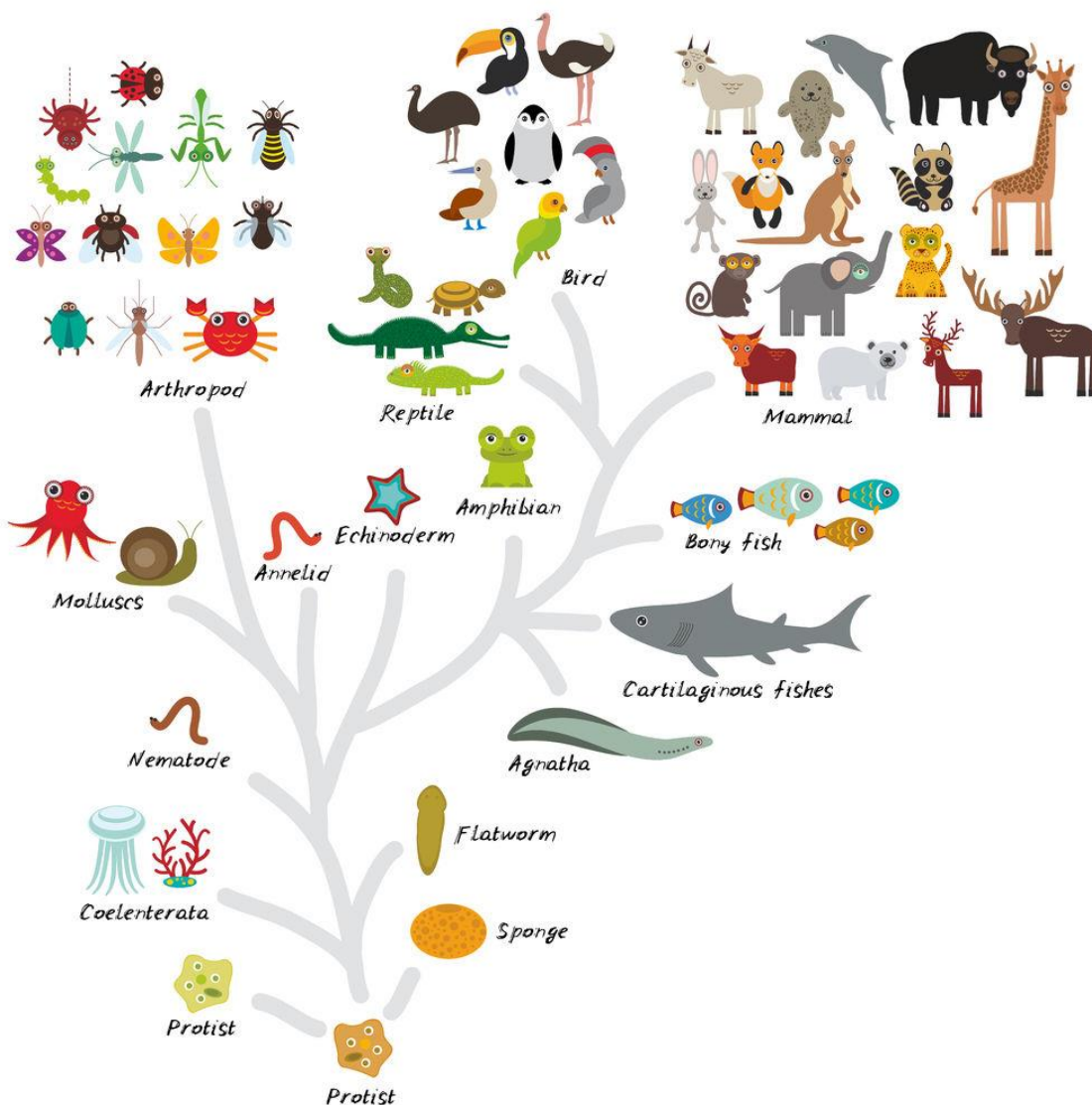
The evolutionary tree shows the relationships among various biological groups. The reason why we classify animals in a branching structure is because, according to Charles Darwin, all life shares common ancestry.

The main division we tend to use in categorising animals is whether or not they have a backbone.

The environment plays a major role in natural selection.

At times whole populations or species have died out.

2. As a group, discuss the example below:



3. Answer the questions:

a) What idea does the tree of life express?

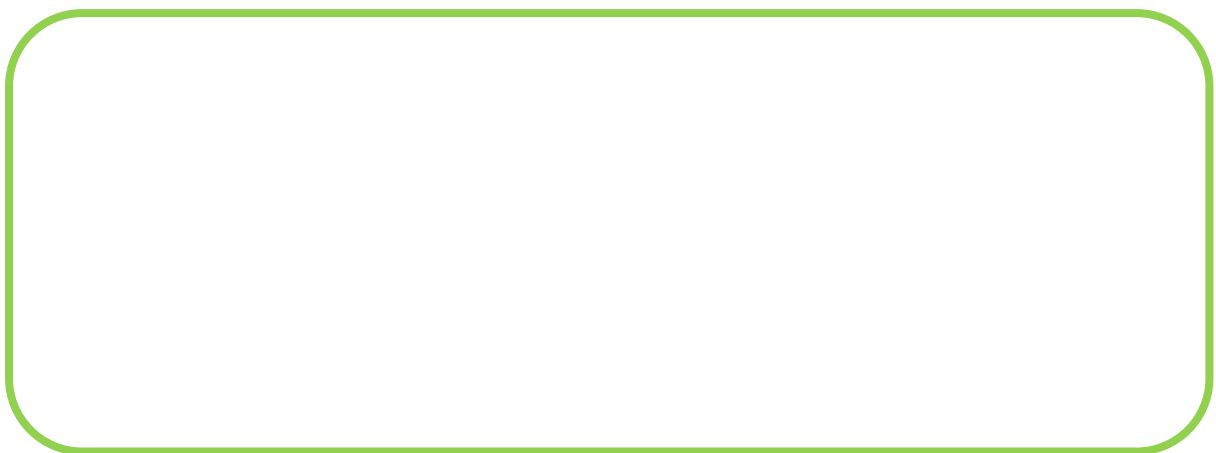
b) Who was the first person to use 'the tree of life' in modern biology?

c) Why are animals classified in a branching structure?

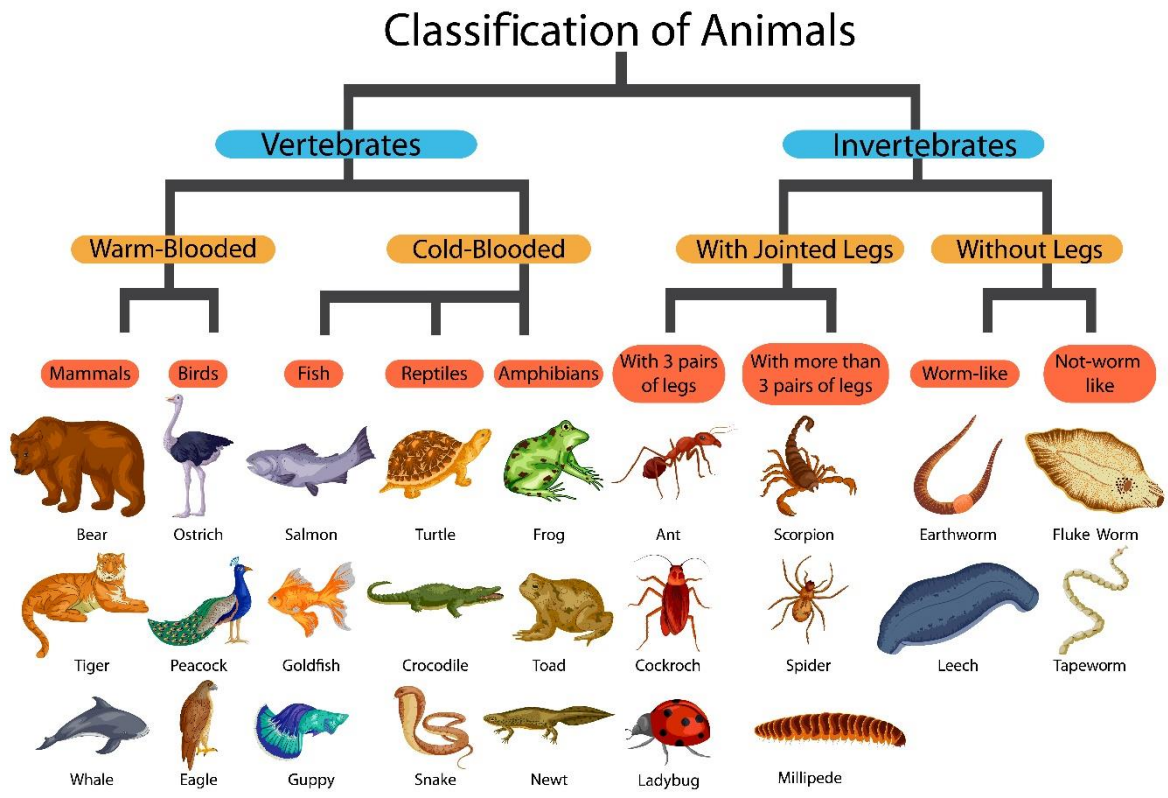
d) What is the main division we use in categorising animals?

e) What plays a major role in natural selection?

4. Give an example of how two animals share common ancestry. Refer to the diagram on the previous page. Draw your own diagram to back up your answer.



5. Look at the diagram below:



a) Which animal groups are warm-blooded?

b) Which animals groups are cold-blooded?

c) How are the invertebrates categorised?

d) Describe the following animals:

Example: ant - invertebrate - with jointed legs - with 3 pairs of legs

- crocodile -----
- ostrich -----
- eagle -----
- scorpion -----
- ladybug -----
- whale -----



D. FLORA AND FAUNA

1. Read the information:

If we put living organisms in different categories, it becomes easier to understand our world as we are then looking at a smaller section of it.

So, if we look at different kinds of life, we can also break it down into two main categories: plants and animals.

The scientific name for plants is *flora* and the scientific name for animals is *fauna*.

What is the main differences between flora and fauna?

Flora	Fauna
Flora remains in the place that it grows from.	Fauna is free to move.
Flora makes its own food from sunlight.	Fauna must find its own food.

2. Give 5 examples of *flora* (plants)

- a) _____
- b) _____
- c) _____
- d) _____
- e) _____



3. Give 5 examples of *fauna* (animals)

- a) _____
- b) _____
- c) _____
- d) _____
- e) _____

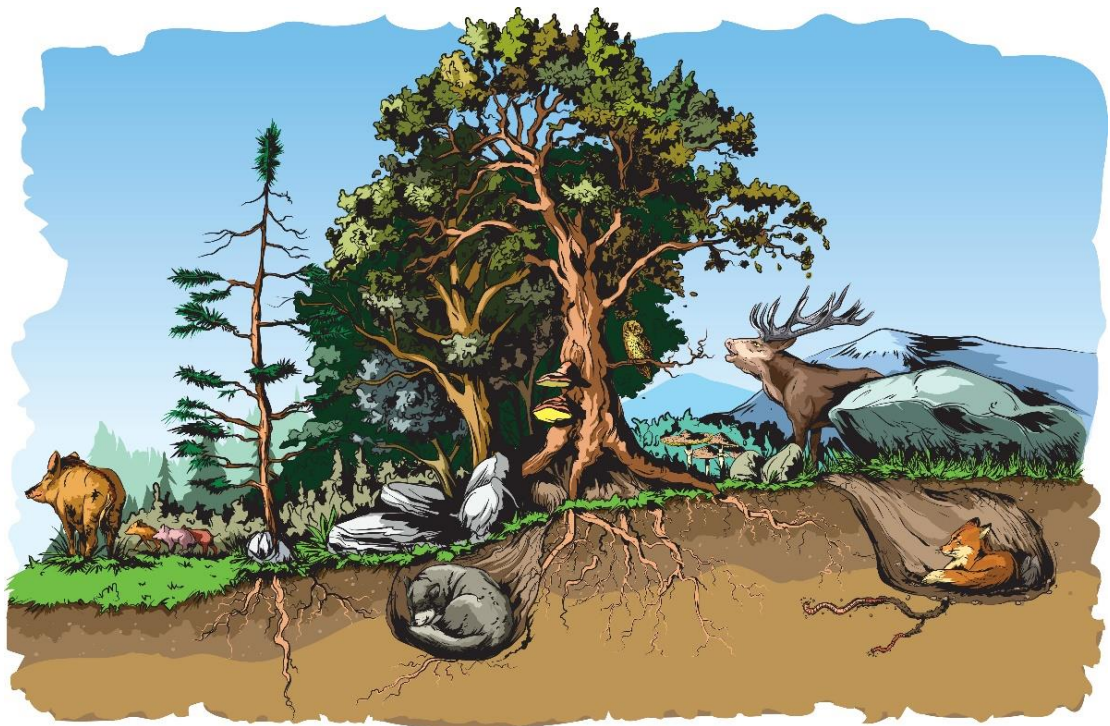


4. Look at the examples of *flora* (plants) and *fauna* (animals) below and put them into the correct column.

seaweed, penguin, elephant, fern, cactus, lizard, moss, chicken, spider, tree, camel, rose, hawk, tadpole, thistle, wasp, mushroom, oak, kangaroo, lily

FLORA	FAUNA

5. Label *flora* and *fauna* on the diagram below:



E. SCIENTIFIC NAMES

1. Read the information.

Every known living organism on Earth is classified and named by a set of rules. Those rules are used by all scientists around the planet. The names are called **scientific names**.

Scientific names follow a specific set of rules. Scientists use a two-name system called a **Binomial Naming System**. Scientists name animals and plants using the system that describes the genus and species of the organism. The first word is the genus and the second is the species. The first word is capitalised and the second is not. A binomial name means that it's made up of two words. Humans are scientifically named **Homo sapiens**.

2. These are the scientific names for common plants and animals. Which animals do they refer to?

cat, orange, horse, housefly, lion, dolphin, coriander, bear, tiger, cinnamon, elephant, dog, giraffe, leopard, crocodile

- a) *Coriandrum sativum* _____
- b) *Citrus sinensis* _____
- c) *Cinnamomum zeylanicum* _____
- d) *Canis lupus* _____
- e) *Musca domestica* _____
- f) *Panthera leo* _____
- g) *Felis catus* _____
- h) *Crocodylia niloticus* _____
- i) *Giraffa horridus* _____
- j) *Panthera tigris* _____
- k) *Panther pardus* _____
- l) *Ursidae carnivora* _____
- m) *Proboscidea elephantidae* _____
- n) *Equus ferus caballus* _____
- o) *Delphinidae delphis* _____



Subspecies: *Canis lupus familiaris*

