

DAY 16

TOPIC: THE HUMAN BODY

Classification of Living things

Aim:

- Identify kingdom, phylum, class and order in which human beings are classified under.

Activity 1:

- Read pages 1-6 below.
- Answer question 1-5 on p.6

INTRODUCTION

1. LIVING THINGS

You are a living thing. Grass, manioc, cows & birds are living things too. But stones & rain are non-living things. Living things are different from non-living things in the ways shown below.

(a) Living things move & have senses

(i) Animals walk or run, hop, crawl, swim or fly. They find their way using sense organs. These are eyes, ears, noses, taste buds, skin & insect feelers called antennae. Figure 1 (a) & (b) show movement in a frog and a climbing bean.

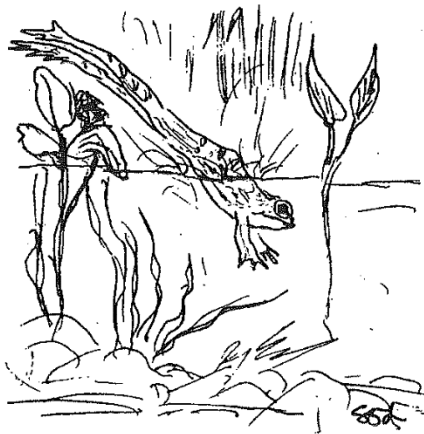


Figure 1a. A frog jumps Figure 1b. a plant climbs

(ii) Plants move by growing, like these beans growing up bean poles. Roots grow down in response to gravity and to find water. Shoots grow up towards light.

(b) Living things feed

They need food for energy growth & repair.

(i) Plants make their own food in their leaves. (Producers) This process is called photosynthesis. They need light, water, carbon dioxide, and a green chemical called chlorophyll which is found in leaves. Photosynthesis in a leaf is shown in Figure 2.

(ii) Animals can't make their own food so they eat plants and other animals. (Consumers)

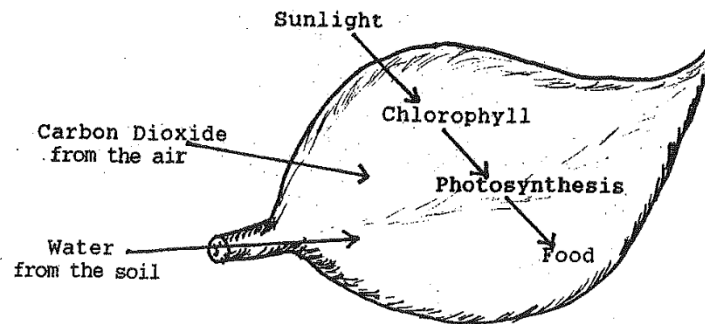


Figure 2. Photosynthesis in a leaf

(c) Living things respire

They get energy from food by a process that is called respiration. This usually needs oxygen. Can you remember the word equation for respiration? It is given in Figure 3.



Figure 3 : Equation for Respiration

(d) Living things excrete

All living things produce waste. The removal of waste from their bodies is called excretion.

- (i) Animals excrete through their lungs and kidneys, and through their skin when they sweat.
- (ii) Plants store waste in old leaves, which then fall off the plants to the ground.

(e) Living things reproduce and grow

Animals lay eggs or have babies. Figure 4 (a) shows a chicken hatching and Figure 4 (b) a pig and its babies. Seeds from plants grow into new plants. Animals stop growing when they reach their adult size. Plants grow all their lives. Some trees have been growing for over 2000 years.

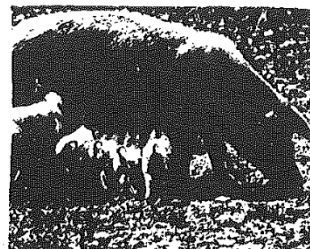


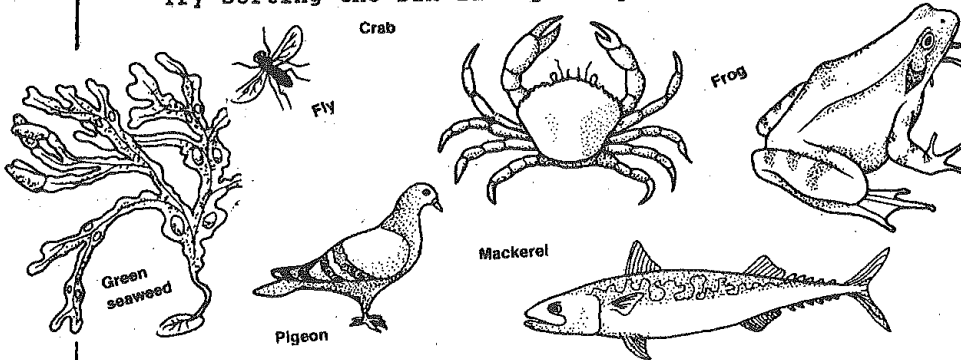
Figure 4a. A chicken hatching Figure 4b. A pig and its babies

2. CLASSIFICATION: SORTING AND NAMING

Altogether there are over one and a half million different kinds of living things. To make it easier to study them biologists sort living things into groups which are alike in some way.

Practical Exercise 1: *Sorting living things*

Try sorting the six living things below into groups.



You could sort them into those found on land, in the air, and in the water. But this would group together very different creatures like crabs, seaweed and fish.

What about sorting them into groups according to colour or size.

What other ways are there of sorting them?

Biologists first sort living things into three large groups. These three groups (or kingdoms) are

- (1) Simple Organisms
- (2) Plants
- (3) Animals.

These huge groups are then split into smaller groups and then even smaller groups. The smaller the group the fewer living things it contains but the more they are alike.

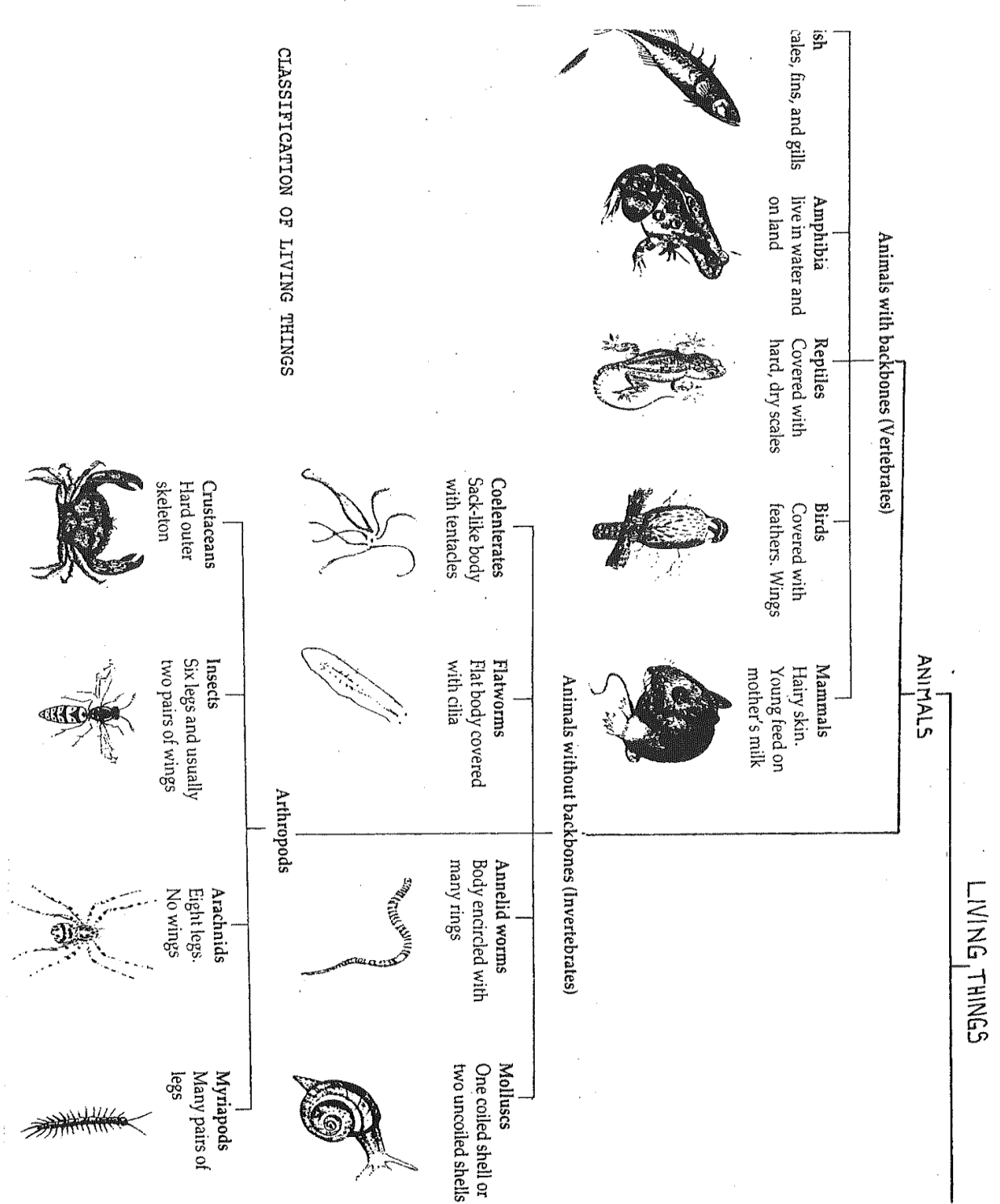
Practical Exercise 2: *What group are you in?*

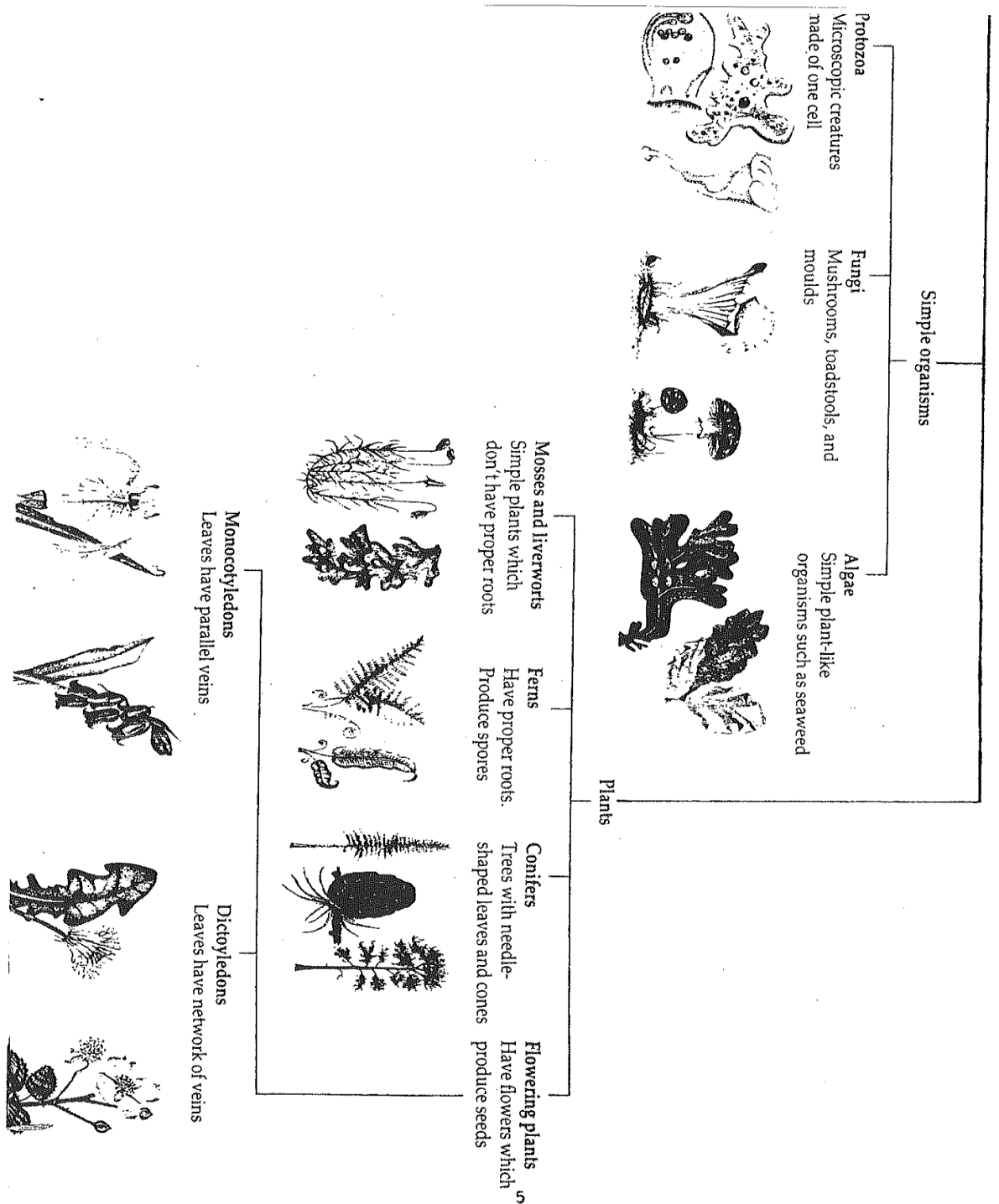
Look at diagrams on the next 2 pages. To which group do you belong?

- first decide which major group you belong to:
simple organisms, plants or animals
- then decide whether you are a vertebrate or an invertebrate (run your finger down the centre of your back if you're not sure!)
- next have a close look at your skin - what do you see?
- how were you or your brothers and sisters fed as babies?

Now answer the question, to which group do you belong?

If you decided you are a mammal, you are right!



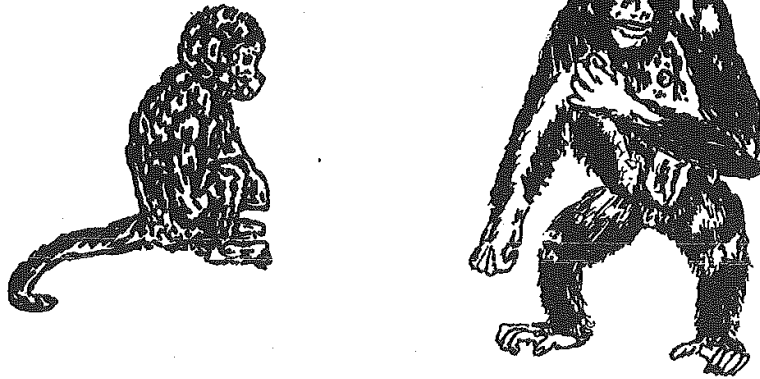


Mammals have hair on their bodies. Female mammals have breasts, or mammary glands; from which their young ones suck milk.

The group of mammals can be divided into even smaller groups. One of these smaller groups (or orders) is called the primates. It also includes monkeys and apes.

Primates have a relatively large brain compared to other animals and well developed eyesight. They can climb trees by grasping the branch using their big toe (or thumb) which is opposed to their other toes (or fingers).

Practical Exercise 3 : The Primates



From these pictures make a list of some features primates have in common. How are humans different from monkeys and apes?

In summary then, humans belong to the animal kingdom. They are vertebrates and belong to the group of mammals. Humans are a member of the order of primates. This is shown in Figure 5

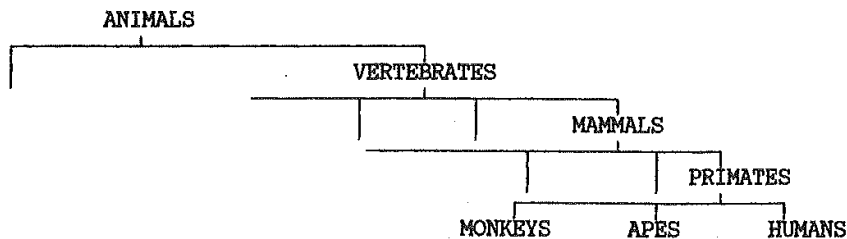


Figure 5. Classification of Humans

Review Questions

- Name seven ways in which living things are different from: non-living things.
- What is the word for (a) animals with backbones?
(b) animals without backbones?
- Using the diagram on page 4 & 5 answer the following
 - Do fungi belong to the plant group?
 - Which animals have 4 pairs of legs?
 - Which plants don't have flowers?
- What do human mothers and kangaroo mothers have in common?
- Give the names of the 4 classification groups that humans belong to starting with the kingdom: animals.