BOOK 3

SCIENCE BASICS

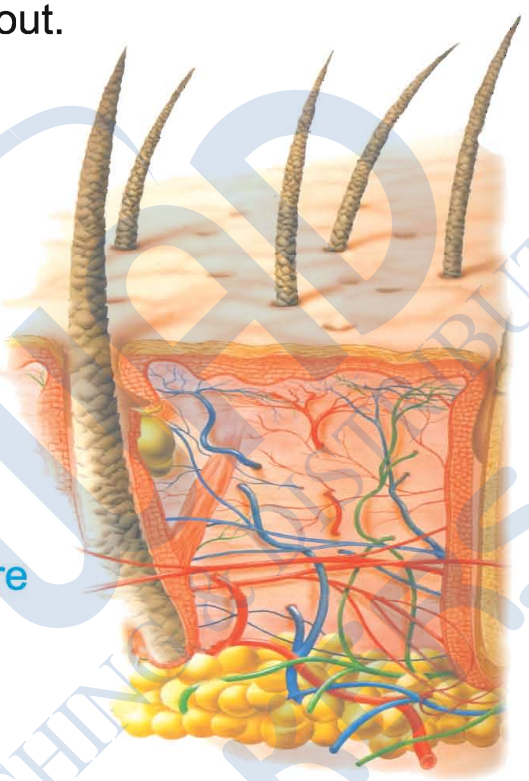
AL-ROWAD
www.alrowadpub.com

Contents

Process of life

Our body

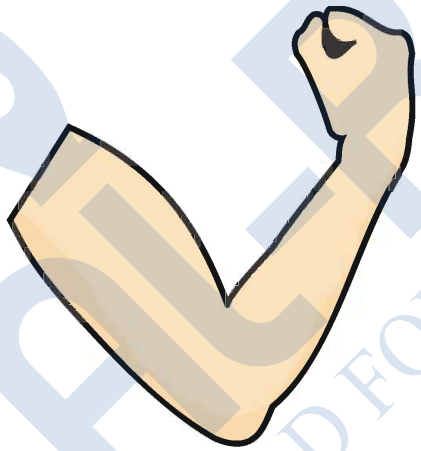
Our body is an amazing machine. It can do all different kinds of work. It has many significant parts to learn about.



Let's learn about our skin.

Our skin is a layer of tissue that covers the whole of our body.

If you look closely at your skin, you can see little hairs growing out of it. these are to keep you warm.



Our skin differs in density from one part to another. The thinner part is under your eyes. Here the skin is very thin.

The thickest part is on the soles of your feet. Here the skin is very thick.

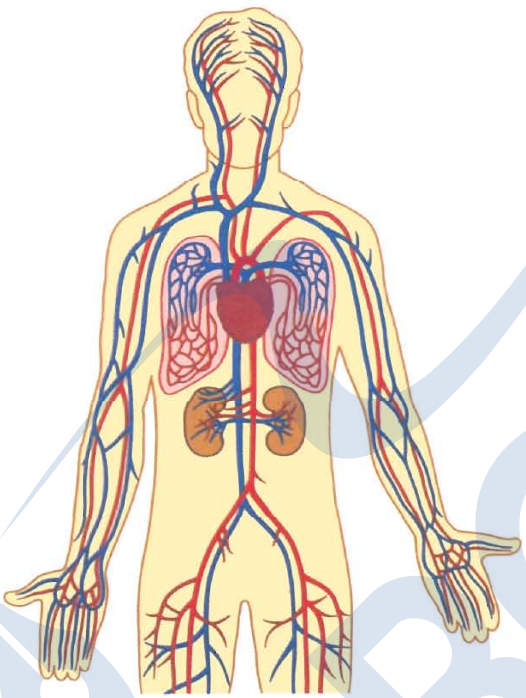
- **Look for some other differences over your body.**
- **Look for different textures in your skin.**
- **Look for colour differences on your body.**

Lesson 1

Can you feel your left arm with your right hand?
The top layer is soft. Now can you feel something hard below the top layer?

The soft parts are called Muscles.

The hard parts are called Bones.



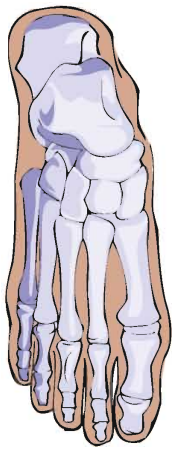
INVESTIGATE

How many parts of your body can you name?
Do all living things have bones and muscles?
What kind of skin do you have? Is it oily or is it dry?
Can you make a long jump ? For how long can you make it ?

Bones support you.They hold you up.
Just think if you have no bones, what would happen.

Let's look at our hand; if our hand did not have any bones to support it, it would hang loose. We would not be able to use it.

All the bones together form the skeleton.



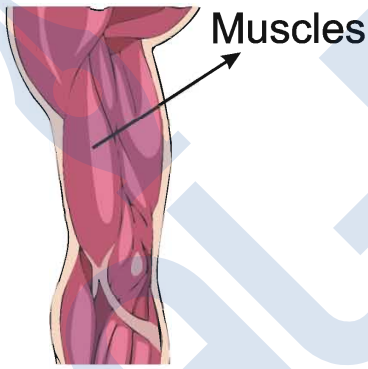
The skeleton has 206 bones.
It is the skeleton that gives us our structure.
Our skeleton bones are all joined together. These are called **Joints.**
Having these joints allow us movement in different parts of our bodies. We can move lots of joints at the same time.

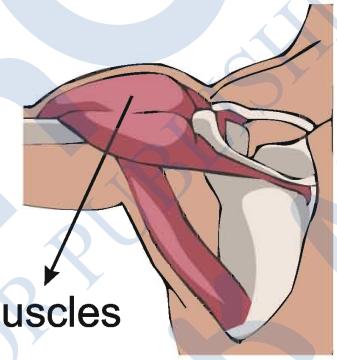
Try moving your hands and legs at the same time.

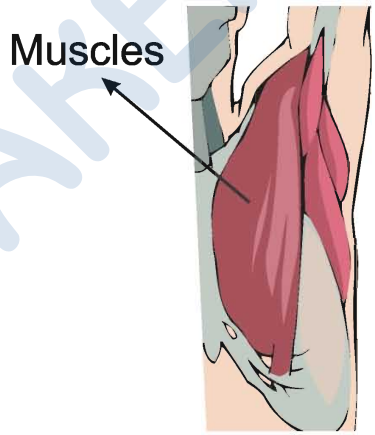
Interesting Facts about your body

Allah has given us special designs on the skin of our fingers. These designs are called fingerprints. Every human being has a unique and different fingerprint.
An adult has about 206 bones in the body, but a baby has over 300. Some of these bones join together as the baby grows older.
You have about 650 muscles in your body. The biggest are in your bottom and the smallest are in your ears.

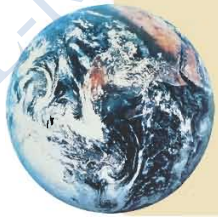
Muscles are attached to the bones.
We use them to move the bones.
We use muscles called biceps to move our arms.
We need strong muscles to run fast and to be good at sports.
We need proper food and exercise to make our muscles strong.







Remember



1. Skin covers our body.
2. Bones support our body.
3. The bones in our body form the skeleton.
4. Bones are joined together. At many of these joints, bones can move over one another.
5. We use our muscles to move the joints.

1. Name these:

a) The hard parts of our body. _____

b) We use them to move the joints. _____

c) It covers our entire body. _____

d) It makes the structure of our body. _____

2. How can you make your muscles strong?

_____

3. What do you think would happen if:

a) you had no bones? _____

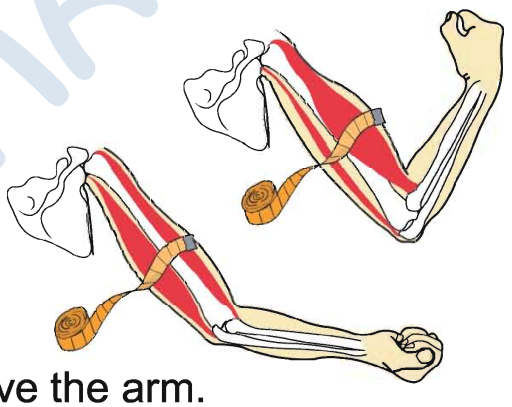
_____

b) you had only one bone from top to bottom? _____

_____

Project

1. Measuring biceps



Ask a friend to extend his or her arm.
Measure the thickness around the upper arm.
Now ask him or her to bend their arm.
Measure the thickness of the arm again.
Do you see any difference?
The biceps become shorter and harder to move the arm.
Do the same with some of your other friends.

Fill in the table.

Name	Thickness of extended arm	Thickness of bent arm	Difference

Project

2. Take your fingerprints

- You can take your own fingerprints.
- Press your fingerprints on an ink pad.
- Now press your fingerprints on a piece of paper.
- This is your unique fingerprint.
- Compare your fingerprints with your friend's fingerprints.

See how different they are.

Notice that no two people have the same fingerprint.

My fingerprint

My friend's fingerprints

Each fingerprint is unique. They are all different.

Plants around us

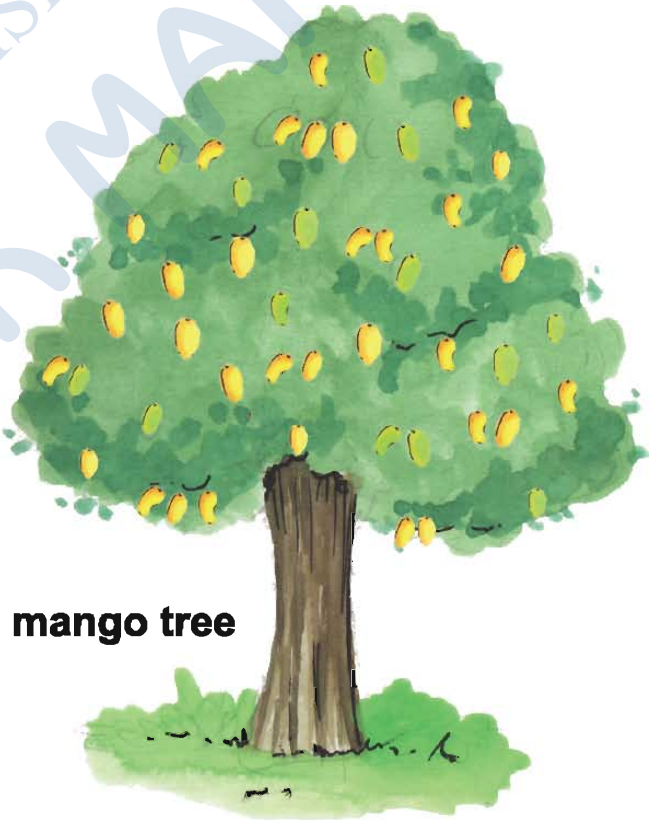
We see different types of plants in the park or the garden.
Some plants are tall and strong.
Some are small.

Trees

Tall and strong plants are trees.
They have a thick brown stem called a trunk.
They have many branches.
They live for many years.
A palm tree can live for hundreds of years.

fir tree

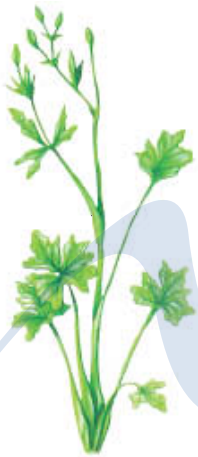
palm tree



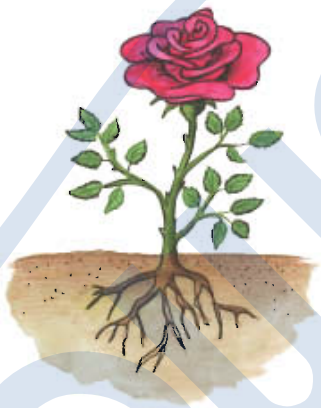
mango tree

Shrubs

Shrubs are smaller than trees.
They have hard stems.
They have many branches.
Most shrubs live for several years.



Evergreen shrub



Rose shrub

Cotton shrub

Herbs

Herbs are small plants.
They have soft green stems.
Many common herbs live only for a few months.

mint is a herb

basil is a herb

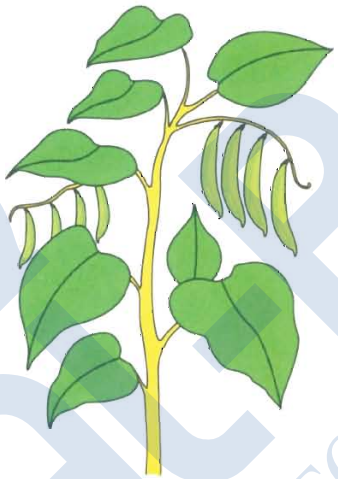
Climbers

Some plants have weak stems.
They can not stand straight.
They either grow along the ground,
or grow up using a support.
They are called climbers.
Many climbers such as peas and beans
live for only a few months.
But others such as
grapevine live for a few years.

The climber of the bean plant

INVESTIGATE

Do you have any plants in your home?
Can you identify which type of plant is it?
How many types of plants do you have in your home?



The climber bean

The climber grapevine.

Remember

1. There are many kinds of plants.
2. Trees are tall and strong plants.
3. Shrubs are smaller than trees.
   They have hard stems and many branches.
4. Herbs are small plants with soft green stems.
5. Climbers have weak stems. They need support to climb up.

2. Write the names of any three plants that live for only a few months.

_____ _____ _____

3. Write the names of any three plants that live for several years.

_____ _____ _____

4. What are these called?

(a) Very small plants. (a) _____

(b) Plants with weak stems. (b) _____

(c) Plants with soft green stems. (c) _____

(d) Plants with thick brown stems. (d) _____

Project

Make a plant scrap book

- Collect pictures of plants, paste them in a scrap book.
- Give two pages to each plant.
- Below each, draw a picture of its leaf and flower.
- On the opposite page write what type of plant it is.
- Leave some space blank on each page.
- As you learn more about plants, we will ask you to write more about them and draw pictures in the blank spaces.

Vegetarian food

We eat three times a day.
We need food to get energy and to grow.
Our food is cooked in the kitchen.
Did you observe where this food comes from?

Allah has created many animals and plants to give us food.
Do you know what plants give us food?

Plants need food to grow.
They prepare food in their leaves.
Some food is used up by the plants.
The left over food is stored in different parts of the plant.
This is what we eat.

Many plants store food in their fruits.


banana


mango


pineapple


apple

Some plants store food in their leaves.
We eat the leaves of many plants.


cabbage


spinach

Some plants store food in their stems.
We eat the stems of many plants.


potato


onion


sugarcane

Some plants store food in their roots.
We eat the roots of many plants.


radish


turnip


carrot

INVESTIGATE

Can you find out some other leaves, stems, roots and seeds that you eat?

What food did you eat today? Did anything in it come from plants?

Plants store food in their seeds for baby plants.
We also eat many of these seeds.


Wheat


Barley


Rice


Maize


Oats

Remember

1. Plants prepare food.
   They use some of the food.
2. The rest of the food is stored in fruits, leaves, stems, roots and seeds.
3. This is what we eat.

1. Name these.

(a) A stem that we eat _____

(b) A plant that stores food in its leaves _____

(c) A white coloured root that we eat in salads _____

(d) A seed that we grind to get flour _____

2. Put a ✓ for true and a ✗ for false.

a) Plants prepare food in their leaves. ☐

b) Plants store their extra food only in their fruits. ☐

c) Plants store food in their seeds for baby plants. ☐

3. What is it - fruit, stem , root, leaf or seed?

(a) banana _____ (b) grain _____ (c) peach _____

(d) beetroot _____ (e) wheat _____ (f) sugarcane _____

(g) cabbage _____ (h) lentil _____ (i) apple _____

Project

Food Record

Keep a record of your meals and snacks for one week.

What food comes from plants?

Which part of the plant does it come from?

Make a chart indicating whether the food comes from roots, stems, leaves, fruits or seeds

	 Plants