Science Department

2023/2024

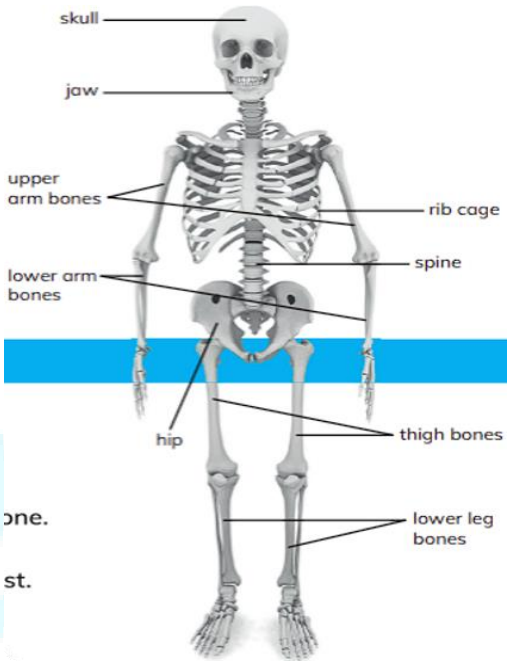
Year 4

Term 1, Unit 1

Name: …….

Class: ……

1. bones are joined together to form a skeleton.
2. Skeleton is a strong frame that supports our body from the inside
3. A baby is born with around 300 bones and as the baby grows into an adult the bones fuse together and the number of bones an adult then has is 206.
4. Bones are attached together through joints.
5. Names of bones in our body:
6. A model helps us understand how something works or see what something looks like that we cannot see in real life.
7. The skeleton main function is:
   1.Skeletons protect
   2.Skeletons give shape
   3.Skeletons allow us to move
   4.Skeletons help us to grow
8. The parts inside our bodies are called organs. The body organs do important jobs that keep us alive and healthy.
9. Our skeletons protect the main organs of our bodies.
10. skull protects the brain
11. Rib cage protects the soft organs (lungs and heart)
12. The skeleton forms a frame that supports or holds up the rest of the body and gives the body its shape.
13. Our skeleton makes our body firm. We cannot squash our body easily because we have skeleton.
14. We can move because there are muscles joined to bones of the skeleton.
15. Muscles are parts of the body that help us to move.
16. We grow and get bigger because our skeleton
17. grows. An adult's skeleton is much bigger than a child's skeleton.
18. Your bones become bigger as you grow up.
19. Your bones keep growing until you are 20 years old.
20. Broken bones can repair themselves as long as they are SLOWLY put back together.
21. Our brain is the director It sends commands to the rest of the body parts to move.
22. Muscles are very flexible like elastic it can stretch and change shape easily.
23. Muscles are found under the skin they cover the skeleton and give your body the shape that you have.
24. All animals with skeletons have muscles attached to the bones.
25. Muscles pull on bones to make them move.
26. Muscles work by getting shorter and longer.
27. When muscles get shorter, they pull on the bones they are joined to.We say that the muscle Contracts.
28. When the muscle gets longer and let you rest this is called muscle Relax.
29. Muscles always work in pairs.
30. When one muscle contracts the other relaxes.
31. Muscles pulls on the bone it is joined to; this makes the bone move
32. Do you know that the heart is a Muscle also.
33. It is a special muscle that is not joined to bones.
34. Movement helps to keep us healthy in different ways



35. Movement:
    1- Makes your heart and lungs work together.
    2- Makes your muscles and bones stronger.
    3- Let's you stretch your body easily.
    4- Helps to stop you from getting some illness.
    5- Helps you think better.
    6- Put you in a good mood.
36. We call animals with skeleton inside their bodies Vertebrates.
37. The word vertebrate means with a backbone.
38. Vertebrates are sorted into 5 different groups:
    - Fish
    - Amphibians
    - Reptiles
    - Bird
    - Mammals
39. Fish:
    - Live in water
    - Have fins instead of arms and legs.
    - Their bodies are covered with scales.

40. Amphibians:
    - Live in water and on land.
    - Their bodies are covered with smooth, wet skin.
    - Like Frog and Salamander

41. Reptiles:
    - Covered with dry scales
    - Most reptiles live on land like
    - Snakes-Lizards-Tortoise
    - Some reptiles live in water for example……Crocodiles
42. Birds:
    - Birds are covered with Feathers.
    - Birds have wings instead of arms.
    - Most birds can fly.
    - Some birds can't fly.
    - Ostrich cannot fly

43.Mammals:
    - Mammals are covered with hair or fur.
    - Most mammals live on land.
    - Some mammals live in sea for example…….Whales-Dolphins

44.Animals with no bones are called Invertebrates.
45.the word invertebrate means without a Backbone.
46.Some invertebrate animals have Hard skins or shells on the outside of their bodiesThis hard outer layer is called an Exoskeleton.
47.The exoskeleton Protects the animal.Supports the animal's body. Examples Locust – Beetle.
48. The skeleton of a vertebrate GROWS which allows the animal to grow.
49. exoskeleton of an invertebrate CANNOT GROW.

50.Identification Keys:

- Scientists use identification keys to help them…….
- Sort
- And identify objects.
- It is based on questions that can be answered either yes or no, by answering the questions we can identify and sort animals.

51. We take medicines :
    - To help make us better when we have an illness
    - To prevent us from getting ill
52. You should only take medicines if they are given to you by a doctor, a nurse or an adult who looks after you.
53. Medicines come with Instructions; we must follow these instructions.
54. Instructions tell you how much medicine you must take and how often you should take it.
55. Taking medicines in different ways:
    - injections and vaccinations
    - Inhalers that we breath
    - Creams and ointments
    - Drip
56. Injections
    - We take some medicines as injections.
    - Some injections can stop or prevent us from getting illnesses such as measles or flu.
    - These injections are called vaccinations.
57. Inhalers
    - We breathe in medicines from inhalers for asthma and other breathing problems.
58. Creams and ointments
    - We use creams and ointments
    - to stop insect bites itching and
    - for skin problems.
59. Drip
    - People who are very sick in
    - hospital often get their medicine directly into their blood through a drip.
60. The germs infect your body. This means the germs get into your body and make you ill.
61. plant or an animal can have infections diseases:

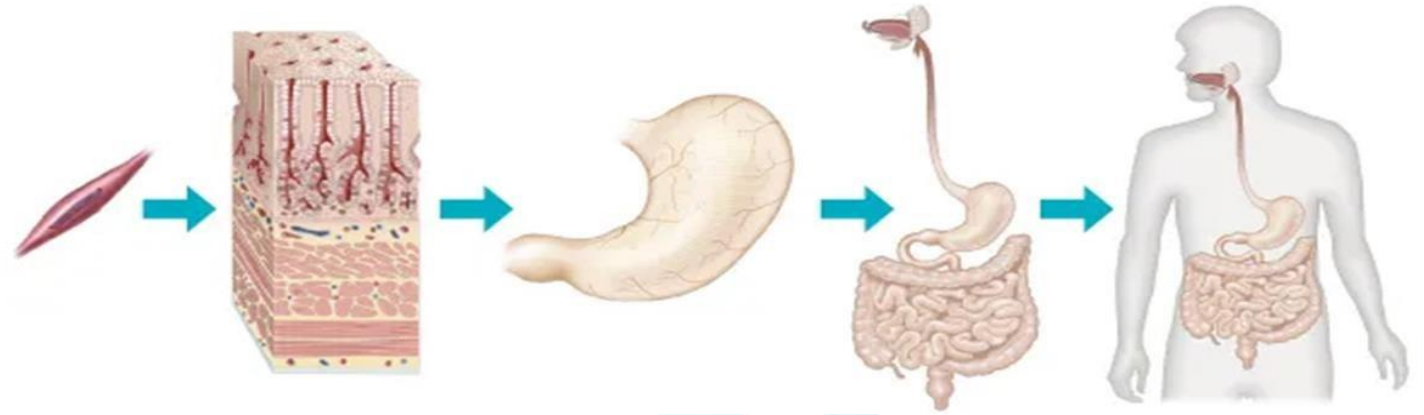
leaf blast can kill young rice plants.

Bird flu

1-Try to mention the main function of:

1- skeletal system	• Breaks down food so that it can be used by the body.
2- muscular system	**it is made up from bones** •Protects delicate organs. •Supports the body & gives it shape. •Helps the body to move.
3- digestive system	• Removes excess water and minerals from the body
4- nervous system	**Works with the bones to help the body to move.**
5- Urinary System	**Controls all body functions.**
6-Circulatory System	**Allows exchange of gases in the lung.**
7-Respiratory System	**Transports blood around the body.**

2-Label the following:



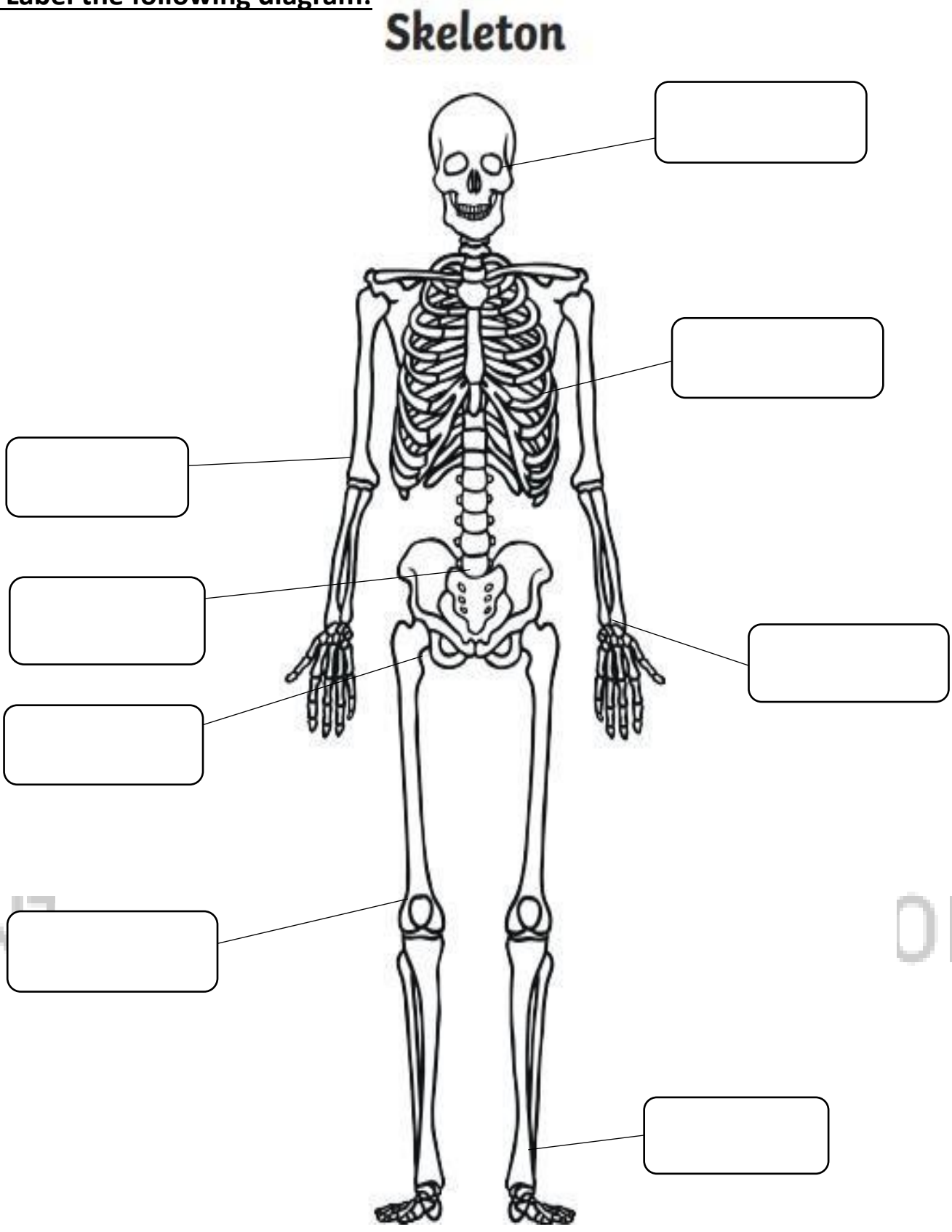
3-Complete the following sentences:

1- **A BODY SYSTEM IS CONSIST OF .....**

2- **A tissue consists of .....**

3- **An organ consists of .....**

4- Label the following diagram:



5- Draw a line to match each word with its meaning.

The first one has been done for you.

Word	Meaning
Skeleton	the bones in your chest
Bones	the bones in your back
Skull	the bone that joins your leg to the upper part of your body
Rib cage	the hard, strong frame that supports our body
Spine	the bone that moves when we eat or talk
Hip	hard parts that form the skeleton
Jaw	the bones of the head

6-Answer the following questions:

1 What are skeletons made of?

_____

2 Why must skeletons be hard and strong?

_____

3 Why do you think the bones of your skeleton are different sizes and shapes?

_____

4 Bones are not very heavy. How do you think this helps animals?

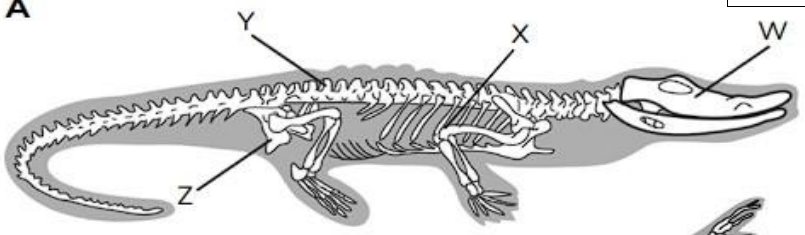
_____

7-Match the skeletons with the animals they come from.

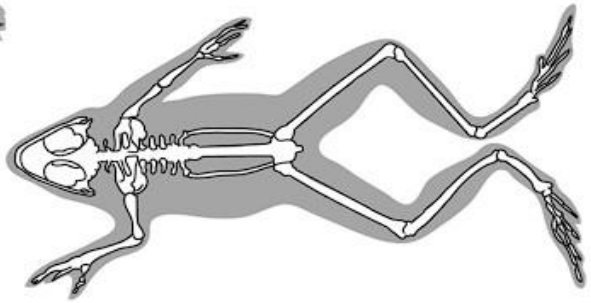
Write the letter of each skeleton next to the name of the animal it comes from.

Animal	Skeleton
Bird	
Rabbit	
Frog	
Crocodile	

A

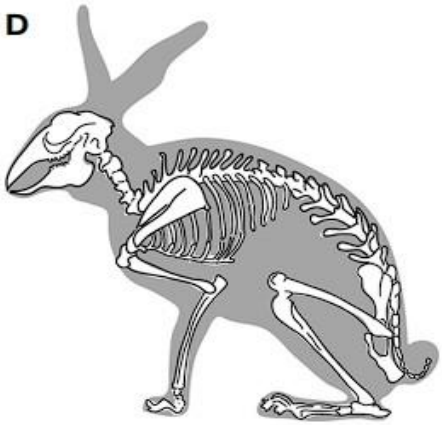


B



C

D



4 Name the parts on Skeleton A.

W is the _____

X is the _____

Y is the _____

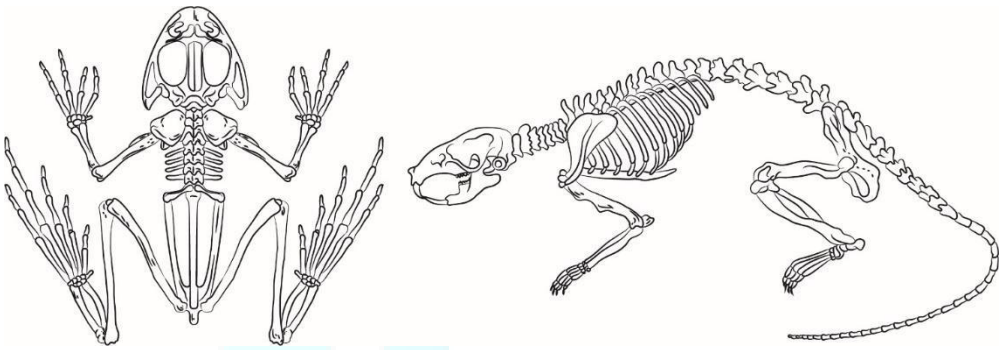
Z is the _____

8-Look at the drawings of different skeletons.

Follow the instructions to identify the different bones.

Identify and colour in the following bones in each skeleton. Use these colours:

1. red – jaw
2. yellow – skull
3. blue – rib cage
4. green – spine
5. orange – hip
6. brown – leg bones
7. purple – arm bones

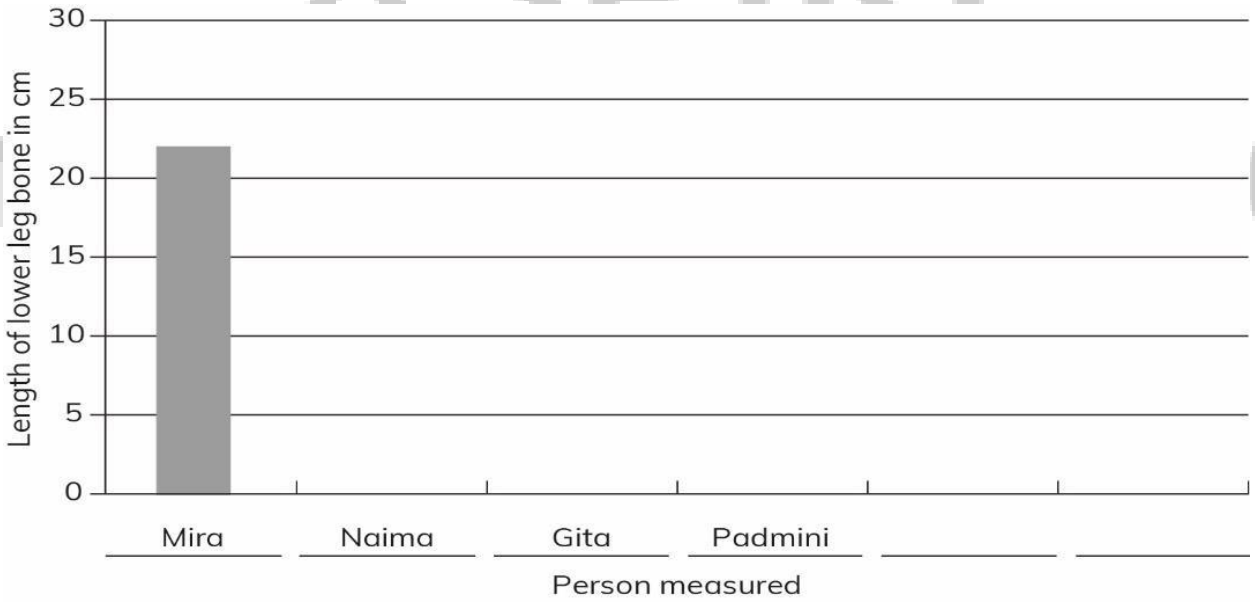


9-Draw a graph of bone length

Mira's group measured the lengths of their lower leg bones. These are their results.

Name	Length of bone in cm
Mira	22
Naima	25
Gita	20
Padmini	23

Draw a bar chart of their results. We have drawn one of the bars for you.



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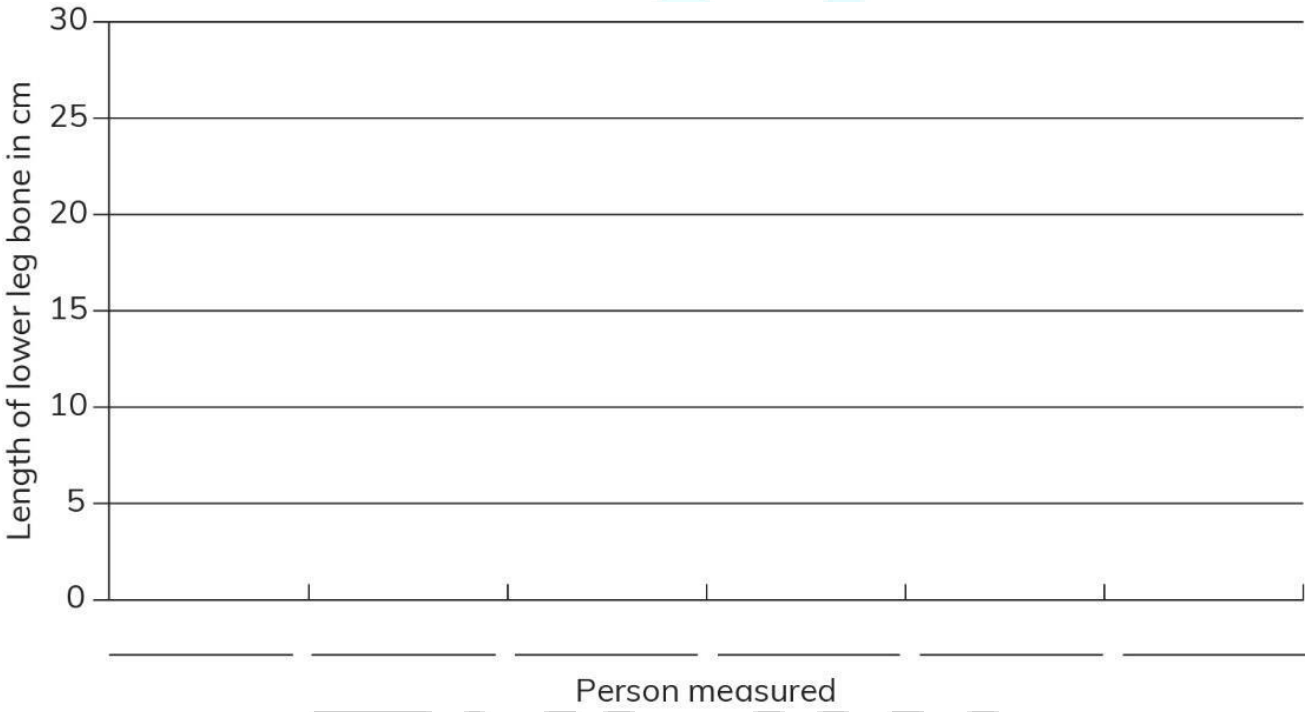


1 Draw a bar chart of their results.

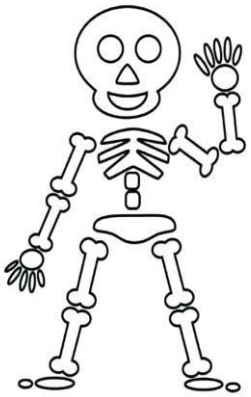
a Whose leg bone was longest? _____

b Whose leg bone was shortest? _____

11- Name three reasons why a skeleton is important.

Our skeleton supports our body. It makes a strong frame inside the body. It gives our body shape and makes it firm. Our skeleton also protects organs inside the body. We grow and get bigger because our skeleton grows. We begin to grow at birth. Our bones get longer and thicker each year. When are about 18 to 20 years old, our bones stop growing. Sometimes we fall or have accidents and break our bones. A broken bone is called a fracture. Doctors take special photos called X-rays to see if a bone is broken or not. The broken ends of the bone slowly grow back together again.

Questions:



1- Name three reasons why a skeleton is important.

……

……

……

……

2- Explain what would happen to a baby if its skeleton did not grow.

……

……

3- What is a fracture?

……

……

4- How can doctors find out if a bone is broken?

……

……

5- How do broken bones mend?

……

…… 6-

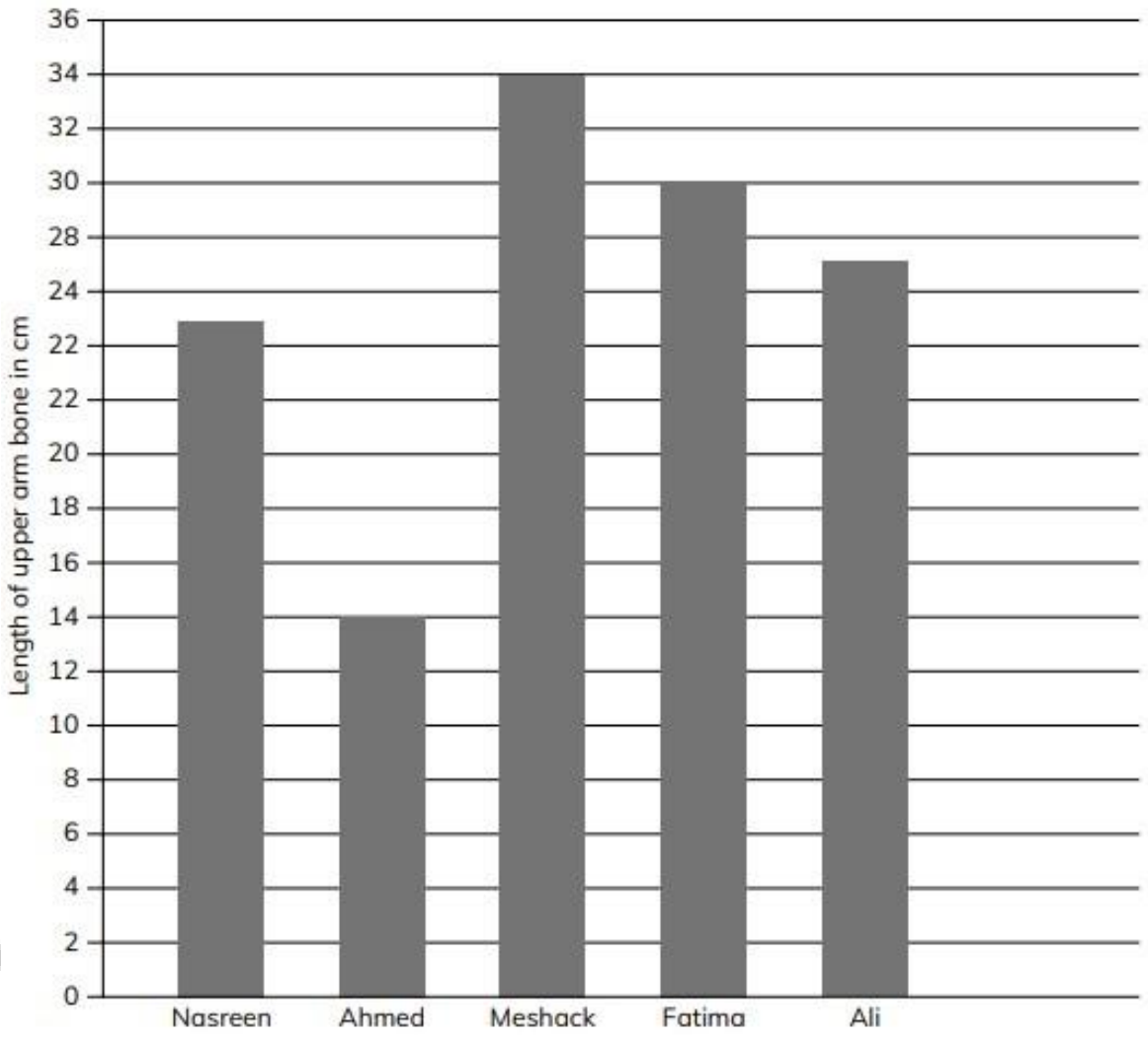
Why do you think some animals with skeletons are very big, but animals like worms are usually small?

……

……

12-In this exercise you will find information from a bar chart.

Nasreen measured the length of the upper arm bone of some people in her family. She drew this bar chart to show her results. Use the graph to answer the questions.



Questions:

1- Who had the longest upper arm bone?

……

2- How long is the shortest upper arm bone?

……

3- Nasreen's two brothers are Ahmed and Ali. Which brother is the oldest? Explain your answer.

……

4- Put Nasreen and her brothers in age order. Explain your answer

……

5- Who are Nasreen's parents?

……

6- Explain how you know this.

……

7- Which function of the skeleton does the graph show?

……

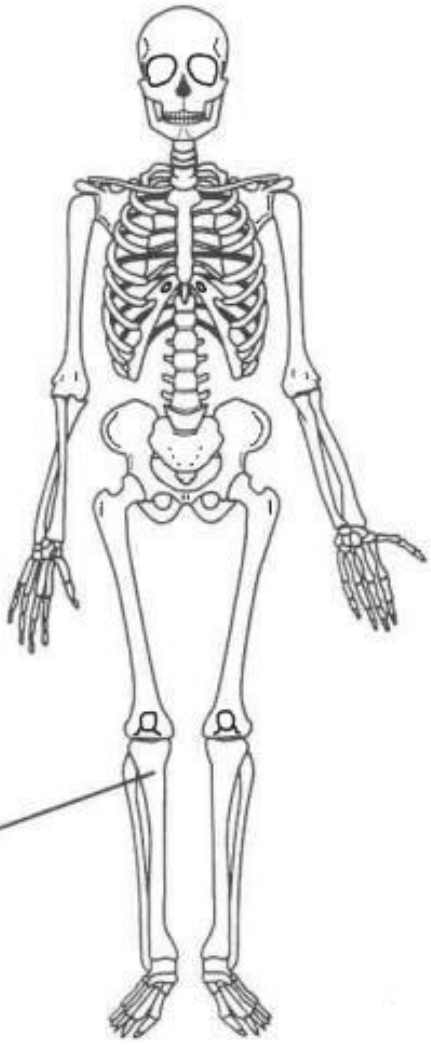
8- Nasreen has a baby sister, Meera. Predict the length of Meera's upper arm bone. Draw a new bar on the graph to show your prediction.

……

13- Humans have bony skeletons inside their bodies.

Draw a line from each label to the correct part of the body.

One has been done for you.



skull

ribs

pelvis

leg bone

back bone

elbow

hand bone

knee cap

foot bone

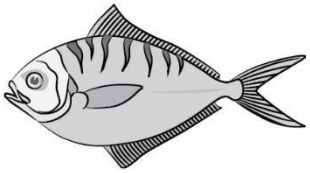
14- Sort and group animals:

The pictures show different kinds of animals.

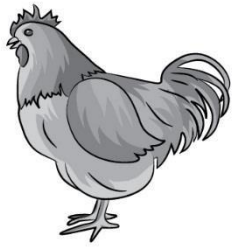
eagle

snail

crab



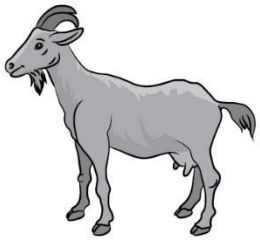
fish



hen

earthworm

locust



goat

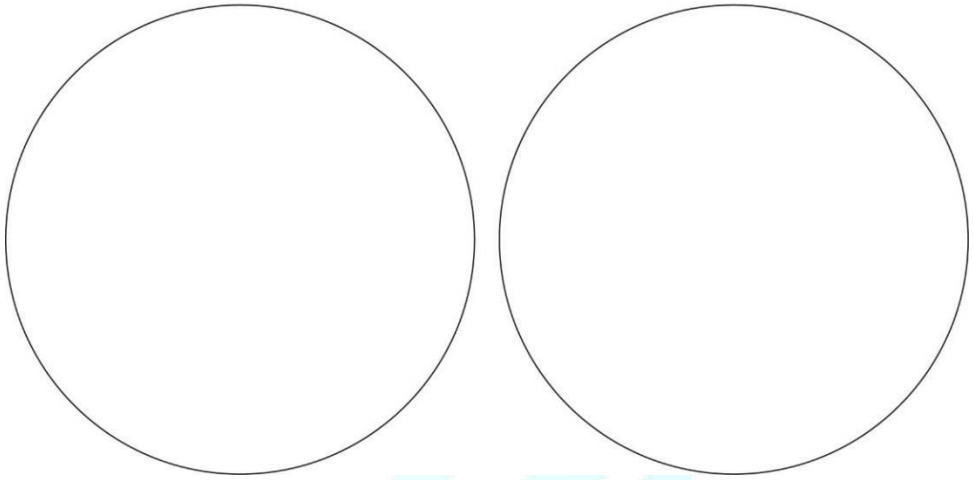
owl

snake

Sort the animals into two groups. Write the names of the animals in each group in the circles.

Group A

Group B



b Which features of the animals did you use to sort them into the groups?

_____

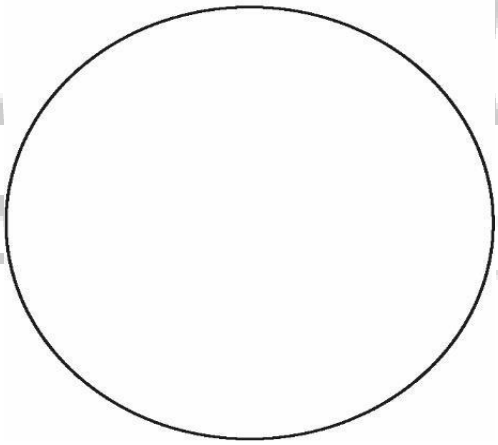
_____

_ c Suggest a name for each group. Write the names in the spaces above the circles.

2 Look at the animals in your groups. What other group can you make from them?

a Write the names of the animals in your new group in the circle.

Group C



b Suggest a name for your group. Write the name in the space beside the circle.

_____

15- True or false:

1. The Rib cage protects our lungs only. ( )
2. Our skeleton grows and gets bigger. ( )
3. Our skeleton is made of 306 bones. ( )
4. Bones and muscles are strong and hard. ( )
5. All the muscles in our body is attached to the bones. ( )
6. Muscles make us move. ( )
7. When muscles get shorter, they pull on the bones we say that the muscles relax. ( )
8. Muscles work in pairs one contracts and the other relaxes. ( )
9. Sitting still for a long time keep us healthy. ( )
10. Muscles and bones are attached together with tendons. ( )

16-These are some features of an exoskeleton and your skeleton.

A found inside the body

B found outside of the body

C made of a hard substance called chitin

D made of bone

E can grow

F cannot grow

G protects organs inside the body

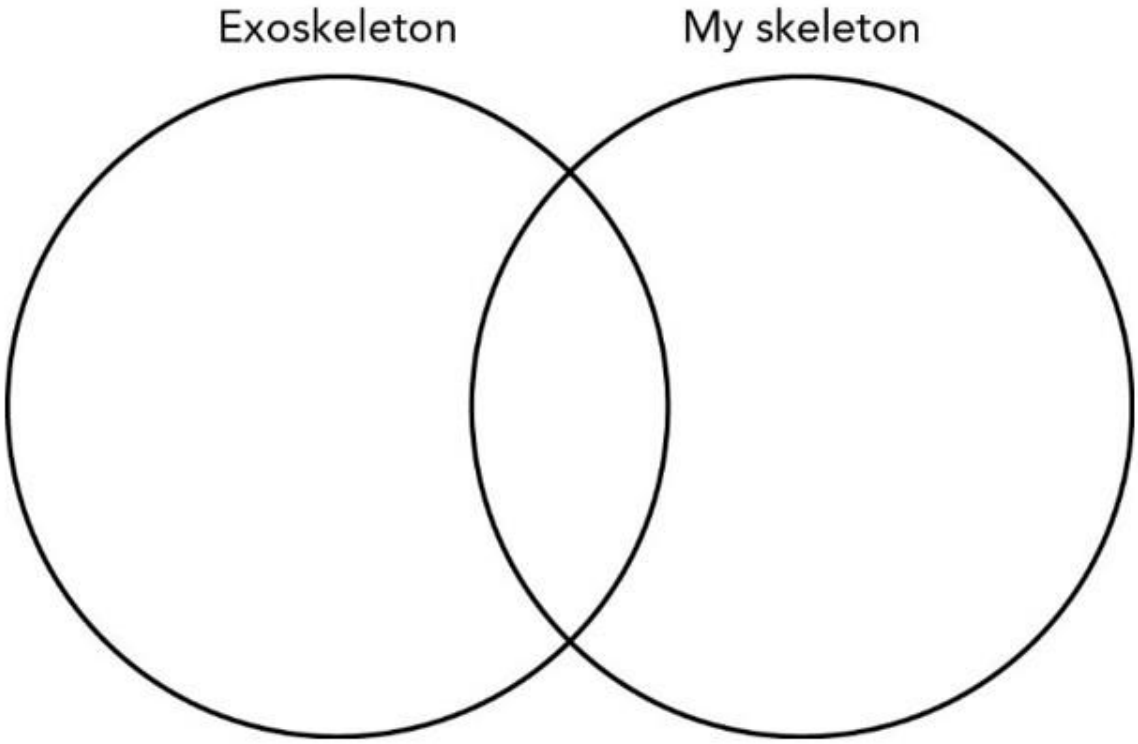
H stops the body from drying out

I forms a framework for the body

J grows as the body grows

K hard and strong

Use the information above to complete the Venn diagram/sorting circles comparing an exoskeleton and your skeleton. Write the letters A to K on to the diagram with the shared features in the overlapping part.



17-Look at the label on the bottle of tablets that belong to Mrs Pather.

a What time of day should Mrs Pather take her tablets?

_____

b What is the total number of tablets Mrs Pather must take?

_____

c Should she take her tablets before she eats food? How do you know?

_____

d Write two more instructions for how to take medicine safely.

_____

_____

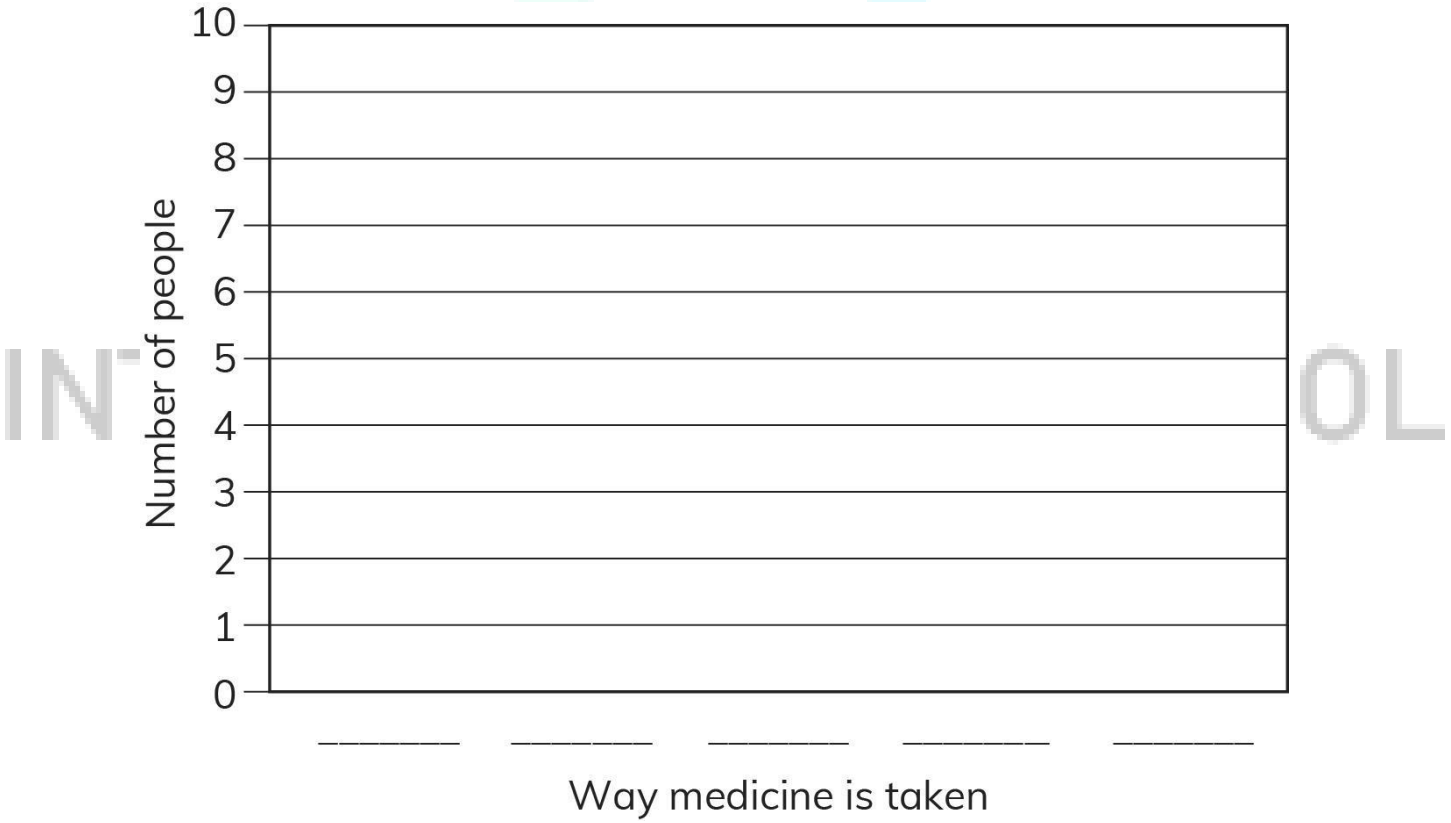
2-Different ways to take medicines

Nasreen and Fatima asked people in their families about the different ways they take their medicines. Nasreen and Fatima recorded their results in a table.

Way medicine is taken	Number of people		Total number of people
	Nasreen's family	Fatima's family	
Mixture	3	2	
Tablet	5	4	
Injection	1	0	
Inhaler	0	2	
Powder	2	1	

1 Fill in the last column of the table.

2 Draw a bar graph to show the total number of people who take medicine in each way.



3 Look at your graph. How do most people take their medicine? Suggest a reason for this.

4 Which way do fewest people take their medicine? Suggest a reason for this.

5 Which way do you think most young children take medicine? Suggest a reason for your answer.

6 Children should not take aspirin. Do some research to find out why this is so.