

## Seed dispersal

If all new plants were to grow near their mother plant, it would become very crowded. There would not be enough space, air, water and food for all of them to grow well. New plants need to grow away from their mother plant. For this, seeds

need to move away, or disperse. Since plants cannot move on their own, nature helps seeds to travel away from the parent plant. This moving away of seeds from the mother plant is called **seed dispersal**. Here are some ways by which seeds disperse.

**1. Wind:** Some seeds are carried away by the wind. Many have special parts which help them to float or fly in the air.

A cotton seed has fluffy fibres around it.



A hiptage seed has seed wings.



The dandelion seed has hair.

**2. Water:** The seeds of plants that grow in or near water are dispersed by water.



A coconut has a thick fibrous coat to help it to float far away.

The lotus has a spongy and light fruit which can float far away.



**3. Animals:** Animals also help to disperse seeds.

a) Some small seeds are eaten by animals along with the fruit. For example, guava seeds are eaten along with the fruit. These seeds pass out unharmed in animal waste, and can germinate.

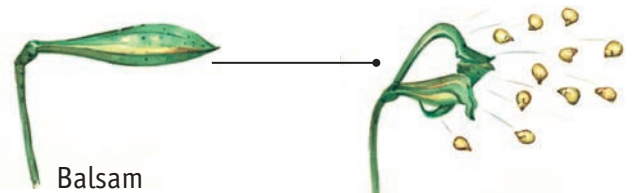


Cocklebur

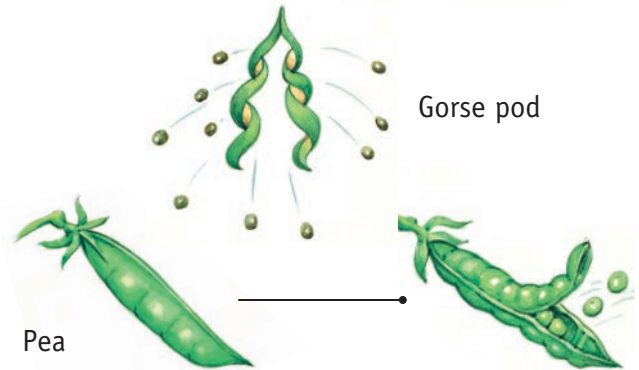
b) On the other hand, the seeds of some fruits are not eaten by humans and animals, and are discarded. These, too, can germinate. Pears, apples and oranges have such seeds.

c) Seeds, like those of the cocklebur, have spikes or hooks. These seeds get attached to the fur of animals, or even to human clothing, and get carried away.

**4. Explosion:** Some fruits, like those shown below, burst open when they become dry. The seeds are thrown out of the fruit and get scattered.



Balsam



Gorse pod

Pea



The heart, lungs and kidneys are parts of the body. These parts are called **organs**. The body has many other organs, too. Each organ of the body has a job to do; but no organ works on its own. Organs work in groups to carry out a particular function. A group of organs that work together is called an **organ system**.

The human body has many systems. If all these systems work properly, we stay healthy and happy. You already know about some of these systems. See if you remember what they do. The pictures in this unit are not for you to learn to draw, but only to see and understand.

The **circulatory system** carries nutrients to all parts of the body. It helps us to fight diseases. It also collects waste matter to be excreted.

The **skeletal system** supports the body, protects the delicate organs and helps us to move.

The **excretory system** removes waste. Some wastes are collected by the blood. Some pass out as sweat and urine.

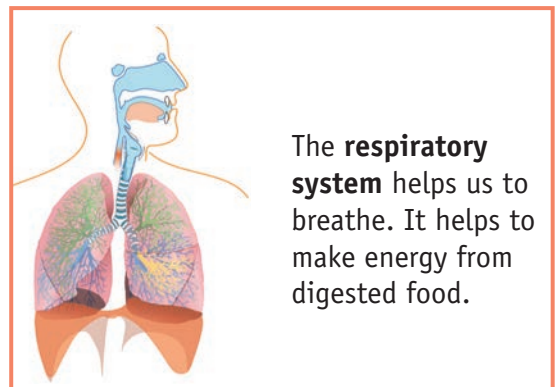
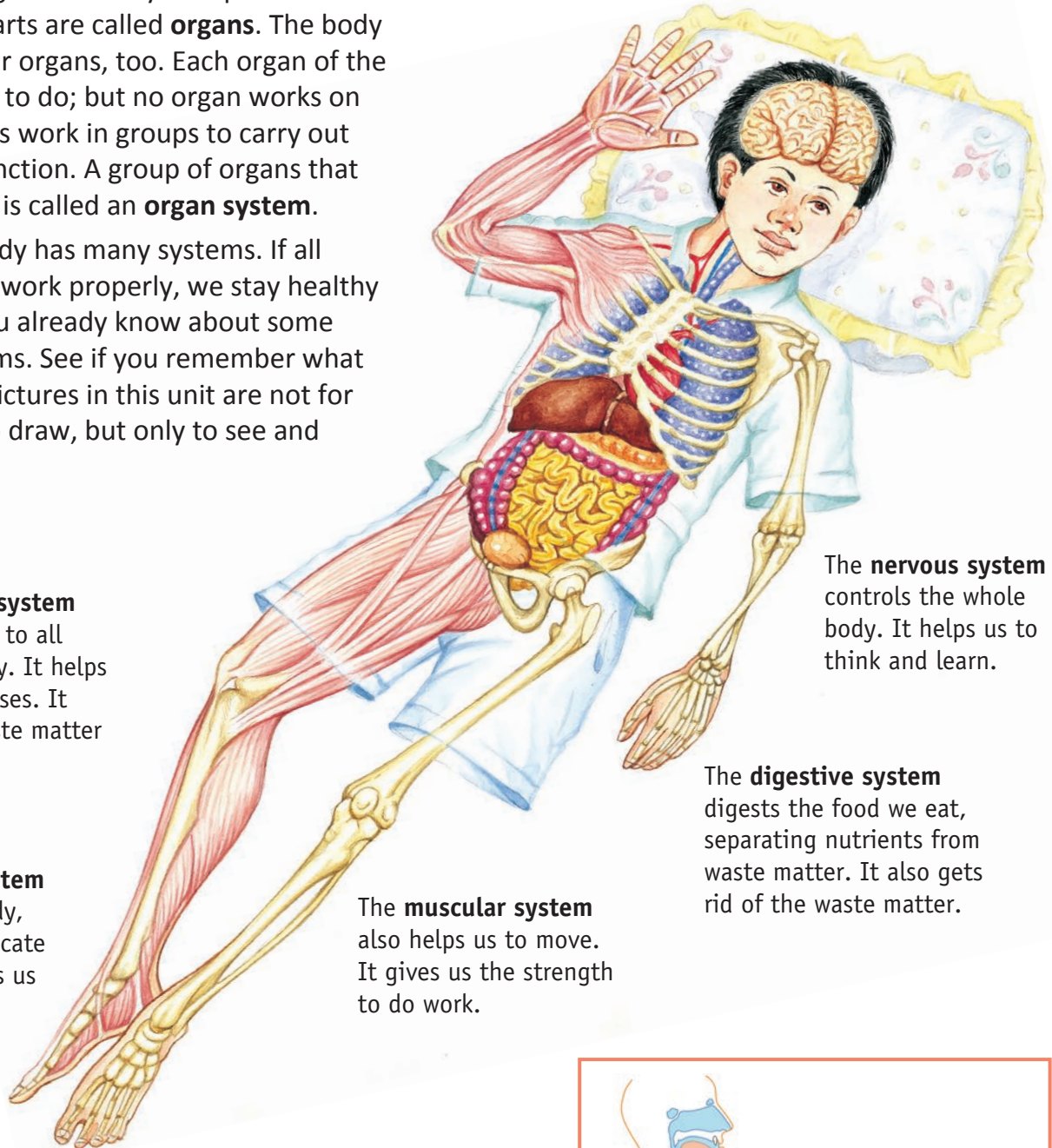
The **reproductive system** helps to produce young ones. It also looks after the baby when it is inside its mother's body.

The **muscular system** also helps us to move. It gives us the strength to do work.

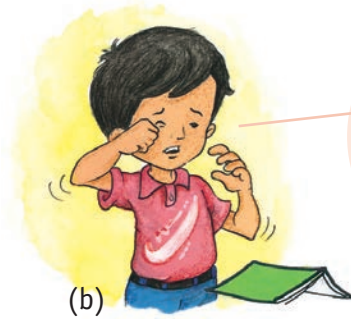
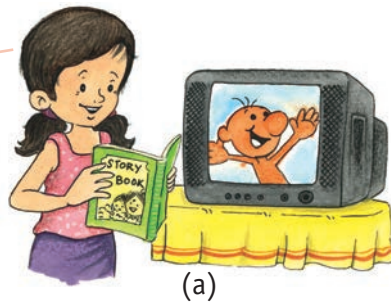
The **nervous system** controls the whole body. It helps us to think and learn.

The **digestive system** digests the food we eat, separating nutrients from waste matter. It also gets rid of the waste matter.

The **respiratory system** helps us to breathe. It helps to make energy from digested food.



The eyes also have many **muscles** that help us to focus on something we are reading or watching.



If we strain our eyes, these muscles get tired and our eyes may hurt.

**Taking care of the eyes:** The eyes are very important and delicate organs. We must take very good care of them. As students, we use our eyes all the time to read and study. It is best to read while sitting up. Keeping the book too close to our eyes can cause eye strain. Reading or working in poor light strains the eyes. The place should be well lit while reading. We should not watch television, work on the computer, or read for a long time without taking a break. Blinking, shutting the eyes, or looking away are ways to give them some rest.



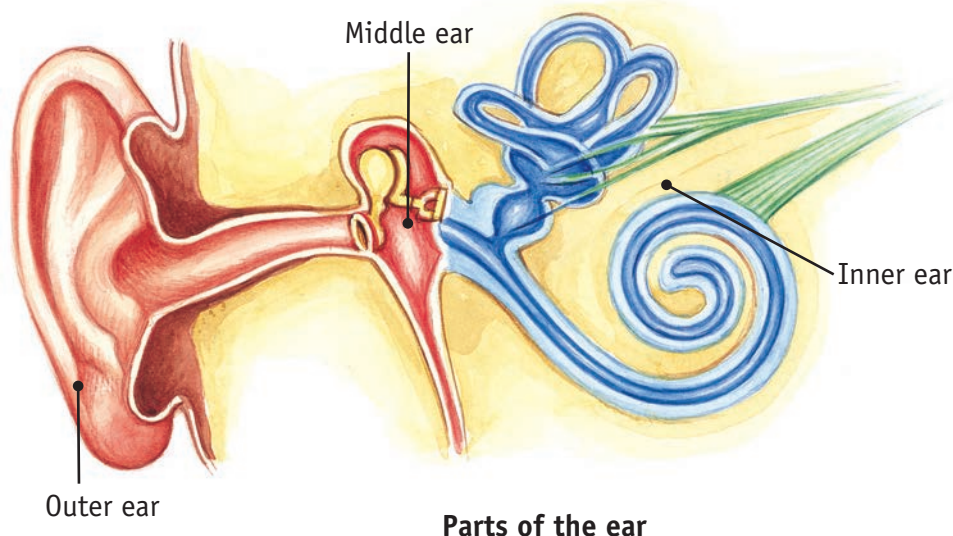
Talk about these pictures.

**2. Ears:** The ear has three parts: the **outer ear**, **middle ear** and **inner ear**. The outer ear consists of the ear flap (the part that we can see) and the ear canal. The shape of the ear flap helps it to collect sounds.

Between the outer ear and middle ear is the **ear drum**. The ear drum is a thin membrane, something like that on a musical

drum, and vibrates when sound waves strike against it.

The middle ear has three **tiny bones**. The inner ear has several nerve endings and the **auditory nerve**. This nerve carries sound messages to the brain, which interprets them for us. Certain parts of the inner ear help us to keep our balance.



# Just for fun!



## A. Solar Code

A	B	C	D	E	F	G	H	I	J	K	L	M	N	O	P	Q	R	S	T	U	V	W	X	Y	Z
1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20	21	22	23	24	25	26

Quite an easy code really — 1 means A, 2 means B and so on.  
Decipher it and see what the Sun has to say.



9    1 13    1 14    1 22 5 18 1 7 5 — 19 9 26 5 4

1    A M    — —    — — — — — — — — — — — — — — — —

19 20 1 18    9    8 1 22 5    2 5 5 14    2 21 18 14 9 14 7

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6 15 18    1 2 15 21 20    4.5    2 9 12 12 9 15 14    25 5 1 18 19

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9    1 13    1    14 15 14    16 15 12 12 21 20 9 14 7

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14 21 3 12 5 1 18    5 14 5 18 7 25    19 15 21 18 3 5    15 14 12 25

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15 14 5    2 9 12 12 9 15 14 20 8    15 6    13 25

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5 14 5 18 7 25    18 5 1 3 8 5 19    25 15 21    9 23 9 12 12

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5 22 5 14 20 21 1 12 12 25    2 21 18 14    15 21 20    1 14 4

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2 5 3 15 13 5    1    3 15 12 4    19 20 1 18

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Answer: I am an average-sized star. I have been burning for about 4.5 billion years. I am a non-polluting nuclear energy source. Only one-billionth of my energy reaches you. I will eventually burn out and become a cold star.