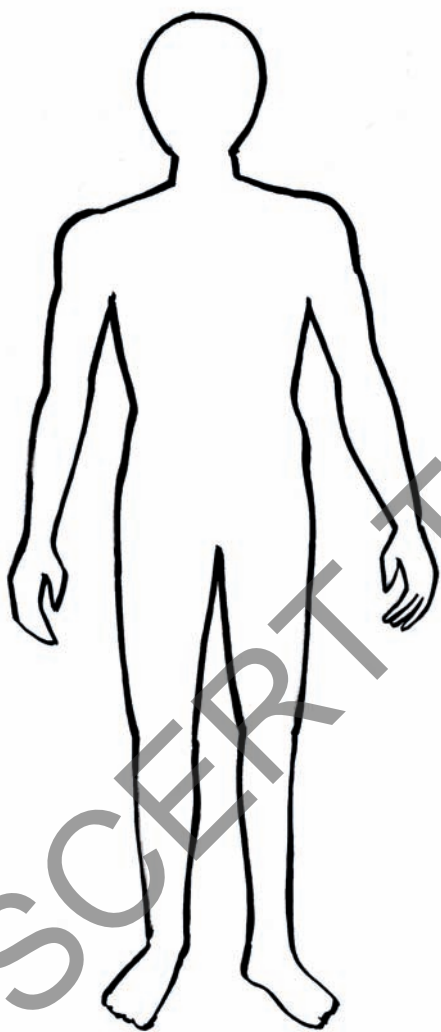


OUR BODY PARTS - SENSE ORGANS

5.1. Our body - Parts

Navya is good at drawing pictures. She has drawn a picture of her friend Naveen. After observing the picture her friends said that she missed some of the parts. Observe the picture and draw the parts which Navya missed.



Name the parts of the body you have drawn and write their functions.

Parts of the body	Their function
_____	_____
_____	_____
_____	_____
_____	_____

The organs which are visible from outside the body are called the external organs. We perform many activities with the help of these organs at home and at school. Such as playing, writing, reading and also certain works at home.

We make use of more than one organ to perform various activities. For this we need coordination between the organs. Rani draws good pictures. What are the different organs helpful in drawing? Think.

It is due to the coordination between different organs seeing with the eyes, holding the pencil with fingers and moving hand for drawing the picture, are possible. Similarly, we do many works daily. Which organs in our body help us to do those works. Think.

Group work



- ♦ Write the names of the organs that help in performing different activities.

Activity	Organs that help
_____	_____
_____	_____
_____	_____

5.2. Sense organs

Sing this song :

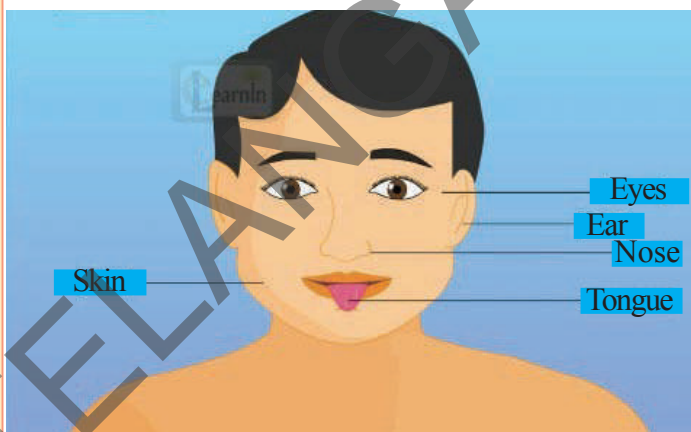
Eyes know the colour of the flowers.

Ears know the melody of the cuckoos.

Nose knows the fragrance of the jasmynes.

Tongue knows the taste of the mangoes.

Skin feels the warmth and cold of our body.



Sense Organs

What does above song tell us ?

Eyes, ears, nose, tongue and skin help us to know about our surroundings. They also help us to sense feelings. Hence, they are called as the sense organs.

Children! You all like riddles very much, Don't you? and Now, let us solve this riddle. They are two which lay side by side but never see each other. what are they?

Sl.No.	Sense Organs	Their function
1	Eyes	To See
2	Ears	_____
3	Nose	_____
4	Tongue	_____
5	Skin	_____

- Say some more such riddles.

5.3. Eyes

Can you reach school with closed eyes. Imagine Can you do your work without seeing? Why can't you do ?



Do this



- ◆ Close your eyes and draw a flower in your note book. Open your eyes and draw the flower again.

- ◆ Which one did you draw better?
- ◆ Can you do your work without seeing?

Now, you have understood the importance of eyes. What is meant by, "Sarvendriyanam Nayanam Pradhanam?" Why do we say this?

How can blind people do their work? How do you feel about them? How can we help the blind people ?

In Navya's school an eye camp was conducted called "Chinnari Choopu". In this programme, they organised eye check up and distributed spectacles to the needy children. They also explained the precautions to be taken to protect our eyes.

We are able to enjoy nature's beauty just because of eyes. Do you know the precautions to be taken, to protect our eyes?

Precautions to be taken to protect our eyes:

- Always read in sufficient light (neither very bright nor dim). See that while reading, the distance between the book and your eyes is about 30 centimeters. (Measure the distance 30 cm. with a scale).
- Do not read while travelling in a bus or train and other vehicles.
- We must wash our eyes daily with cold water.
- Always watch the television with sufficient light in the room. We must not watch T.V. for too long and from very near. Care must be taken that the distance between the television and our eye must be not less than two and half metres (2.5 m).
- If you are not able to see the letters on the black board, you must inform your teachers.
- Do not rub your eyes.
- Do not use the hand kerchief and towels used by the persons suffering with eye infections like conjunctivitis etc.
- Consult an eye specialist / doctor if irritation, redness, watering and burning sensation of eyes persists or while reading if you are not able to see the letters clearly and properly.

The doctor who treats the disorders and diseases of the eyes is known as ophthalmologist or eye specialist.

Group Work



- ♦ What do you do when dust enters your eyes?
- ♦ We must not look directly at the solar eclipse. Why? Find out the reason from your teacher.
- ♦ Say and write how can you help the people without sight?

Think, what help us to keep our eyes healthy.



5.4. Ears

All of us know that we hear different sounds with the help of our ears.

- Observe the shape of your friend's ears and draw.
- If some one whispers, we listen carefully keeping our hands at the back of our ear! Why?



Do this

Activity - 1

Get blind folded. Ask your friend to make some sounds with different things. Identify those different sounds and also the direction of the sound, from where it is produced.

Activity - 2

Close one of your ears and make some sound with your mouth and observe how it is heard? Now, close both the ears make a same sound. Listen to the same sound without closing your ears. Did you notice any difference?

Activity - 3

Ask one of your friends to make a sound by scratching the pencil at one corner of the bench and listen to the sound from the other corner. Let the sound be made again. Now listen to the same sound standing at the edge of the bench. What difference did you notice? When was the thread sound heard better?

Activity - 4

Prepare a phone using empty match boxes and thread and try to talk to your friends with it.

Do this

What is your range of audibility?

Make some sounds with pencil from a distance of 25 cms. Ask your friend to listen. Increase the distance step by step. Make a note in the given table. The distance at which the sound is audible is the audible range of the person. In this way note the audible range of the students of your class.

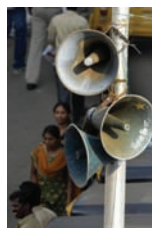
S.No.	Name of the student	Distance the sound is audible

Think and say

- ◆ Who are able to hear the sound from a long distance?
- ◆ Who are able to hear the sound only from a very short distance?
- ◆ What is the distance at which most of the pupils are able to hear?
- ◆ Compare the ranges of students all your classmates. If you notice a wide difference, do not forget to consult a doctor.

If a person can not hear by birth he cannot speak. As they can not hear the other person, they do not know what and how to speak. Hence, they can not speak. Sign language is used for such people i.e., for conveying information through symbols and gestures. Have you ever watched news for the hearing impaired on Doordarshan. If not, watch and talk about it.

Some sounds are pleasant to hear while the other sounds are harsh. Pleasant music and melodious songs make us feel happy. Listen to the soft and melodious songs for a span of 15 minutes. How do you feel? Sounds that exceed the audible range cause sound pollution.



Group work



- ♦ What are the other causes of sound pollution? Make a list.
- ♦ Discuss with your friends about the measures you take to reduce the sound pollution.

We are able to hear the pleasant sounds that make us feel happy with the help of our ears. Ears are very delicate organs. So, we must take special care to protect them.

During festivals and functions, arranging loud speakers with high volume causes sound pollution to others. Blowing vehicle horns repeatedly causes inconvenience to others. Talking to others over cellphones for a long time has to be avoided. Using cell phones extensively is dangerous. Speaking on cell phones continuously damages the sensitive organs of the head. We should not speak loudly.

Precautions to be taken to protect our ears:

- Close your ears when you hear loud and harsh sounds.
- Take proper care to prevent water from entering the ears. Clean your ears with a clean cotton cloth.
- Do not use hairpins or match sticks to clean the ears.
- If there is pain in your ears or any other problem you must consult a doctor immediately.
- Do not put castor oil or any other oil in the ears.

The doctor who treats the problems of ears, nose and throat is called an ENT doctor or ENT Specialist

Think and say

- ♦ Which animal sounds can we understand?
- ♦ Which animals can understand the sounds made by us?
- ♦ Which animals can hear the sounds that are not audible to us?

Do you know

A bat is a nocturnal mammal (active during the night). It detects the obstacles on its way by its own sounds. It identifies objects/obstacles on its way, when sound waves produced by it reflect back and reach it. It changes its path based on the echo it receives from the objects/obstacles around it.



5.5. Nose

As you all know, the eyes help us to see and the ears help us to hear, in the same way, the nose helps us to smell. We can identify many things through smell.

Do this

- ◆ Blind fold your friend with a hand kerchief and ask him/her to identify the different items by smelling them.



Coriander leaves, curry leaves, onion, garlic, cloves, cardamom etc. have good and strong odour. We know their taste through smell. Close your nose and taste them one by one. Do you know the taste of these items? Is the nose used only to smell? Do you know what is the other use of nose? Try to close your nose for a while. Say what happened? You cannot live if you don't breathe. We breathe in and breathe out air through our nose. This is called Respiration. Breathing in air through nostrils into our lungs is known as "Inhalation", breathing out air is called "Exhalation".

Think and say

- ◆ We should not breathe in air with our mouth. Why?
- ◆ When we catch cold we can not identify the different smells. Why?
- ◆ How is the sense of smell useful to us? Why do we catch cold?
- ◆ What precautions do you take to prevent the spreading of cold from one person to another?

Group work



- ◆ Have you ever seen dogs sniffing? What are the other animals which smell? Discuss. How is the dogs' sense of smell useful to us?
- ◆ Butterflies sit on flowers, don't they? Imagine and say on what basis does it move from flower to flower. Colour or smell.
- ◆ What are the precautions to be taken to protect our nose?

We must always keep our nose clean. Do not insert slate pencils, pencils, pieces of chalk, sticks, fingers into your nostrils. Consult a doctor when small pebbles or things stuck in your nostrils and breathing becomes difficult or painful.

5.6. Tongue

Can you hold your tongue and speak? Try doing it. As you all know tongue helps us to speak, swallow food and identify the taste of food! There are taste buds on our tongue and they help us identify the tastes of the food.



Think and say

- ◆ When we eat food that is too hot or too cold, our tongue can not identify the taste. Why?
- ◆ What are the four different types of tastes you know ?

Do this



- ◆ Blind fold your friend. Give him a little salt, sugar, bitter gourd, lime juice and other different food items separately. Ask him to taste each one and identify them.
- ◆ You also identify in the same manner.
- ◆ Our mouth waters, when we think of or see some food items. Make a list of such food items.
- ◆ Stand in front of a mirror and stretch out your tongue. Draw the diagram of your tongue. Compare the figure drawn with your friend's diagram.
- ◆ Observe your friend's tongue with a magnifying glass. Note down your observations.

Group work



- ◆ Can we identify the taste of the food items by sense of smell? How can we identify? Discuss.
- ◆ When we catch cold and suffer from fever, we cannot identify the tastes. Why does this happen? Imagine.

We should keep our mouth clean. We should rinse our mouth before and after eating or else it will result in infection and bad breath. If we do not rinse, germs may attack and cavities develop in our teeth and thus teeth may decay and fall off. Hence, we should brush our teeth and also clean the tongue in the morning everyday and before going to bed.

5.7. Teeth

We identify the different tastes with our tongue. Do we take the help of tongue alone while taking in the food? Teeth are also used along with the tongue. We chew food with the help of our teeth. What happens when we chew the food! Think. We know the taste of food. When we chew the food with our teeth, it mixes with the saliva in our mouth and thus taste is known. People who lose their teeth, cannot chew the food. Hence they do not know the complete taste of food.

Do this



- ◆ Take a piece of any fruit and keep it on your tongue and tell its taste.
- ◆ Now take another piece of the same fruit and chew it well, now tell how it tastes?

Think and say

- ◆ What differences did you find before chewing and after chewing the fruit? Why?

When food is chewed, it breaks into small pieces and mixes thoroughly with saliva and thus gives us taste. Hence, we should take proper care to protect our teeth as they help in chewing and tasting food. Do you know how many teeth we have? Are all the teeth similar?

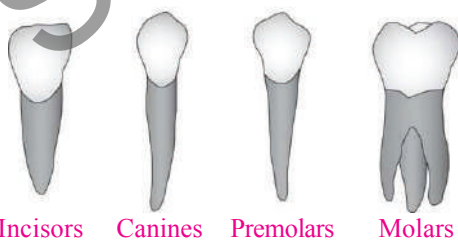
Do this

- ◆ Observe your teeth in a mirror or your friends teeth. Are all the teeth the same? Discuss.

There are four different types of teeth, for biting, tearing, chewing and grinding the chewed food.

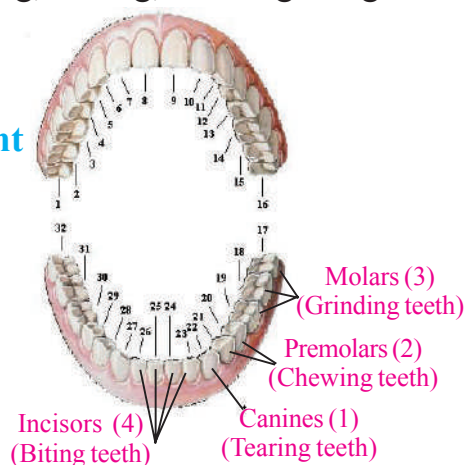
Observe the picture given below:

Type of Teeth



Incisors Canines Premolars Molars

Arrangement of Teeth



Group work



Observe the teeth in your friends mouth and discuss.

- ◆ How many teeth are there in your friends mouth?
- ◆ How many types of teeth are there ?
- ◆ How many teeth of each type are present.
- ◆ How many teeth of each type are present in your mouth?

Type of teeth	Upper Jaw	Lower Jaw	Total

You eat different kinds of food. Don't you! Observe and write in the table the types of teeth that help in eating different food items.

Teeth help us to bite and chew the food and speak clearly. The teeth that first appear in children are called 'Milk teeth'. They fall off at the age of 8 or 9 years. In their place new, strong and big teeth grow.

They are known as 'Permanent teeth'. If we lose these teeth we cannot get back the new ones. Hence, if we do not brush our teeth properly they decay and our mouth smells bad. If this happens, we cannot eat the food we like and we cannot chew properly.

Name of the food item	Type of teeth that used
Apple	
Sugar Cane	
Bengal Grams	
Mango	
Rice	
Peas	

Cleanliness of teeth:

Group work



- ◆ Why do teeth turn yellow?
- ◆ Observe your friend's teeth. Does anybody have yellow or black teeth?
- ◆ Whose teeth have cavities?
- ◆ Whose teeth have food particles stuck in between?
- ◆ Whose teeth have plaque deposits?
- ◆ Whose teeth are healthy and shiny?
- ◆ Why should we brush our teeth every morning and night?

After eating, bits of food particles remain stuck between the teeth and decays. If they remain on the tooth, bacteria grow and produce harmful acids. As a result of this, cavities are formed. The colour of the teeth changes to yellow and black. The gums swell and bleed resulting in tooth ache. Hence, we should brush our teeth properly twice a day.

How should we take care of our teeth?

- Rinse your mouth with water after eating. This helps in washing away the bits of food particles stuck on and between the teeth. Rinse twice or thrice a day.
- After brushing the teeth, rub the teeth and the gums with your finger and also rinse your mouth with water.
- Massage gums everyday. This makes teeth strong.
- Twigs of Achyranthus (Uttareni), Derris indica (Kanuga), Neem and Acacia (Babool) are used to brush teeth or use tooth paste / powder and tooth brush for cleaning.
- Brush the teeth of the upper jaw in downward motion and lower jaw in an upward motion.
- Brush the teeth from all sides, each and every teeth must be brushed properly and in a circular motion. If the teeth are not properly brushed, plaque deposits on the teeth and results in tooth decay. This causes tooth ache. In this case the dentist pulls out the decayed tooth. New tooth does not grow in its place. If we do not have teeth we cannot eat solid foods.



Do not use brick or coal powder, which are coarse and damage the gums & teeth. If we use them, the outer cover / layer of tooth enamel is damaged. When we eat too many sweets or too cold food items also the enamel is damaged. If the enamel is damaged, then we feel pain when we eat hot/cold food or water.

The doctor who treats the diseases of the teeth is called a "Dentist"

5.8. Skin

All the parts of our body are covered by the skin. Do you know what is the use of skin? Skin protects all parts of our body. It is the sense organ for touch. We can feel heat, cold, hardness, softness etc., through skin.

Do this



- ◆ Ask your friend to close his eyes. Touch his / her different parts with a pencil like the lips, the forehead, the palm and ask him or her to say which part is more sensitive.
- ◆ Is the thickness of the skin same throughout our body? Which parts have thick skin and where is it thin?
- ◆ Observe and identify the different parts where the skin is more thick and thin. List the following parts of the body with reference to thickness of skin in order from less thickness to more thickness. Forehead, sole, palm, eye lids, chin, waist, etc.

We shake hands when we meet our friends. At home and school or while travelling we hold many things. Due to this, micro organisms enter our palms. We should wash our hands properly with soap before eating, lest the dust and microbes enter our body through food. They cause ill health and diseases. Do not touch or eat food without washing hands with soap at school and at home. Wash your hands after using the toilet.

Think

- ◆ Even after having bath in the morning, the skin becomes oily and sticky by evening. Why? Hence having a bath after coming from school or after playing is a must.

Precautions to be taken to protect our skin:

- Have a bath twice a day, every morning and evening with soap and water.
- While taking bath, rub the skin thoroughly. This helps in removing the dead cells and makes the skin shine.
- Apply vaseline or moisturiser on your body during winter. Cover your body fully with warm clothes.
- During summer, wear loose cotton clothes and drink plenty of water.
- Drinking lot of water helps in replenishing water lost through sweat. Sweating releases the wastes and it is sent out through skin freely. Skin also becomes smooth.

The doctor who treats the diseases related to skin is called a "Dermatologist" (Skin specialist)

Group Work



- ◆ Discuss and write about different skin diseases.
- ◆ What do you do to keep your skin clean?
- ◆ Discuss, what we should do if the skin is injured.

Do you know?

Skin is the largest organ in the human body. It covers an area of 1 1/2 Sq.metres and weighs 4 kilograms. If skin is not kept clean, skin diseases may occur. Most of the skin diseases are contagious.

Skin is affected first by the changes in the surroundings. If we protect our skin, the skin protects us. Skin protects the internal organs from outside the environment. Skin senses heat, cold and pain. Skin touch helps us to know whether it is bad or good.

Finger prints are formed due to the ridges and grooves present in the skin of the fingers. Take your finger prints and that of your friends on a white paper and observe them. Are they similar? No two persons in the world will have the same finger prints and lines on the palm.

Eyes, ears, nose, tongue and skin are the five sense organs of our body and you have learnt about their importance and the care to be taken to keep them healthy. Sensory organs help us to know everything.

There are some children in our school whose sense organs do not function properly. Isn't it? They too have the Right to get Education. Everyone must learn to help each other. Discuss and say what facilities must be provided in our schools for the children with such special needs. We can organise health check ups in our schools. Every one must get checked up on that day. Doctors will refer to super speciality or multi speciality hospitals, if needed. Govt. is providing aids for the hearing impaired and sight impaired children free of cost. If these children are present in our class we should do the needful to help them.

Keywords

body	protection of eyes	sense of touch
sense organs	sounds / noises	inhalation,
organs	range of audibility	exhalation
external organs	sound pollution	respiration
co-ordination	skin	teeth
between the organs	enamel	taste buds
saliva		



What have we learnt?



1. Conceptual Understanding

- Name the external and internal organs of our body.
- We say that eyes are the most important organs of our body? Why?
- Write the names of the organs used to perform the following activities.

Throwing a ball	Smelling flowers	Stitching a button	Listening to music

- Why do we call only the eyes, ears, nose, tongue and skin as sense organs.
- What are the uses of teeth? What precautions are to be taken to protect our teeth?

2. Questioning and Hypothesis

- What questions would you ask a doctor to know about the protection of eyes, nose and ears?
- Balaji's eye sight has decreased? Why do you think this happened?

3. Experiments - Field Observations

- Close your eyes. Identify and write about the different things by touching them with your hand.
- Close your eyes. Name the different vegetables, leafy vegetables and pulses by using the sense of smell or touch. Try this and see.
- Visit a place nearby where meat is sold, and observe the internal organs of the animals.

4. Information Skills, Projects

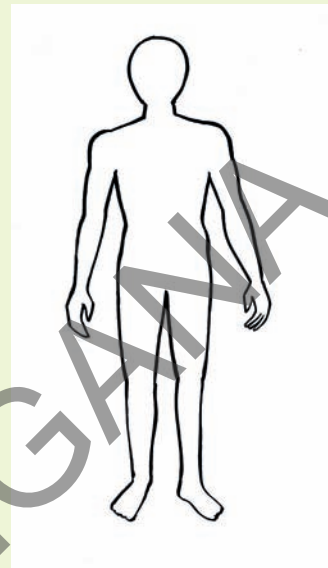
- Meet the ANM / health workers and find out the details of the people in the village/area who are infected with diseases related to eyes, ears, skin and tongue. Try to know the reasons and note them down.

Sl.No.	Organ	Name of the Disease	No. of people effected	Reason

- b) Observe the ears of ten children of your class / school students. Are the ears in the same shape? Are there any differences. Tabulate and say.

5. Communication through Mapping Skills, Drawing Pictures and Making Models

- Draw a diagram of the eye and colour it.
- Draw a diagram of the head and name the sense organs.
- Draw the different sense organs in the given picture and label them.
- Draw the arrangement of teeth in our mouth and identify the types of teeth.
- Make a human model using clay.



6. Appreciation, Values and creating Awareness towards Bio-diversity

- Now-a-days most people suffering from eye problems at an early age. But some people are able to see even at the age of 70! How is this possible?
- How should we behave with the people with special needs? What kind of help should be given to them?
- Who according to you is a healthy person?
- How can you say that our body is a wonderful machine?

I can do this

- | | |
|--|----------|
| 1. I can explain about the sense organs and the precautions to be taken to protect them. | Yes / No |
| 2. I can ask questions on the importance of sense organs. | Yes / No |
| 3. I can say what things can be identified by the sense of smell and touch. | Yes / No |
| 4. I can draw the sense organs and explain about them. | Yes / No |
| 5. I can help the people with special needs. | Yes / No |
| 6. I can explain about the types of teeth and the care to be taken. | Yes / No |