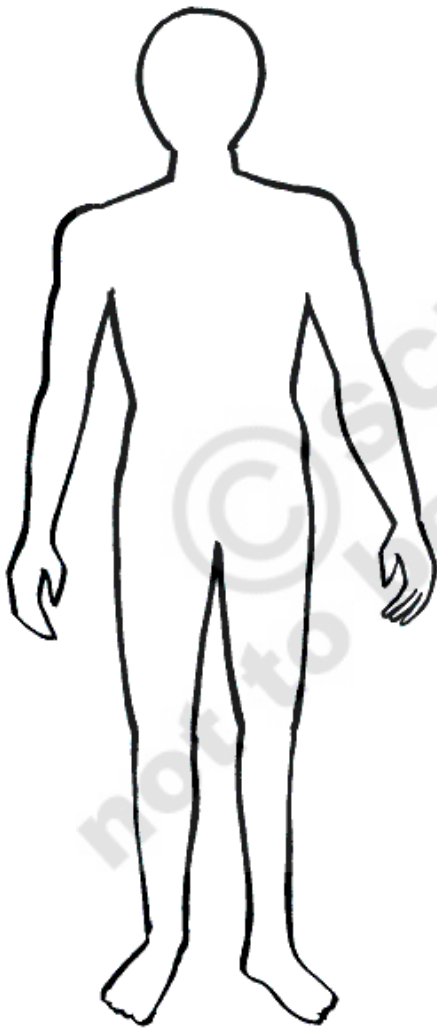


5

OUR BODY PARTS - SENSE ORGANS

5.1. Our body - parts

Navya draws well. She drew a picture of her friend Naveen. Some of her friends, after observing the picture said that she missed some parts of the body. Observe the picture and draw the parts which Navya missed.



Write the names of the parts of the body you have drawn and their functions.

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

The organs which are seen outside the body are called external organs. With the help of these organs we can perform many activities at home, outside and at school such as playing, writing, reading and also odd jobs at home. We perform all these activities with the help of organs.

We make use of more than one organ to perform various activities. For this we need co-ordination between the organs. Rani draws good pictures. What are the different organs that help her in drawing? Think.

Looking the picture with the eyes holding the pencil with fingers and hand movement one can draw full picture. Like this different organs co-ordinate and help us to draw pictures. In the same way, we perform many activities daily. What are the various organs that help in performing these activities? 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 rhyme:

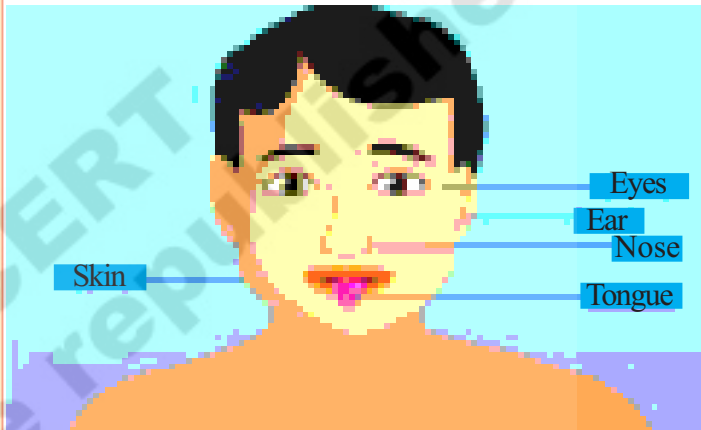
Eyes know the colour of the flowers.

Ears know the melody of the cuckoo's song.

Nose knows the fragrance of the jasmynes.

Tongue knows the sweetness of the mango.

Skin feels the warmth and cold and covers our body.



Sense Organs

What does the above rhyme tell us about?

Eyes, ears, nose, tongue and skin help us to know about our surroundings and gain knowledge of the different things hence they are called the sense organs.

Children! you all like riddles very much, isn't it! Now, let us solve this riddle. There are two little windows, which lay side by side but they do not see each other. Say, what are they?

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

- Collect and ask some riddles like this.

5.3. The Eyes

Can you reach your school closing your eyes? Think. Can you do your routine work without seeing? Why can't you?



Do this



Close your eyes and draw a flower in your note book. Draw the flower again, after opening your eyes.

- ◆ Which is good? Why?
- ◆ Were you able to do your routine work without seeing?

Now, you know how important our eyes are! Therefore we must take proper care of them. What do we mean by the saying "Sarveindriyam Nayanam Pradhanam"? Why do we say this?

Then how do people who have lost their eye sight do their work? How do you feel about them? How can we help the people who lost their vision?

In Navya's school there was an eye camp called "Chinnari Choopu". In this programme they organised eye check up and distributed spectacles to the children with sight problems. They also explained about the care and precautions to be taken to protect our eyes.

We enjoy observing the scenic beauty of nature through our eyes. Do you know what are the precautions to be taken, to protect our eyes?

Precautions to be taken to protect our eyes:

- Always read in sufficient light (not very bright or dim light). 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 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 properly on the black board you must inform your parents and teacher.
- Do not rub your eyes.
- Do not use the handkerchief 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

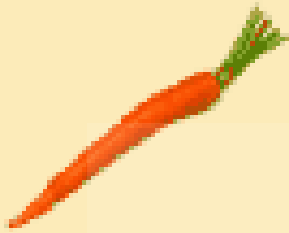
The doctor who treats the disorders and diseases of the eyes is known as ophthalmologist or eye specialist.

Group Work



- ◆ What do you do when a foreign body / particle enters your eyes?
- ◆ We must not look directly at the eclipses. Why? Know the reason from your teacher.
- ◆ Say and write how you can help the people without sight?

Foods that help us keep our eyes healthy.



5.4. Ears

As all of you know we can listen to the sounds with the help of ears, the sense organ!

- Observe the shape of the ears of your friend and draw.
- If some one wisphers, 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 from where the sound is coming.

Activity - 2

Close one of your ears and make some sound with your mouth and observe. How is it heard. Now, close both the ears with cotton and make the sound aloud. Listen to the same sound with out closing the ears. Did you find any difference?

Activity - 3

Ask one of your friends to make a sound by scratching the pencil at the corner of the bench and listen to the sound from the corner keeping your ear on the bench. Let the sound be made again. Now listen to the same sound standing at the edge of the bench. What difference did you note? In which situation more sound is heard.

Activity - 4

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

Do this

What is your audible range?

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 / following table, the distance at which the sound is audible and ranges 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 from a long distance?
- ◆ Who are able to hear from very short distance?
- ◆ What is the distance at which more pupil are able to hear?
- ◆ Compare the audible range of your self and your classmates. If you notice a wide / large difference, do not forget to consult a doctor.

If a man can not hear from his birth, he cannot speak also. As they are not able to hear the other person talking, they do not know what and how to speak. Hence they do not speak.

People like this, use sign language i.e., through symbols and gestures message is conveyed. Have you ever watched news for the hearing impaired on Doordarshan. If not, watch and talk about it.

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



Group work



- ◆ What are the other causes of sound pollution? Think and list them.
- ◆ What measures can you take up to reduce the sound pollution. Discuss with your friends.

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

During festivals and functions, arranging loud speakers with high volume causes sound pollution to others. Blowing vehicles horn loudly and repeatedly causes inconvenience to others. Talking to others on cellphones for long hours is to be avoided. Using cell phones extensively is dangerous. Speaking on cell phones continuously damages the sensitive organs of the head. If sweating is seen beside the ear it is very dangerous.

Precautions to be taken to protect our ears:

- Close the ears if loud and harsh sounds are heard.
- Take proper care to prevent water entering into 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 for other ear problems you must consult a doctor immediately.
- Do not use castor oil or other oils for the ears.

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

Think and say

- ◆ Which animals sounds can we understand?
- ◆ Which animals can understand the sounds made by us?
- ◆ Which animals can hear the sounds which are not audible to us?

Do you know

Bat is a nocturnal mammal (active during the night). It knows its path by making sounds. It identify objects on its way, when sound waves produced by it reflects back and reaches it. The sounds echo from the obstacles and thus changes its path.



5.5. Nose

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

Do this

- ◆ Blind fold your friend with a hand kerchief and ask him to identify the different items by sense of smell. Take different items near to the nose and ask him to identify.



Coriander leaves, curry leaves, onion, garlic cloves, cardamom etc. have good odour. We know their taste through smell only. Close your nose and keep them into your mouth one by one. Did you know the taste of these items? Is nose used to smell things? Do you know what is the other use of nose? Close your nose for few minutes. Say what happened? We cannot live for a long time if don't breath air. 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 sense of smell useful to us? Why we do catch cold?
- ◆ What precautions do you take to prevent the cold from spreading to one 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, isn't it! 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 if small pebbles or things enter your nostrils and if breathing is difficult or painful.

5.6. Tongue

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



Think and say

- ◆ Tongue does not recognise the taste of food, if we eat too hot or too cold food. Why?
- ◆ Discuss about any four types of tastes.

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, on seeing or smelling some food items. Write 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 the tongue of your friends with a magnifying glass. Note 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 with water before and after eating. If we do not rinse germs may attack and cavities develop in our tooth and thus teeth may decay and fall and results in bad breath. Hence we should brush our teeth and also clean the tongue daily in the morning. We should also clean our tongue and brush our teeth before going to bed at night.

5.7. Teeth

We identify the different tastes with our tongue. Do we take the help of tongue alone while taking in the food? There are teeth also along with the tongue! We chew food with the help of teeth when we eat. 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 the taste is known. People who lose their teeth, cannot chew the food. Hence they do not know the complete taste of food. Therefore we must take care of our teeth.

Do this



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

Think and say

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

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

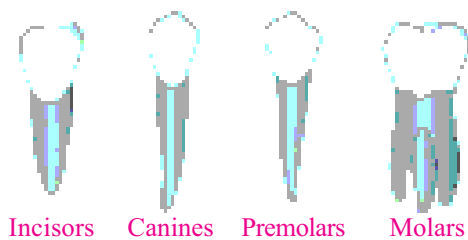
Do this

- ◆ Observe your teeth in a mirror or the teeth of your friend. Are all the teeth same? Say.

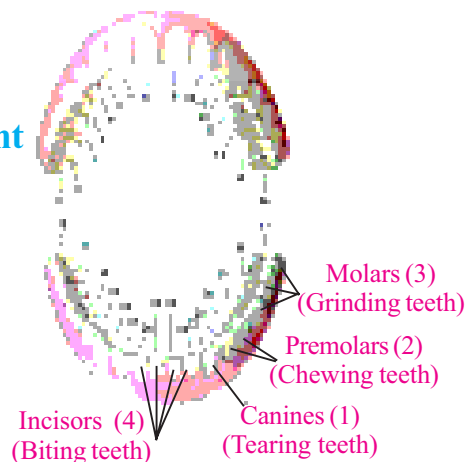
There are four different types of teeth, for biting, tearing, chewing and grinding the chewed food.

Observe the picture given below:

Type of Teeth



Arrangement of Teeth



Group work



Observe the teeth in your friends mouth and say.

- ◆ How many teeth are there in your friends mouth?
- ◆ How many types of teeth you found?
- ◆ 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 kind of food isn't it! 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 to speak clearly. The teeth that appear in children from 6th or 7th month onwards, for the first time are called 'Milk teeth'. They fall off at the age of 8 or 9 years. In

their place new, strong and big teeth grow and are known as 'Permanent teeth'. If we loss this teeth we cannot get back new one's. Hence if we do not brush our teeth properly they decay and we get bad breath from the mouth. If this happens then we cannot eat the food we like and we even 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 become yellow?
- ◆ Observe the teeth of your friends. Whose teeth colour has changed to yellow or black.
- ◆ Whose tooth has cavities?
- ◆ In whose tooth food particles are stuck?
- ◆ Whose teeth has plaque deposits.
- ◆ Whose teeth are healthy and shiny?
- ◆ Why should we brush our teeth every morning and night?

Identify & appreciate your classmate for healthy & shiny teeth.

After eating bits of food particles remain stuck between the teeth and they cause tooth decay. If they remain on the tooth, harmful 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?

- Brush twice a day that is every morning and every night before going to bed.
- After brushing the teeth, rub the teeth and the gums with your finger and also rinse your mouth with water. This helps in keeping the teeth strong.
- Rinse your mouth with water after eating or drinking this helps in washing away the bits of food particles stuck on and between the teeth. Rinse twice or thrice in a day.
- Twigs of *Acyranthus* (Uttareni), *Derris indica* (Kanuga), *Neem* and *Acacia* (Babool) are used to brush the teeth or use tooth paste / powder and tooth brush for cleaning.
- Brush the teeth of the upper jaw from up to down and lower jaw teeth from down to up.
- Brush the teeth from all sides that is up, down, inside, outside, leftside, and rightside, each and every tooth must be brushed properly and in 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 do not grow in its place. If we do not have teeth we can not eat solid foods.



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

5.8. Skin

All the parts of our body is covered by the skin. Do you know what is the use of skin? Skin protects all the parts of our body. It is the sense organ for touch. We can feel heat, hardness, softness, coldness etc., through the 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. Write them in order from more thickness to less 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. This causes ill health and diseases. Do not eat food without washing the hands with soap at school and at home. Wash your hands after toilet.

Think

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

Precautions to be taken to protect our skin:

- Have a bath twice a day every morning and evening with soap and water.
- While bathing rub the skin thoroughly. This helps in the removal of dead cells and makes the skin shiny.
- 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 the 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 then skin diseases may occur. Most of the skin diseases are contagious.

Skin is only affected first by the changes in the surroundings. If we protect our skin, the skin protect us. Skin protects the internal organs from outside environment. Skin feels the heat, cold and pain.

Due to the ridges and grooves present in the skin of the palm, finger prints are formed. Take your finger prints and that of your friends on a white paper and observe them. Are they similar? No two persons will have the same finger prints in this world. Hand also the 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 cure.

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

Keywords

Body	Protection of eyes	Sense of touch
Sense organs	Sounds / Noises	Inhalation, exhalation
Organs	Audible range	Respiration
External organs	Sound Pollution	Teeth
Co-ordination between organs	Skin	Taste buds
Saliva	Enamel	



What have we learnt?

1. Conceptual understanding

- What are the organs that are seen outside the body and those inside the body (Internal organs)?
- 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, plucking the flowers, stitching a button with needle and cutting the vegetables.
- Why do we call eyes, ears, nose, tongue and skin as the sense organs.
- What are the uses of the 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 does the eye sight decreases?

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 where meat is sold near by, and observe the internal organs of the animals.

4. Information skills, projects

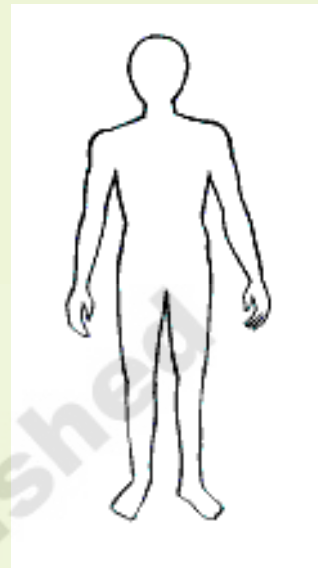
- Meet the ANM / health workers and find out the details of the people in the village who are infected with diseases related to eyes, ears, skin and tongue know the reasons and write.

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

- b) Observe the ears of ten children of your class / school students. Are the ears of the same shape? or 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 picture given beside. Label them.
- Draw the arrangement of teeth in our mouth and identify the types of teeth.



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?
- In your view, who is a healthy person?
- How can you say that our body is a wonderful machine?
- How should we behave with the people with special needs? What kind of help should be given to them.

Can I do this?

- | | |
|--|----------|
| 1. I can explain the sense organs of our body 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 are the things that can be identified by sense the 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 |