

Let us protect the features which affect our appearance

Our body is a wonderful biological creation made to live and continue life. It is our responsibility to lead a healthy life protecting appearance which contributes to personality.

In the previous grades we studied about the basics of our sensory organs such as ears, eyes, nose and skin as well as the digestive system, respiratory system, circulatory system and the excretory system. We also studied about maintaining healthy organs.

In this chapter we will study about the organs such as skin, hair, teeth, lips, eyes and ears that help in the external appearance. We will learn how to keep them healthy and factors that cause them to be unhealthy.

Skin

The skin is the largest organ of our body. It protects our whole body, covers it, gives it a shape and the external appearance. Depending on the purpose it shows adaptations. The skin is thick where it is exposed to friction, e.g. soles of the feet and palms of the hands.

The hair follicles in the skin protect the body. The skin regenerates and gets rid of old skin
eg: keratinized layer.

Skin is different in each person. People have dry, oily, sensitive or normal skin .

Functions of the skin

- Gives an external appearance to the body
- Protects the internal organs
- Helps in getting rid of excretory material e.g. sweat
- Controls the internal body temperature- when cold the skin protects the body by conserving heat
- As a sensory organ the skin reacts to heat, cold and pain from the external environment
- Helps in producing vitamin D from sunlight

Skin related diseases

- Pityriasis
- Scabies
- Eczema
- Sweat rash
- Skin cancers
- Leucoderma
- Psoriasis
- Allergic dermatitis



Figure 11.1 - Skin related diseases

Healthy ways of preventing skin diseases

1. Take nutritious food

The skin should be supplied regularly with all the nutrients it needs. Foods contains Vitamin A, D, minerals and proteins should be consumed.

2. Drinking adequate amounts of water

Water is necessary to maintain good functioning of the body as well as a healthy skin. Water prevents drying of the skin and makes it bright.

3. Keep your skin clean

Skin can be kept clean by bathing daily or having a body wash twice a day. Quality products should be used for the skin. Obtain medical advice when using types of bactericidal soap as they can harm the useful bacteria present on the skin.

4. Protect the skin from harsh sunlight

Early morning sunlight helps in producing vitamin D but very strong sunlight which has ultraviolet rays can be harmful to the skin. The skin can get burnt in strong sunlight. It is important to wear protective clothing to protect yourself from strong sunlight. Falling of sun rays directly on the skin can be prevented by wearing white coloured clothes which reflects the sun rays and by carrying an umbrella. If you are getting exposed to strong sunlight it is advisable that you wear a sun protection cream as prescribed by a doctor.

5. Protect from accidents

You should try to minimize injury to your skin due to falls, pricks, cuts and burns. Some injuries remain as scars on the skin for a long period of time.

6. Refraining from applying unnecessary makeup, creams etc

You may want to try various types of makeup and creams from different countries and institutions advertised on the internet and social media to make you look younger. You have to be careful as they may cause not only discolourations in the skin but also other diseases due to chemical toxins entering in the blood.

If you need to apply such creams etc obtain medical advice and use approved products. School children should refrain from using unnecessary makeup.

Hair

Hair on your head is meant for protection and appearance. It should be kept healthy.

Hair minimizes injuries to the head. Hair protects the brain which is a valuable organ placed inside the skull. Hair of infants help to maintain their body temperature by reducing the loss of heat through surface area of the head.

Your hair grows and some falls off.

The live section of the hair follicle is in the skin despite the length of the hair shaft. The section above the skin is not live. Therefore, the hair can be combed and styled as desired.

Diseases related to hair

- Dandruff
- Tinea capitis
- Psoriasis
- Head lice



Figure 11.2 - Diseases related to hair

Healthy habits to prevent illnesses related to hair

1. Eat food enriched with vitamins and minerals e.g green leaves, fruits
2. Keep the hair clean and bathe daily
3. Protect the hair by covering it, wearing a cap or carrying an umbrella when going out in the hot sun
4. Use recommended hair oils or cleansers where necessary
5. Wash hair well after using a cleanser
6. Use standard hair products
7. Prevent doing artificial hair styles

As a student it is important that you maintain your hair in its natural state.

Nails

Nails are formed by the thickening of skin on the fingers and toes. Nails are formed to protect finger tips and toes as they are constantly in friction when performing various tasks.

The squamous layer of the skin is not alive, so is the tip of the nail. The start of the nail on the finger is known as the nail root or matrix and this has life. The same way the skin regenerates so does the nail root or matrix.

Diseases associated with nails

■ Fungal diseases

■ Blisters

■ Nailbed infection



Figure 11.3 - Nail associated diseases

Healthy habits to protect nails

1. Consume healthy food
2. Keep nails clean and cut short. It is important to protect the nail bed when cutting the nails
3. Protect the nails from accidents
4. Avoid biting nails. By this, the fingers and the nails could be injured, infected and germs can enter your body.

Lips

The lips surround the mouth. Lips help for the appearance of the face, to control expressions, to talk and pronounce words and to enter food into the mouth.

Diseases related to the lips

- Cancers of lips
- Inflammation of lips
- Cleft lips
- Injuries to the lips



Figure 11.4 - Diseases related to lips

Health practices related to lips

1. Consume nutritious food
2. Avoid eating and drinking very hot or very cold foods and drinks
3. Consume adequate water
4. Protect lips from accidents that are likely to cause injuries to them
5. Refrain from taking harmful drugs and alcohol
6. Refrain from chewing betel or using products of arecanut and tobacco

Teeth

Teeth are helpful when having food, to break food into particles for easy digestion, for the shape and fullness of the face, when pronouncing sounds and for the personality.

Teeth start to erupt after about 6-9 months of a child's birth. These first teeth are known as milk teeth or deciduous teeth. From 6-12 years of age these teeth fall off and new teeth erupt in place. The new teeth that erupt are known as permanent teeth. The teeth erupting at two different times is a unique feature of man. This is known as diphyodont.

Man has a set of 32 permanent teeth with 16 each in the upper and the lower jaws. This is known as dentition.

Diagram 11.1 - Dentition

Incisor $\frac{2}{2}$	Canine $\frac{1}{1}$	Premolar $\frac{2}{2}$	Molar $\frac{3}{3}$
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The diagram 11.1 is to show the teeth on one side of the jaw.

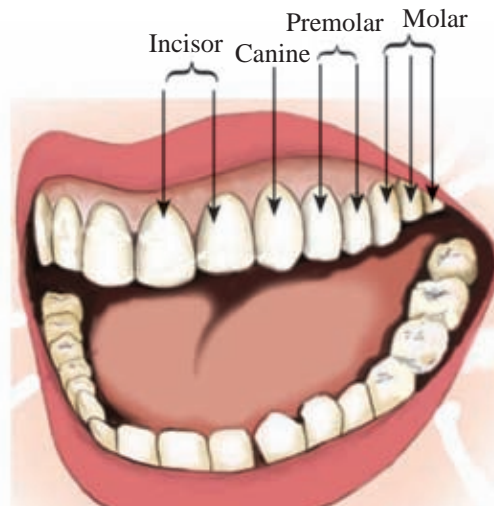


Figure 11.5 - Position of the teeth

Each tooth is different. There are four types of teeth according to its' shape and function.

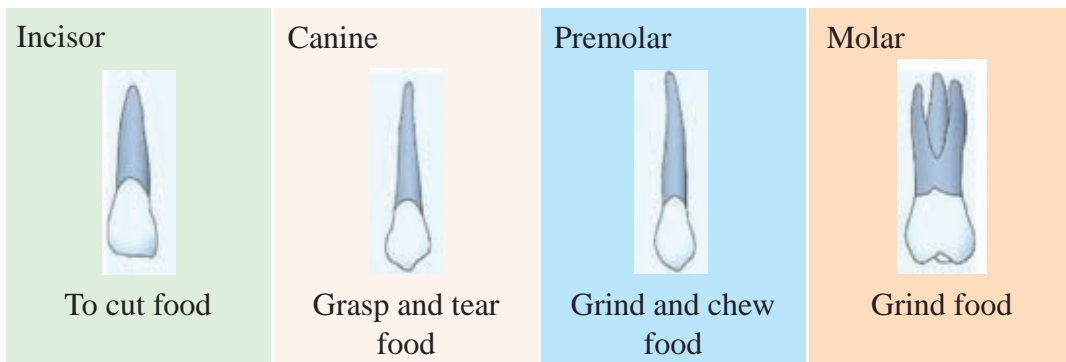


Figure 11.6 - Types of teeth

Diseases related to teeth

- Decaying of teeth
- Tooth wear
- Discolouration of teeth
- Gum disease
- Crooked teeth
- Dental traumatic injuries



Additional knowledge

The main reason for discolouration of teeth is dental fluorosis. If the water fluoride level in your area is high, there is a risk of dental fluorosis. Dental fluorosis at severe level can be seen in areas like Anuradhapura, Polonnaruwa and Hambantota.

It occurs during the stage of development of permanent teeth inside the jaw (from birth to 8 years of age). If you use the deep ground water in deep wells and tube wells which contain high fluoride for drinking and cooking purpose you can get fluorosised teeth.

If you are living in an area endemic for dental fluorosis;

- Check the level of fluoride in your water source. You can get assistance of the Public Health Inspector in your area or National Water Supply and Drainage Board.
- Use a fluoride filter to filter the water and use the filtered water for drinking and cooking.

Healthy ways of looking after your teeth

1. Consume food rich in minerals and calcium
2. Other than the main meals refrain from eating at all times. Reduce the consumption of sweets, soft drinks, junk food, sticky food
3. Avoid eating very cold or very hot food
4. Brush your teeth every morning and night before going to bed. It is very important at least to rinse your mouth after eating sweets or sticky food.
5. Use a tooth brush that has small head with soft bristles
6. Use a standard tooth paste that contains fluoride in required quantity
7. It is not recommended to use coarse items such as sand, charcoal or tooth powder to brush your teeth.
8. Brush correctly to clean all the sides of the teeth
9. It is not recommended to use your teeth for harmful purposes like to break bottle tops, bend or break wire or cut glasses.

10. Avoid chewing betel, smoking, having harmful drugs or products made of arecanut and tobacco
11. Get the state of teeth checked by a dentist at least once a year
12. Make it a habit to examine your own mouth to detect for any changes in the oral cavity.
 - It may be a decayed tooth, swollen gums, calcified plaque, any growth or change in colour of oral mucosa.
 - If you detect any abnormality seek dental advice.
13. If from birth, your teeth are positioned in an irregular way, you should see a dentist and get it corrected.
14. Seek dental advice immediately after a dental or oro-facial trauma even though the damage is not visible or is small.



Additional knowledge

Following a trauma, saving of a completely dislodged permanent tooth depends on the way of handling it immediately after the injury. In such a case,

- Never wash or clean the tooth using disinfectants.
- Never touch the root area of the tooth.
- Hold the tooth by the crown, and rinse the tooth for 10 seconds under running (tap) water to remove debris.
- Place the tooth in a solution of preferably fresh milk, saline or patient's saliva.
- Visit the closest dental clinic as soon as possible.

The Success rate is high if you can replant the tooth within half an hour.

Eyes

The sensory organ that help us see is the eye. The fact that we can see an object at once with both eyes is known as binocular vision. Objects can be viewed in three dimension with both eyes as well as can judge the distance to the object. Due to this we can judge what we can see to do delicate work precisely.



Figure 11.7 - Binocular vision

The eye brows and the lashes are placed to protect the eyes from foreign bodies or germs. The eye brows are placed above the eye and slightly forwards.

If a foreign body enters the eyes the eye lashes start blinking very fast and works towards getting it out. If the object is still present the tear glands start to secrete tears and the object comes out.

If an object is about to strike the eye, instantly the eye closes and it reduces any injuries to the eye.

Diseases related to the eyes

- Red eye, secretions, sties
- Colour blindness, night blindness
- Short sightedness, long-sightedness and blindness
- Irregularities
- Disfigurements.
- Nutritional deficiencies
eg: bitot's spots
- Cataract
- Glaucoma
- Squint - it is important to consult an eye surgeon to know if this is a disease state. Otherwise it could result in blindness.

Healthy practices to protect the eyes

1. Consume food enriched with vitamin A such as green leafy vegetables, carrots and yellow coloured vegetables and fruits daily in adequate amounts.

2. Protect the eyes from accidents and avoid from work that can cause harm to the eyes
3. Prevent chemicals and harmful rays from entering the eyes and wear appropriate eye wear when working with chemicals
eg: in welding, at iron workshops.
4. Wear standard sunglasses on medical advice to prevent harm to your eyes from strong sunlight
5. Use protective glasses or screen when using the computer
6. Take regular breaks when working with computers
7. Keep a distance of about two and a half times the length of the television screen between yourself and the television
eg: if the television is 30 inches you should watch the TV from minimum distance of 75 inches (six feet)
8. Seek medical help if you get a headache, in case an object gets into your eye, something bangs against the eye, notice tearing or secretions, redness in the eye, formation of a sty, excessive blinking, colour blindness, squint or if the vision is blurred
9. If something falls into the eye wash it with clean running water. Never use other liquids, substances or home remedies. Always follow medical instructions when using eye drops.
10. Choose sunglasses, contact lenses and spectacles as advised by your eye surgeon. Spectacles should be changed at least every two years after seeking medical advice.

Do you know?

- ★ There are small torches that emit infra-red waves being sold at shops. It is important that you use it solely for the intended purpose and not expose the rays directly on the eye.
- ★ During an eclipse never look at the sun directly. Keep a basin of water or a sheet like a x ray sheet and view the sun if needed. Looking directly at the sun can harm your eyes.

Ears

The ear is the sensory organ that you need to hear. Let us have a look at some natural protective mechanisms of your ear.



Wax is made internally to protect the ear. Wax is made from the secretions in the external ear.



The eardrum which is an important organ is placed in some what internally



The pinna or external portion of the ear is protruding outwards to be able to catch the sounds and direct them to the inside of the ear



The internal ear and the throat are connected by the Eustachian tube. This tube makes the pressure in the atmosphere and the internal ear equal



It Helps in maintaining the balance

Diseases related to the ear

- Infections of the external ear
- Due to middle ear infections the ear drum can get pierced, there will be a discharge from the ear and the balance of the body will be affected.
- Infections of the inner ear will result in damage to the nerves and hearing would get affected.

Good practices to maintain health of the ears

1. Avoid introducing objects into the ear.
The ear wax will naturally get expelled from the ear. Introducing of external objects such as ear candles or pins can harm the ear drum. Infections can set in and injuries can occur. If the ear drum is damaged the hearing will be affected.
2. Do not get exposed to very loud noises.
3. Do not use mobile phones or earphones for a long period.
4. If you have an illness related to the ear, nose or throat, obtain help from a doctor specialized in that area.
5. If you have a cold, as your ear can be affected get your ears checked by a doctor.

6. If you have poor hearing get treatment - Speech can also be affected if hearing is affected

Fingers and toes

- Power grip and precision grip are special features in the human fingers.
Power grip means the ability to hold firmly using the large muscles of the hand.
Precision grip helps in holding an object or doing a task and is done using the small muscles of the hand.
- The opposing thumb is a feature of primates. The thumb can be moved so that it can be placed opposite the other fingers and can perform similar tasks of other four fingers.
- The tips of the fingers and toes have a lot of nerve endings and is able to feel sensations.
eg: sensation of heat, cold, pain
- There are lines between the phalanges in the fingers and toes. These help to cause friction. Therefore when you hold something with your fingers they are gripped firmly due to the friction.
- The nails placed at the tips of the fingers and toes gives protection to them.



Figure 11.8 - The opposing thumb



Additional knowledge

In many criminal cases the law gets the finger prints to catch the criminal. This is because no two people will have the same type of finger prints.

Instances where the fingers get injured

- When using the knife or sharp objects
- When fingers and toes are caught in machines
- When using the hammer

Ways of protecting the fingers and toes

1. Pay attention and take care when using knives, hammers and scissors
2. Keep your fingers, toes and nails clean
3. Do not wear gloves, shoes and boots for longer periods

Summary

The skin, hair, nails, teeth, eyes, ears and lips are parts of the body that make our appearance. There are good practices to keep these clean and healthy.

The skin is the largest organ in the body and it has a lot of uses. The skin protects the internal organs and protects the body. The skin should be kept clean and healthy.

The hair which protects the head should be kept clean as this will prevent diseases and give a healthy appearance to a person.

The nails are placed at the tips of the fingers and toes should be kept clean and protected.

It is important to protect our lips that protect the internal aspect of the body and makes up the external appearance of our face.

It is important to protect our permanent teeth too, as they arise just once during our lifetime.

Our eyes that gives us binocular vision should be kept healthy and protected.

The ear that helps us hear should be kept without diseases.



Exercise

Choose the correct answer

- Which of the following is not a skin disease,
i. Psoriasis ii. Cancer iii. Bitot spots iv. Scabies
- The vitamin that keeps our eyes healthy,
i. Vitamin A ii. Vitamin B iii. Vitamin C iv. Vitamin E
- The following practice with regard to the ear is not healthy
i. removing wax with an ear candle
ii. not using a cotton bud to clean the ear
iii. not exposing the ear to loud noises
iv. not scratching the ear with fingers
- Shampoo is used to clean the hair. An important practice after shampooing is,
i. not washing the hair adequately to retain the fragrance
ii. rubbing the hair
iii. massage the head
iv. washing off all the shampoo with clean water
- The following is not a practice to protect the nails,
i. cutting the nails short
ii. biting the nails
iii. consuming nutritious food
iv. protecting the nails when using equipment
- Which milk tooth commonly falls down first?
i. Incisors ii. Canine iii. Premolar iv. Molar
- The maximum number of molar teeth an adult can have is,
i. 8 ii. 4 iii. 12 iv. 10
- Due to the binocular vision,
i. entry of foreign bodies to the eyes are prevented
ii. the three dimensional view of the object and the distance can be perceived
iii. objects in the distance can be viewed
iv. the squint get worse
- The eye can be damaged by,
i. directly looking at a lunar eclipse
ii. directly looking at a solar eclipse
iii. looking at a large lit bulb directly
iv. staring for a long period

10. which of the following should not be done if a foreign object or an ant enters the ear,
- i. attempting to use an ear candle to remove it
 - ii. adding a bit of water to the ear then move the head to the opposite side and get rid of the water
 - iii. adding a small amount of coconut oil into the ear
 - iv. seeking help from a doctor
11. the following disease is not related to the lips
- i. inflammation of lips
 - ii. cancer
 - iii. tinea capitis
 - iv. cleft lips
12. The important function of the position of the thumb is to,
- i. make it attractive
 - ii. make sensations to be felt
 - iii. help with the precision grip
 - iv. protect the fingers