Unit 3L.4: Body Parts and Functions

- Organs in the Human body
- Keeping Healthy
- The Skeleton

Science skills:
- Classification
- Observing
- Making models
- Data collection

By the end of this unit you should:
- Compare the structure of humans and animals and recognize that some have an internal skeleton that provides protection and support and allows for movement.
- Know that humans and other animals have lungs for gas exchange, intestines for absorbing food, kidneys for dealing with waste and a heart for circulating blood around the body.
You can use your **senses** to observe. You have 5 senses. Your senses are **seeing**, **hearing**, **smelling**, **touching** and **tasting**.

The brain receives information from the outside environment through the sense organs.

Your eyes help you **see**

Your ears help you **hear**
Your tongue helps you taste.

You touch things with your skin.

Your nose helps you smell.
Life science
Grade 3, Unit 3L.4.

Body Parts and Functions

Key terms:
• Sense organs
• Senses

Key Idea:
• The 5 senses are seeing, hearing, smelling, touching and tasting.

Key Questions

Q1—Look at the pictures of the objects below. What body organ and sense would we use?

<table>
<thead>
<tr>
<th>Object</th>
<th>Body Organ</th>
<th>Sense</th>
</tr>
</thead>
<tbody>
<tr>
<td><img src="image1.png" alt="Tennis ball and net" /></td>
<td><img src="image1.png" alt="Tennis ball and net" /></td>
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<tr>
<td><img src="image2.png" alt="Sandwich" /></td>
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<td><img src="image3.png" alt="Flower" /></td>
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</table>
Organs in the human body

The human body is like a machine. It has many organs inside it. These organs do not work alone. A number of organs work together to carry out different functions in our body.
Activity:

After discussing with your teacher, using outlined figure below, draw and label the organ parts in their correct places.

Liver- Intestines- Heart- Lungs- Kidneys
Every organ in the human body has a special function to perform.

The heart: The human heart is responsible for supplying the body with oxygenated blood. It is vital to the circulatory system.

The lungs: This is a part of the respiratory system.

The air that you breathe contains many gases that the body needs to function, including oxygen.

The kidneys: It filters waste, the waste forms urine.

The liver: The liver's main job is to filter the blood coming from the digestive tract.

The intestines: The small intestine is where most digestion of food takes place. The large intestine is for absorption of water and excretion of solid waste material. They are part of the digestive system.
Activity: Do you have any fish as pets?

Observe the goldfish carefully, your teacher will tell you about some parts of the fish!

Now label and try to draw the organ parts correctly in the diagram below.

Liver- Intestines- Heart- Gills- Kidney
Project:

**Materials**
White T-shirt or picture of T-shirt, fabric paints and brushes

**Process Skills**
Making and using models

**Steps:**
1- On white T-shirt draw the outline for these organ parts:
   - Heart
   - Lungs
   - Intestines
   - Kidneys
   - Liver
2- Position them correctly.
3- Paint using the fabric colors.
4- Display the T-shirt or even wear it after it is dry.
Key terms:
- Organs
- Heart
- Lungs
- Kidneys
- Liver
- Intestines

Key ideas:
- Humans and other animals have lungs, heart, kidneys, liver and intestines with specialized functions.

Key Questions
Q1- Match the body organ with its function.

1- Heart  a- Take out solid waste.
2- Lungs  b- Filter waste
3- Kidneys  c- Take in oxygen
4- Intestines  d- Pump blood
Keeping healthy

Do you like to play tag or balance on one foot? Do you like to fly through the air on a swing or go down a slide?

Playing and moving are ways to exercise. Exercise helps you stay healthy.

The heart is the most important organ of our body. Like all muscles, the muscles of the heart become stronger with exercise. Exercise increases the rate of breathing and the heart beats higher than normal.
How many times does our heart beat every minute?

You would be surprised to know the heart which is just the size of your fist, beats 70-90 times a minute!!

Activity:
What effect does exercise have on our heart rate?

Steps:
1- Record your friends 'resting' pulse rate in the table. Resting is when they are just standing.
2- Design a fair test to measure your friend's heart rate after exercise. (Think about what kind of exercise they will do)
3- Record your results in the table below.

<table>
<thead>
<tr>
<th>Name</th>
<th>Pulse reading 1</th>
<th>Pulse reading 2</th>
<th>Pulse reading 3</th>
<th>Average reading</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
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</table>
Swim, jump, run!!! It is fun to exercise. It helps keep our heart and lungs healthy.

Healthy food

You need food to grow. Which foods do you think will help you stay healthy? There are food groups in the Food Guide Pyramid. Can you name some food types in each group?

You need to eat more food from the bottom of the Food Guide Pyramid. You need to eat less food from the top of the Pyramid.
Activity:

Materials:
Pencil, crayons, scissors, glue, food magazines

Process Skills:
Classifying

Steps:
1- Cut out pictures of different foods from the magazines.
2- Arrange the pictures into a food pyramid. (Label the groups!).
The importance of food groups in the human diet.

<table>
<thead>
<tr>
<th>Food group</th>
<th>Source</th>
<th>Function</th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>Carbohydrates</strong></td>
<td>Cereals, bread, Pasta</td>
<td>Provides energy</td>
</tr>
<tr>
<td><strong>Proteins</strong></td>
<td>Beans, meat, eggs, chicken, dairy products</td>
<td>For growth and repair of the body</td>
</tr>
<tr>
<td><strong>Fats</strong></td>
<td>Dairy products, meat, sweets, oils</td>
<td>Store of energy</td>
</tr>
<tr>
<td><strong>Vitamins and fibres</strong></td>
<td>Cereals, fruits, vegetables</td>
<td>Needed for good digestion, healthy heart, bones and teeth</td>
</tr>
</tbody>
</table>
Project: Food diary

Record your daily food intake at breakfast, lunch, dinner and snacks for three days of the week.

<table>
<thead>
<tr>
<th>Week Day</th>
<th>Breakfast</th>
<th>Lunch</th>
<th>Dinner</th>
<th>Snacks</th>
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</thead>
<tbody>
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</table>

Time to think:

1- Choose one of the foods from the table.
Which food group does it belong to?

2- Investigate the food labels from two of the packaged foods from the table you completed. Look at the sugar, salt and calories for both labels.
Which food has the highest sugar?
Which food has the lowest salt?
Which food has the most calories?

3- Which day did you eat the healthiest food?
Why?

Key terms:
- Heart rate
- Carbohydrates
- Fats
- Proteins
- Vitamins and fibers

Key ideas:
- Exercise affects the heart rate and that regular exercise with a proper balanced diet is important for good health.

Key Questions

Q1- Look at the two lunch boxes A and B:

A. Pita bread and hummus, chicken salad, apple, bottle of water, packet of crisps

B. Pizza, salad, chocolate bar, piece of cake, fizzy drink

Which lunch box contains the healthier meal? Give 3 reasons why?

_____________________________________
_____________________________________
_____________________________________
Key Questions

Q2- Look at the tally chart showing how often a group of children eat fruit.

<table>
<thead>
<tr>
<th>How often?</th>
<th>How many children?</th>
</tr>
</thead>
<tbody>
<tr>
<td>more than once a day</td>
<td>✔️ ✔️ ✔️ ✔️ ✔️ ✔️</td>
</tr>
<tr>
<td>once a day</td>
<td>✔️ ✔️ ✔️ ✔️ ✔️ ✔️ ✔️ ✔️</td>
</tr>
<tr>
<td>once a week</td>
<td>✔️ ✔️ ✔️ ✔️ ✔️ ✔️ ✔️ ✔️ ✔️</td>
</tr>
<tr>
<td>less than once a week</td>
<td>✔️ ✔️ ✔️ ✔️ ✔️ ✔️ ✔️ ✔️</td>
</tr>
<tr>
<td>never</td>
<td>✔️ ✔️ ✔️ ✔️ ✔️ ✔️ ✔️ ✔️ ✔️ ✔️</td>
</tr>
</tbody>
</table>

a. How many children never ate fruit?________

b. How many children ate fruit once a week?

______________________________

c. Which children were the healthiest? Why?

______________________________
**Skeleton**

Stand up, turn around, touch your nose, and sit down. What makes your body move? Your body has bones and muscles. Bones hold your body up. Feel the long bones in your legs. Feel the short bones in your fingers. The main framework of the body is called the skeleton. It is covered by muscles, whose function is to permit movement and maintain posture. Muscles are the masses of tough, elastic tissue that pull our bones when we move. Together, our bones, muscles, and joints enable us to do everyday physical activities.
Why is the Skeletal System important to us?

- It gives us shape and support.
- It helps us to bend and move.
- It protects the inner organs or parts of our body.

Heart inside the ribcage  
Brain inside the skull

Kidney inside pelvis
Activity:

Materials:
Large paper, crayon.

Process Skills:
Observing

Steps:

1- Lie on a large piece of paper.

2- Have your partner trace around your body.

3- Draw teeth in the mouth.

4- Draw the bones.

The thigh bone is the femur. It is the largest and strongest bone in the body. The smallest bone is in the ear named stirrup bone.

Femur                   Stirrup bone

Hammer (malleus)        Stirrup (stapes)
Anvil (incus)           Eardrum
Time to think:

Match the bone part to the correct name

- teeth
- pelvis
- spine
- femur
- rib cage
- skull
Vertebrate and Invertebrate Skeleton

Discuss with your teacher!

What are two differences between vertebrates and invertebrates?

_______________________________________
_______________________________________
Look at the pictures and answer the following questions:

A
B
C
D
E
F

Q1- Do these skeletons belong to vertebrates or invertebrates?

__________________________________________
Different animals have different types of skulls. Animals that eat only plants have big and flat teeth such as sheep. Animals that eat meat have sharp and pointed teeth such as lions.
**Key terms:**
- Skeleton
- Bones
- Skull
- Ribcage
- Femur
- Pelvis

**Key ideas:**
- The skeletal system is made of bones.
- It gives shape and support and protects the inner organs.

**Key Questions**

Q1- Complete the graphic organizer.

<table>
<thead>
<tr>
<th>Bone</th>
<th>Purpose</th>
</tr>
</thead>
<tbody>
<tr>
<td>ribs</td>
<td>Protects the kidneys</td>
</tr>
<tr>
<td>skull</td>
<td></td>
</tr>
</tbody>
</table>

Q2- Circle the skull that belongs to the animal that eats meat. How can you tell?

__________________________________________