

Subject : Science

Grade : 8

Term : 2nd term

Unit : Human organ systems

Learning outcomes: Adjusted to cover 1.4, 1.5 & 1.6 competency levels.

1. Human excretory system and excretory products

Activity 1

The useless products that are produced during chemical reactions within the cells are known as excretory products and let us identify them.

Lungs, kidneys and skin are considered as excretory organs.

1.1 Identify the excretory organs.

1.2 Identify the excretory products and how they are excreted.

1.3 Fill in the blanks based on the knowledge on excretory organs, excretory products and methods of excreted.

1

2

3

Organ

How the products are excreted

Excretory products

Organ

How the products are excreted

Excretory products

Organ

Excretory products

How the products are excreted

Activity 2

1. Identify the parts of the human urinary system and fill the blanks.

1. Supply blood to the kidney

2. Carries blood away from the kidney

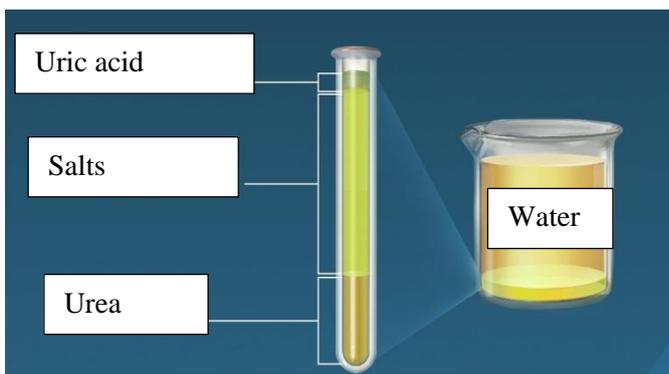
3. Filtration of blood with excretory products transported by renal arteries

4. Carries nitrogenous by-products to the ureter.

5. Temporarily storage of nitrogenous excretory products

6. Excretion of nitrogenous excretory products

2. Nitrogenous by-products are mainly excreted from the body through kidneys as urine. Study the diagram and write the components of urine



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4.....

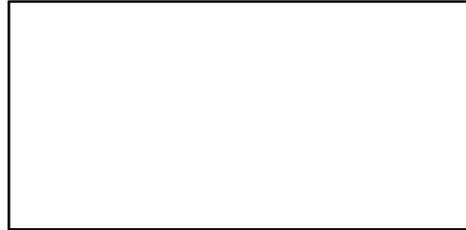
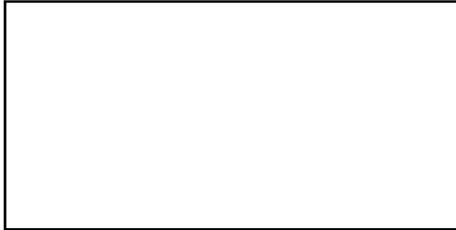
Activity 3

A kidney is 13cm in length and 6cm in width. It is bean shaped.

1.1 Study a bean seed and draw a diagram of a kidney.

1.2 Mark the length and width of a kidney of a matured adult.

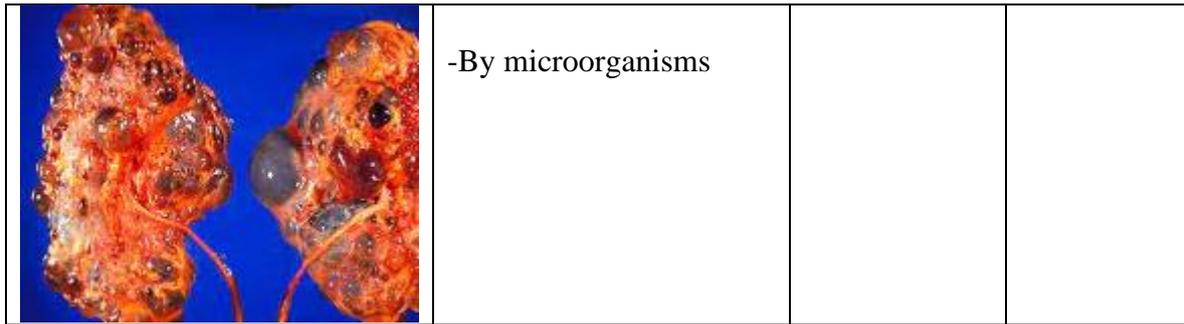
1.3 Study the interior of a kidney and draw a coloured diagram of a kidney.



Activity 4

Investigate the symptoms and causes of kidney diseases. Then, complete the table given below.

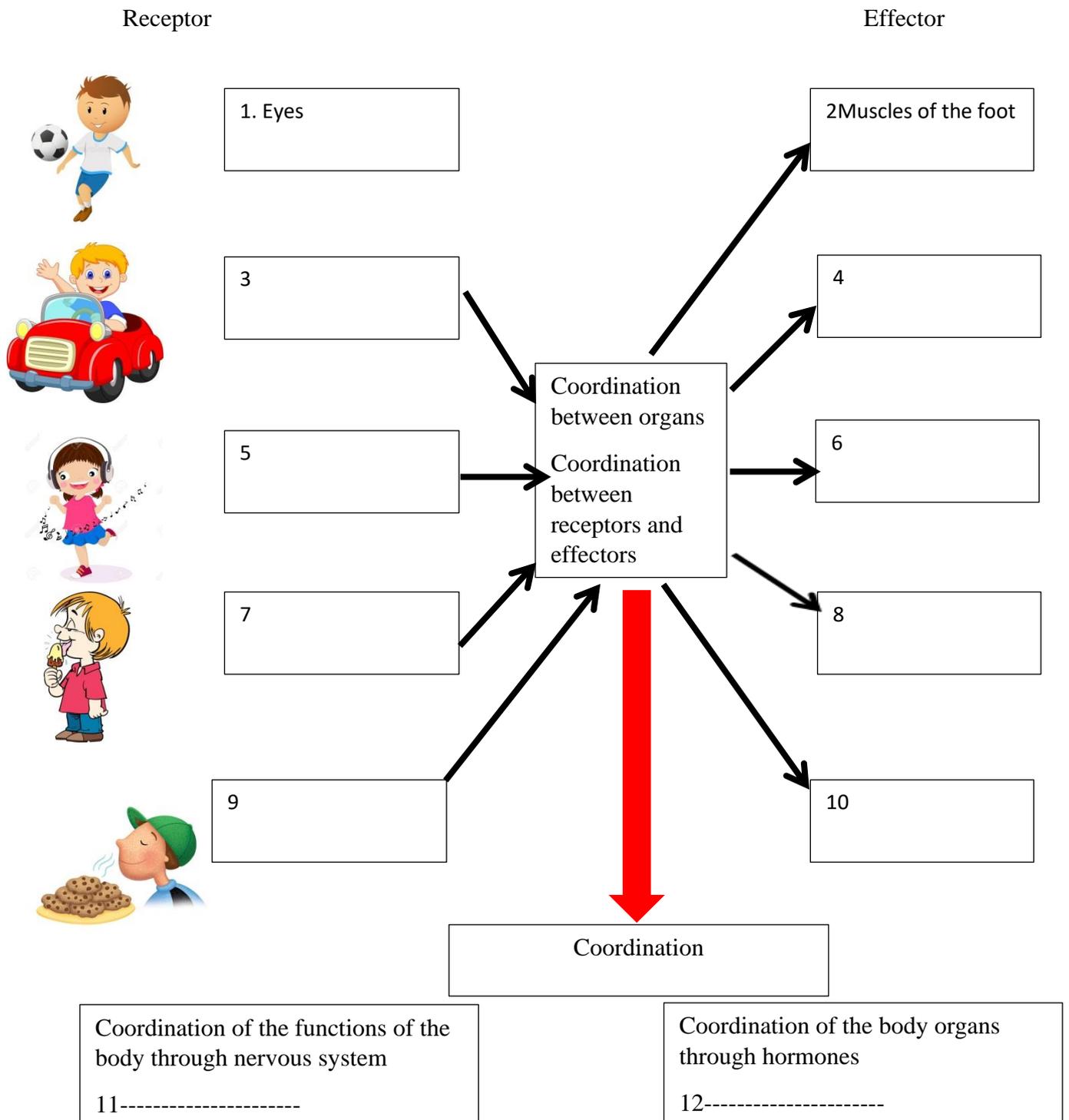
	Causes	Disease	Remedies
	<ul style="list-style-type: none"> -Not drinking enough water -Taking salty diets regularly -Not passing urine at proper time 		
	<ul style="list-style-type: none"> -Entry of heavy metals and toxic chemicals into the body -Suffering from diabetes for a longer period of time -Using drugs for a long period of time -Smoking and consuming alcohol. 		



2. Human nervous system

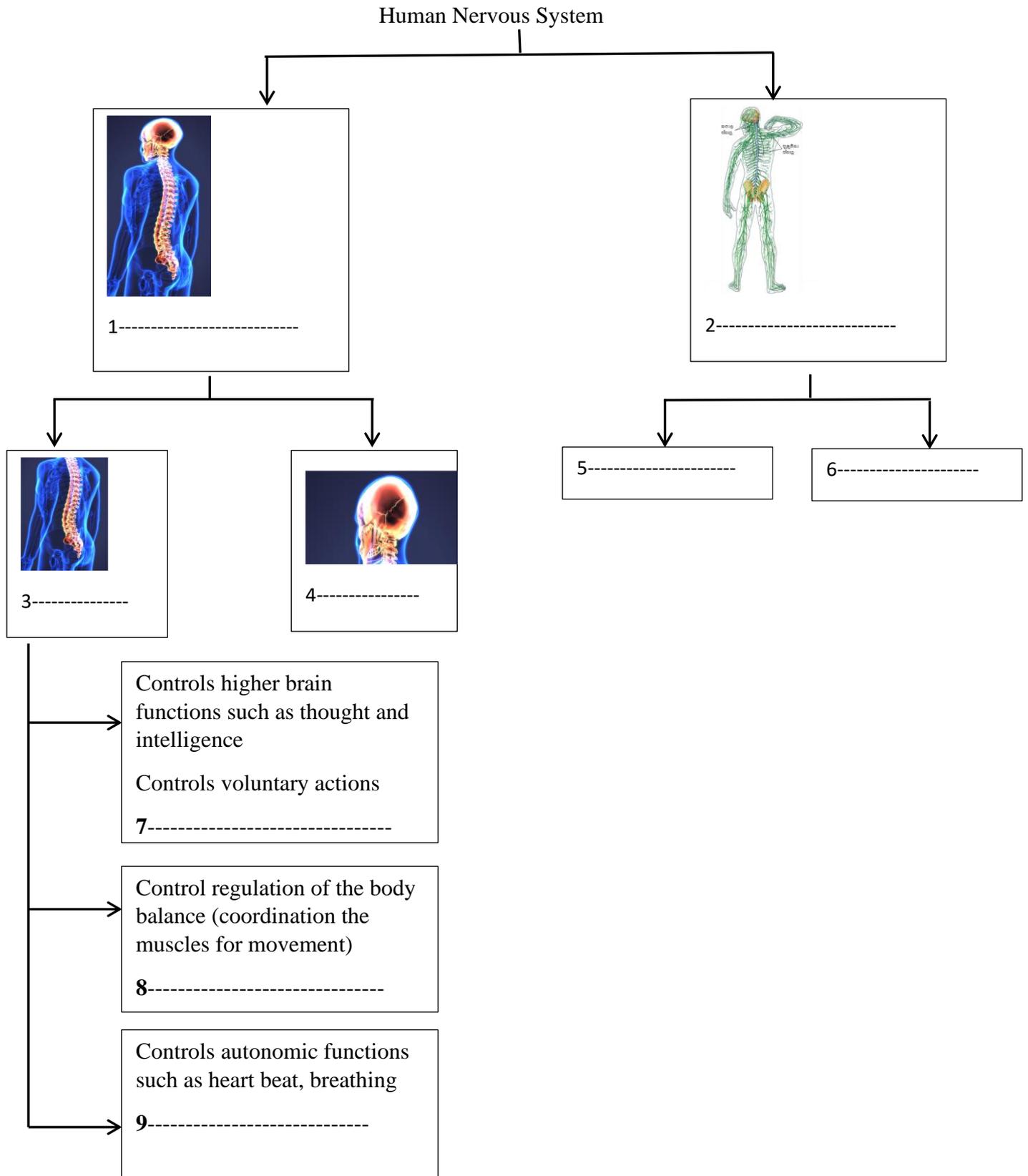
Activity 1

The following flow chart shows some day-to-day activities. Study them and complete the chart.



Activity 2

Study the information and diagrams regarding the human nervous system and complete the following chart.



Activity 3

The brain and the spinal cord are two important organs of the human body. Write a few protective measures that could be taken to protect them.

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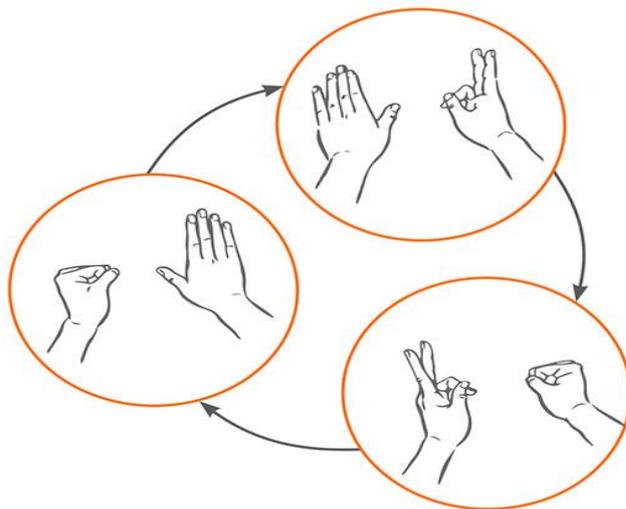
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Activity 4

Let us engage in a few brain boosting exercises.

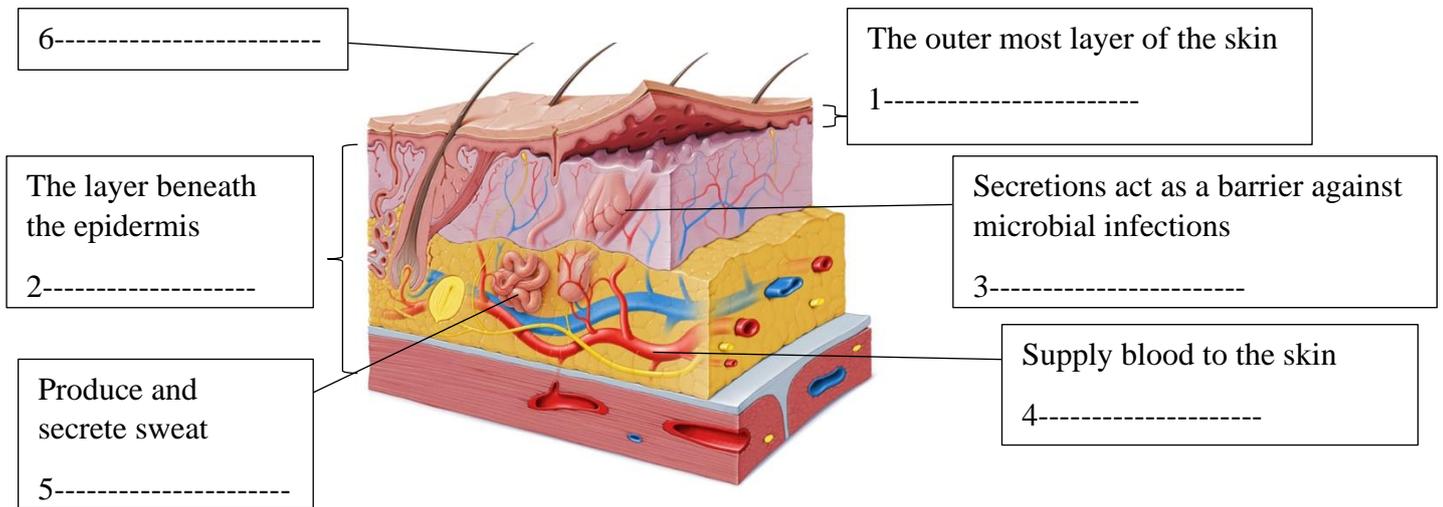
First, stretch the palm of your hand. Then, bend and open your fingers one by one. Press the finger tips well. Repeat for it for few times.



3. Human skin

Activity 1

Study the structure, location and functions of the human skin and complete the following chart.



Activity 2

The skin gets infected by micro-organisms when it is not clean. And also, skin subjects to several disorders due to nutrient deficiencies.

Mention steps to maintain a healthy skin.

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Activity 3

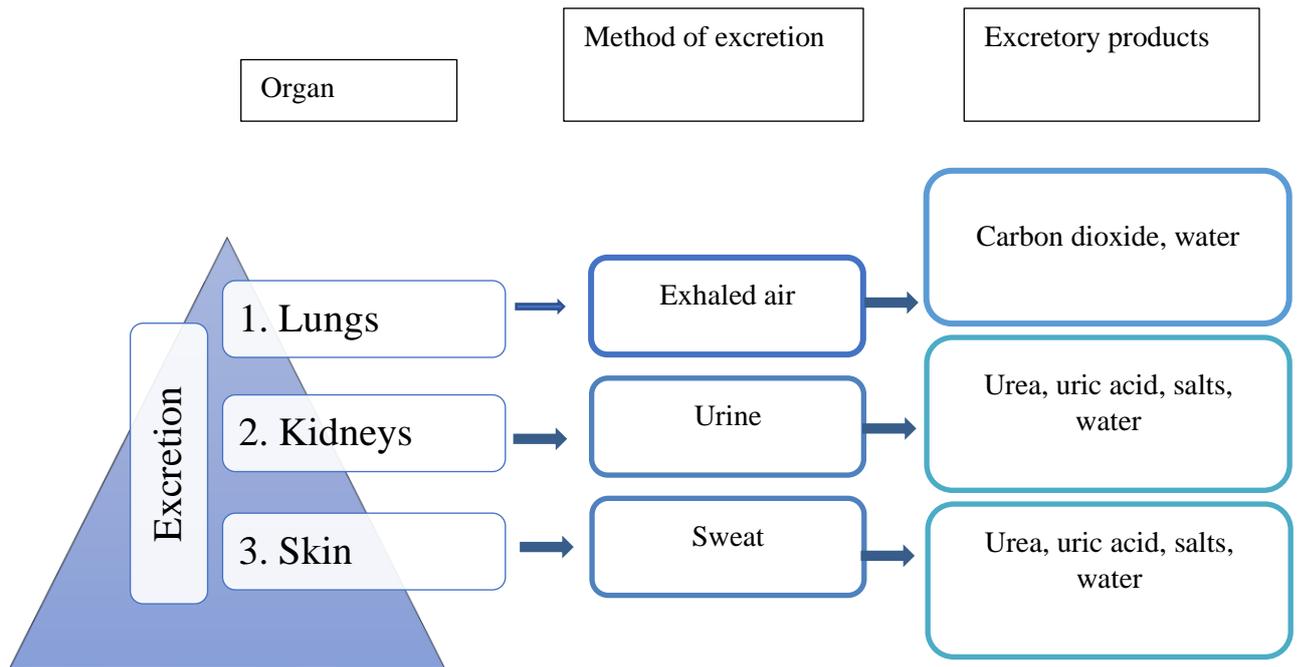
Try to make models of human excretory system, nervous system and human skin by the watching the videos mentioned below.

<https://youtu.be/WvonXIhogCs>

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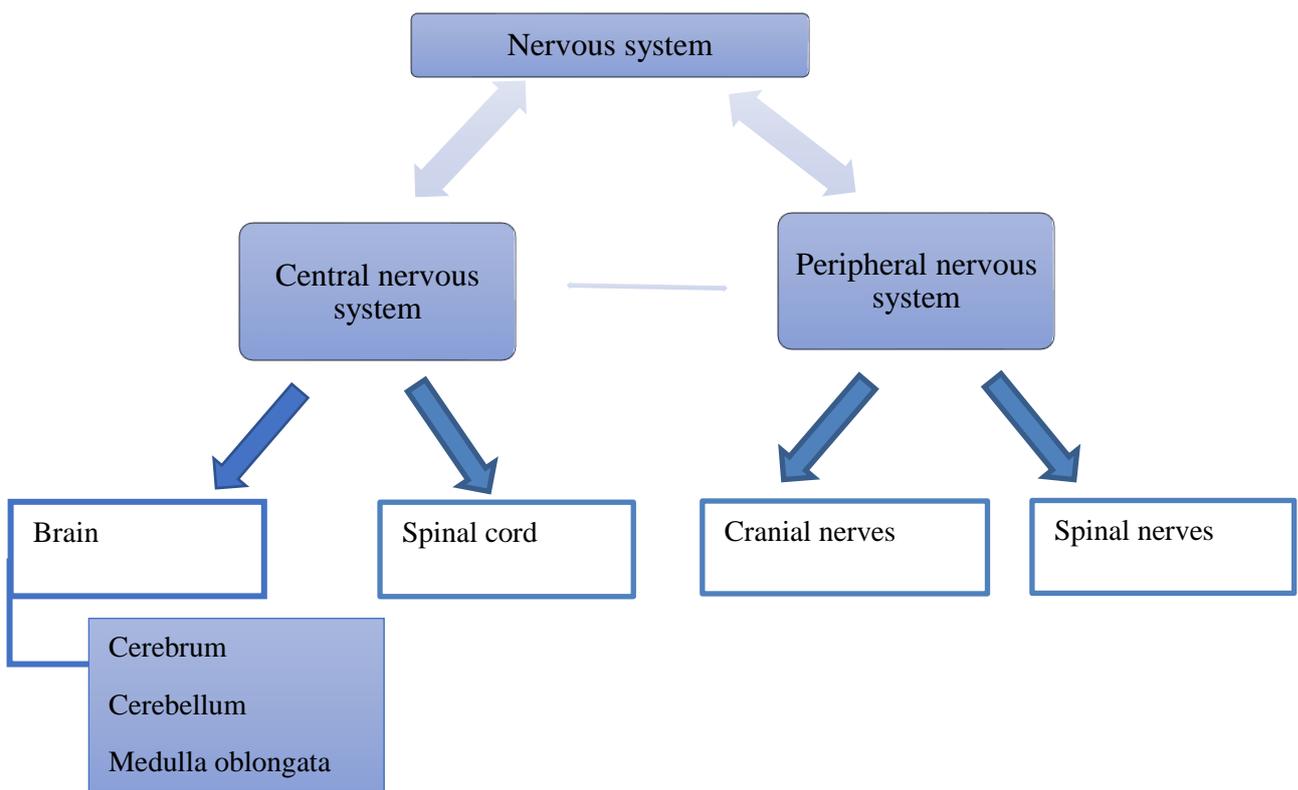
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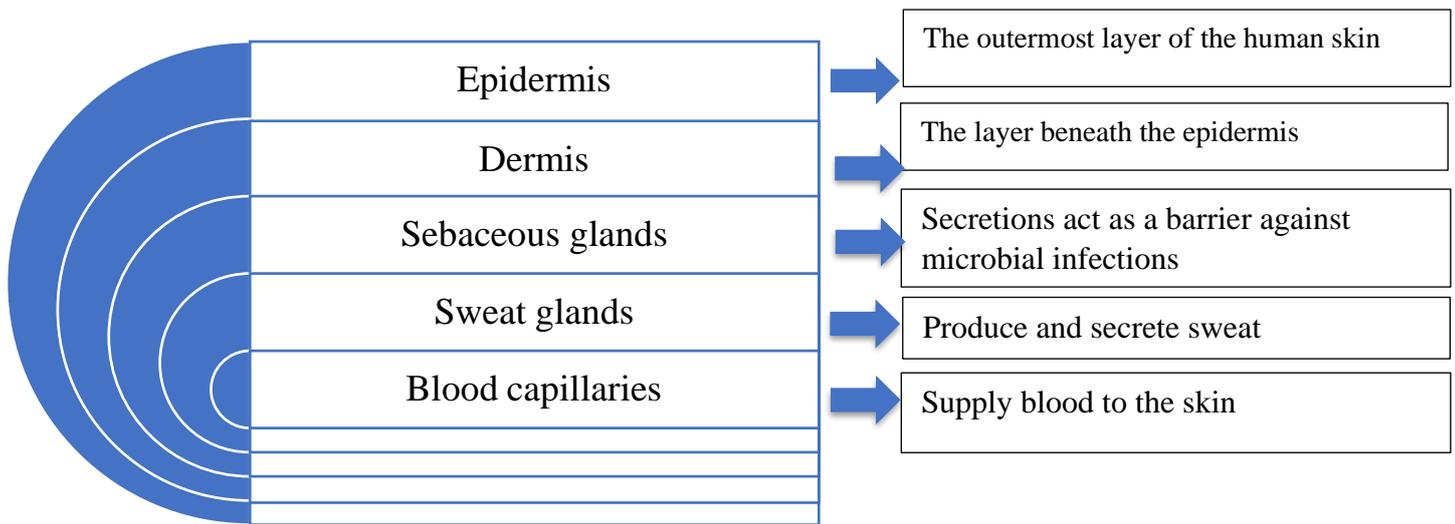
Summary



Coordination

- 1 Chemical coordination
- 2 Hormonal coordination





Exercises

1. What is excretion? Name a few excretory products.
2. When studying the length of a kidney, name the two main areas that appear in it.
3. Name some of the disorders that occur in the kidneys.
4. What are the causes of urinary stones?
- 5 Name the sensitive organ of human.
6. What is the name given to the specific type of membrane that protects the brain and spinal cord?
7. What is the main function of cerebrospinal fluid?
8. The nerves that lead directly from the brain are known as cranial nerves. State the number of pairs of cranial nerves and spinal nerves respectively.
9. Name the two main parts of the skin.
- 10 What are the essential vitamins for a healthy skin?

Activity 4

	Diseases	Remedies
1	Kidney stones	Drinking adequate amount of water Avoid consuming salty diets regularly
2	Kidney failure	Avoid smoking and consuming alcohol Prevent and control diabetes
3	Kidney infection	Concern about the cleanliness of the surrounding area of the urethra

2. Human nervous system

Activity 1

1. Eyes
2. Muscles of the feet
3. Eyes
4. Muscles of the hand
5. Ears
6. Muscles of the hand and feet
7. Tongue
8. Muscles of the mouth and glands
9. Nose
10. Salivary glands
11. Nervous coordination
12. Chemical coordination

Activity 2

1. Central nervous system
2. Peripheral nervous system
3. Brain
4. Spinal cord
5. Cranial nerves
6. Spinal nerves

7. Cerebrum
8. Cerebellum
9. Medulla oblongata

Activity 3

- Maintaining a balanced nutrition from childhood
- Prevent children facing accidents
- During pregnancy, mother should get proper nourishment, considering the baby's physical and mental development
- Be sure to get the correct posture during sports, exercises in daily life and lifting a burden to force
- Control mental stress
- Avoid excessive keeping awake sleepless

3. Human Skin

Activity 1

1. Epidermis
2. Dermis
3. Sebaceous gland
4. Blood capillaries
5. Sweat gland
6. Hair

Activity 2

- Have nutritive diet
- Consuming fresh fruits and vegetables
- Drink adequate amount of fresh water daily
- Be gentle to your skin
- Protecting from the sun
- Avoid smoking and smokers
- Wearing cotton dresses
- Do not share your dresses with others
- Manage stress and always try to maintain good mental health

Translated by: Nayomi Wijesooriya

