

Hand-out for Home Assignment

Day 3



A LIFE ENHANCING SUITE



UJUZI FURSA AFRICA

SKILLS FOR OPPORTUNITIES



SL3.1 The Cardiovascular System

In this module, you will learn about:

- The components of the cardiovascular system
- How blood circulates in the body
- The various types of blood vessels
- The structure of the heart
- How the heart pumps blood

Summary

1. The cardiovascular system consists of:
 - 1) Blood vessels
 - 2) Heart
 - 3) Blood
2. Blood transports gases, nutrients, and hormones and removes waste products from the cells
3. The heart pumps blood into the blood vessels
4. The sequence of blood circulation in the cardiovascular system is:
 - 1) Deoxygenated blood from body parts flows to the heart
 - 2) Deoxygenated blood from heart flows to the lungs
 - 3) Blood is oxygenated in the lungs
 - 4) Oxygenated blood from lungs flows to the heart
 - 5) Oxygenated blood from heart flows to various body parts
5. The different types of blood vessels are:
 - 1) Arteries
 - 2) Arterioles
 - 3) Veins,
 - 4) Venules
 - 5) Capillaries
6. The four chambers in our heart are:
 - 1) Right atrium
 - 2) Left atrium
 - 3) Right ventricle
 - 4) Left ventricle



SL3.1 The Cardiovascular System

7. In the heart:

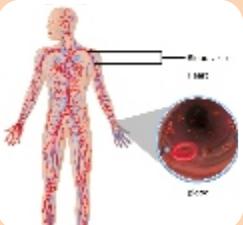
- 1) The right atrium is connected to the veins
- 2) The ventricles are connected to the arteries
- 3) Atrioventricular valves separate the atriums from the ventricles
- 4) Two valves separate ventricles from the arteries

8. The blood is pumped by the heart in two phases:

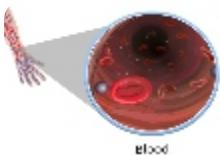
- 1) During diastole, the ventricles relax and blood flows into the heart
- 2) During systole, the ventricles contract and blood flows out of the heart



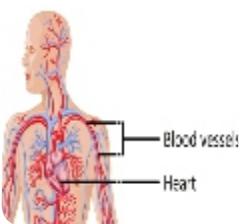
SL3.1 The Cardiovascular System



The cardiovascular system consists of: 1) Blood vessels 2) Heart 3) Blood



Blood transports gases, nutrients, and hormones and removes waste products from the cells



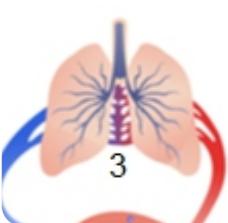
The heart pumps blood into the blood vessels



The sequence of blood circulation in the cardiovascular system is: 1) Deoxygenated blood from body parts flows to the heart



2) Deoxygenated blood from heart flows to the lungs



3) Blood is oxygenated in the lungs



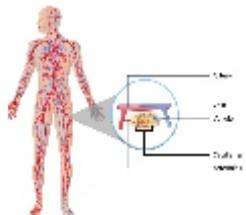
SL3.1 The Cardiovascular System



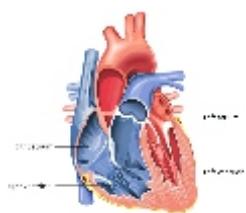
4) Oxygenated blood from lungs flows to the heart



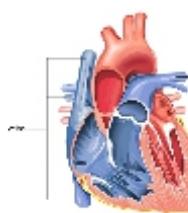
5) Oxygenated blood from heart flows to various body parts



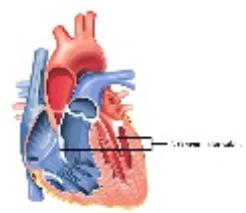
The different types of blood vessels are: 1) Arteries 2) Arterioles
3) Veins 4) Venules 5) Capillaries



The four chambers in our heart are: 1) Right atrium 2) Left atrium
3) Right ventricle 4) Left ventricle



In the heart: 1) The right atrium is connected to the veins 2) The ventricles are connected to the arteries



3) Atrioventricular valves separate the atriums from the ventricles



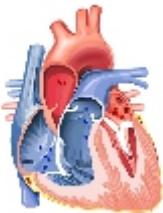
SL3.1 The Cardiovascular System



4) Two valves separate ventricles from the arteries



The blood is pumped by the heart in two phases: 1) During diastole, the ventricles relax and blood flows into the heart



2) During systole, the ventricles contract and blood flows out of the heart



SL3.2 The Gastrointestinal system

In this module, you will learn about:

- The various parts of the gastrointestinal system
- How the food is digested in the body

Summary

1. The parts of the gastrointestinal system are:

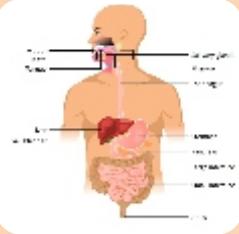
- 1) Mouth
- 2) Teeth
- 3) Tongue
- 4) Salivary glands
- 5) Pharynx
- 6) Esophagus
- 7) Stomach
- 8) Liver
- 9) Gall bladder
- 10) Pancreas
- 11) Small intestine
- 12) Large intestine
- 13) Anus

2. The steps in the process of digestion are:

- 1) Food is chewed by the teeth
- 2) Saliva breaks down the starch in the food
- 3) The food is swallowed and moved to pharynx
- 4) The food moves down to esophagus and then to stomach
- 5) In the stomach, the food is churned and mixed with acid and enzymes to form a thick liquid
- 6) This liquid is poured into the small intestine
- 7) The bile produced by the liver and enzymes produced by the pancreas are secreted into the small intestine
- 8) Bile breaks down the fats
- 9) The enzymes from pancreas breaks the proteins, carbohydrates, and some fats in the food
- 10) The nutrients and vitamins in the food are absorbed by the walls of the small intestine and passed to the blood in blood vessels
- 11) The nutrients are carried to the liver
- 12) The undigested waste then passed to the large intestine
- 13) Finally, the waste is egested from the body through the anus



SL3.2 The Gastrointestinal system



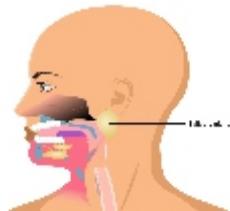
The parts of the gastrointestinal system are:

- 1) Mouth
- 2) Teeth
- 3) Tongue
- 4) Salivary glands
- 5) Pharynx
- 6) Esophagus
- 7) Stomach
- 8) Liver
- 9) Gall bladder
- 10) Pancreas
- 11) Small intestine
- 12) Large intestine
- 13) Anus

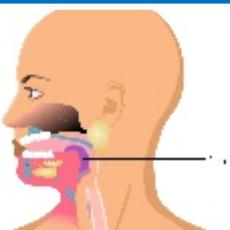


The steps in the process of digestion are:

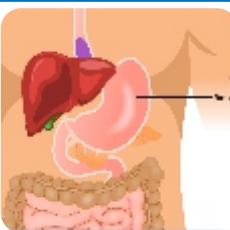
- 1) Food is chewed by the teeth



2) Saliva breaks down the starch in the food



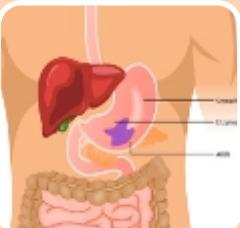
3) The food is swallowed and moved to pharynx



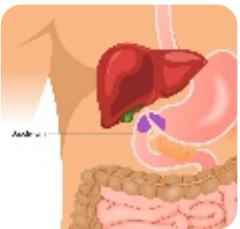
4) The food moves down to esophagus and then to stomach



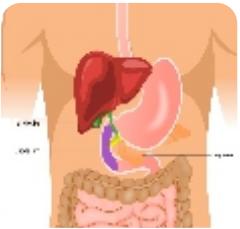
SL3.2 The Gastrointestinal system



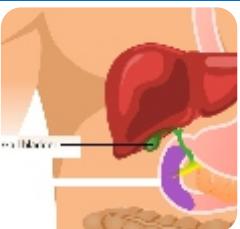
5) In the stomach, the food is churned and mixed with acid and enzymes to form a thick liquid



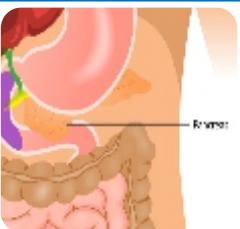
6) This liquid is poured into the small intestine



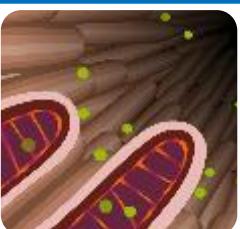
7) The bile produced by the liver and enzymes produced by the pancreas are secreted into the small intestine



8) Bile breaks down the fats



9) The enzymes from pancreas breaks the proteins, carbohydrates, and some fats in the food



10) The nutrients and vitamins in the food are absorbed by the walls of the small intestine and passed to the blood in blood vessels



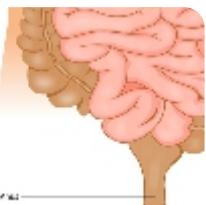
SL3.2 The Gastrointestinal system



11) The nutrients are carried to the liver



12) The undigested waste then passed to the large intestine



13) Finally, the waste is egested from the body through the anus



SL3.3 The Musculoskeletal System

In this module, you will learn about:

- The various parts of the musculoskeletal system and their functions
- The various bones in the skeletal system and their functions
- The various types of muscles in the muscular system and their functions

Summary

1. The musculoskeletal system:

- 1) Gives shape to our body
- 2) Enable movement of the body
- 3) Protects internal structures

2. The musculoskeletal system consists of the bones, joints, cartilage, ligaments, muscles, tendons, and bursa

3. The skeletal system can be divided into axial skeleton and the appendicular skeleton

4. The axial skeleton comprises the bones of:

- 1) Skull
- 2) Thorax
- 3) Vertebral column

5. The bones in the appendicular skeleton are:

- | | |
|----------------|------------------|
| 1) Scapula | 8) Phalanges |
| 2) Clavicle | 9) Pelvic girdle |
| 3) Humerus | 10) Femur |
| 4) Radius | 11) Patella |
| 5) Ulna | 12) Tibia |
| 6) Carpals | 13) Fibula |
| 7) Metacarpals | 14) Tarsals |
| | 15) Metatarsals |

6. Bone contains many layers of calcium, phosphorous, other minerals and organic substances

7. The main function the bone marrow is to produce red blood cells

8. The bones are attached at joints

9. The soft tissue between the bones is cartilage

10. Ligaments bind two bones together



SL3.3 The Musculoskeletal System

11. The three types of joints are:

- 1) Fixed joints
- 2) Slightly movable joints
- 3) Movable joints

12. The muscular system helps to maintain the body posture and allow movement

13. A muscle consists of thousands of long fiber-like muscle cells bundled together

14. The different types of muscles in the body are:

- 1) Skeletal muscles
- 2) Smooth muscles
- 3) Cardiac muscles

15. Tendons attach a skeletal muscle to a bone

16. Bursa lie under or over a tendon to cushion the tendon and protects it from injury



SL3.3 The Musculoskeletal System



The musculoskeletal system: 1) Gives shape to our body
2) Enable movement of the body 3) Protects internal structures

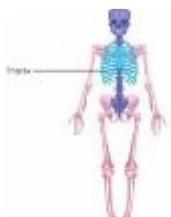
Musculoskeletal system:



The musculoskeletal system consists of the bones, joints, cartilage, ligaments, muscles, tendons and bursa



The skeletal system can be divided into axial skeleton and the appendicular skeleton



The axial skeleton comprises the bones of: 1) Skull 2) Thorax
3) Vertebral column



The bones in the appendicular skeleton are: 1) Scapula 2) Clavicle
3) Humerus 4) Radius 5) Ulna 6) Carpals 7) Metacarpals
8) Phalanges 9) Pelvic girdle 10) Femur 11) Patella 12) Tibia
13) Fibula 14) Tarsals 15) Metatarsals



SL3.3 The Musculoskeletal System



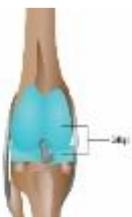
Bone contains many layers of calcium, phosphorous, other minerals and organic substances



The main function the bone marrow is to produce red blood cells



The bones are attached at joints



The soft tissue between the bones is cartilage



Ligaments bind two bones together



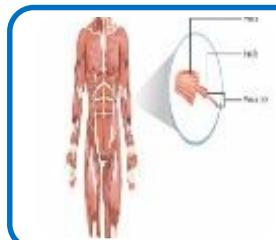
The three types of joints are: 1) Fixed joints 2) Slightly movable joints 3) Movable joints



SL3.3 The Musculoskeletal System



The muscular system helps to maintain the body posture and allow movement



A muscle consists of thousands of long fiber -like muscle cells bundled together



The different types of muscles in the body are: 1) Skeletal muscles, 2) Smooth muscles 3) Cardiac muscles



Tendons attach a skeletal muscle to a bone



Bursa lie under or over a tendon to cushion the tendon and protects it from injury



SL3.4 The Reproductive Systems

In this module, you will learn about:

- Parts of the male reproductive system
- Parts of the female reproductive system

Summary

1. The male reproductive system includes:

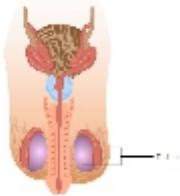
- 1) Two testicles that produce sperms
- 2) Two spermatic cords that carry sperms to the urethra
- 3) Two seminal vesicles that secrete semen to provide energy to sperms
- 4) Two ejaculatory ducts that transfer sperms from seminal vesicles to urethra
- 5) Prostate gland, which secretes fluid to nourish sperms
- 6) Urethra, which transports sperms and semen out of the body
- 7) Penis, which is used for copulation

2. The internal parts of the female reproductive system include:

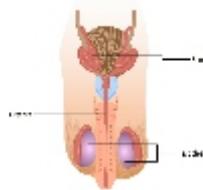
- 1) A pair of ovaries, that produce ovum,
- 2) A pair of fallopian tubes, that provide a site for fertilization of ovum,
- 3) A uterus, where a zygote develops into a baby, and
- 4) A vagina, which receives the sperms and provides an opening for the birth of a baby



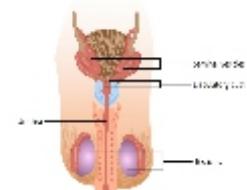
SL3.4 The Reproductive Systems



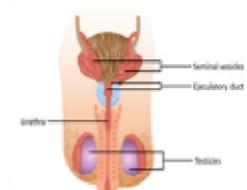
The male reproductive system includes: 1) Two testicles that produce sperms



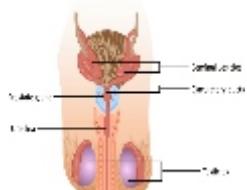
2) Two spermatic cords that carry sperms to the urethra



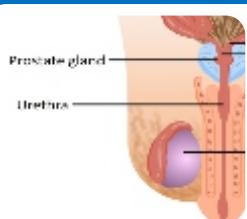
3) Two seminal vesicles that secrete semen to provide energy to sperms



4) Two ejaculatory ducts that transfer sperms from seminal vesicles to urethra



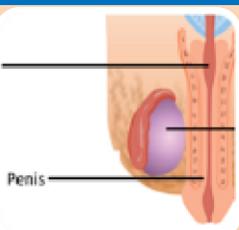
5) Prostate gland, which secretes fluid to nourish sperms



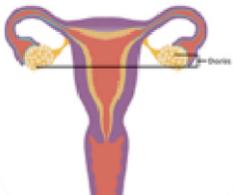
6) Urethra, which transports sperms and semen out of the body



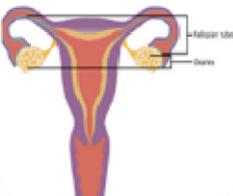
SL3.4 The Reproductive Systems



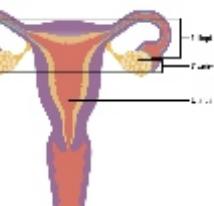
7) Penis, which is used for copulation



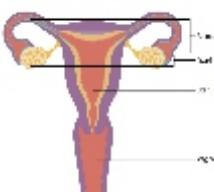
The internal parts of the female reproductive system include: 1) A pair of ovaries, that produce ovum



2) A pair of fallopian tubes, that provide a site for fertilization of ovum



3) A uterus, where a zygote develops into a baby



4) A vagina, which receives the sperms and provides an opening for the birth of a baby



SL3.5 The Respiratory System

In this module, you will learn about:

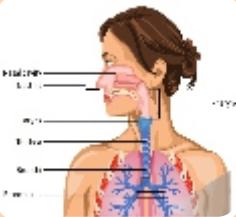
- The parts of the respiratory system
- How we breath in and breath out
- How we recognize smell

Summary

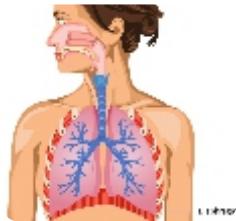
1. The main parts of the respiratory system are:
 - 1) Nostrils
 - 2) Nasal cavity
 - 3) Pharynx
 - 4) Larynx
 - 5) Trachea
 - 6) Bronchi
 - 7) Bronchiole
 - 8) Alveoli
 - 9) Lungs
2. The diaphragm and the rib cage move to support the lungs while breathing in and breathing out air
3. When we breathe in:
 - 1) The air enters through the nostrils
 - 2) The mucous and tiny hair in the nostrils and the nasal cavity trap dust particles and germs
 - 3) The nasal cavity warms up and moistens the air
 - 4) The air passes through the pharynx, larynx, trachea, and the bronchi to reach the lungs
 - 5) The oxygen in the air passes through the alveoli into the capillaries to reach the red blood cells
 - 6) The red blood cells with oxygen flow from the capillaries to the veins, and then to the heart
 - 7) The heart sends the red blood cells with oxygen to all the parts of the body
4. When we breathe out:
 - 1) The red blood cells with the carbon dioxide from different parts of the body reach the capillaries
 - 2) The capillaries pass the carbon dioxide to the alveoli
 - 3) The lung expels the carbon dioxide
 - 4) The carbon dioxide travels through the bronchi, trachea, larynx, and pharynx is thrown out from nostrils
5. The process of recognizing smell is as follows:
 - 1) The receptors in the olfactory bulb on roof of the nasal cavity detect smell
 - 2) The receptors carry signals to the brain
 - 3) The brain interprets the smell and we can recognize it



SL3.5 The Respiratory System



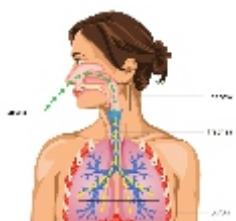
The main parts of the respiratory system are: 1) Nostrils 2) Nasal cavity 3) Pharynx 4) Larynx 5) Trachea 6) Bronchi 7) Bronchiole 8) Alveoli 9) Lungs



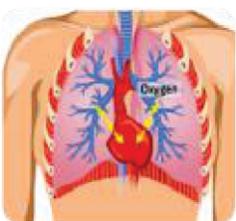
The diaphragm and the rib cage move to support the lungs while breathing in and breathing out air



When we breathe in: 1) The air enters through the nostrils 2) The mucous and tiny hair in the nostrils and the nasal cavity trap dust particles and germs



3) The nasal cavity warms up and moistens the air 4) The air passes through the pharynx, larynx, trachea, and the bronchi to reach the lungs



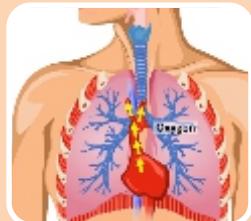
5) The oxygen in the air passes through the alveoli into the capillaries to reach the red blood cells



6) The red blood cells with oxygen flow from the capillaries to the veins, and then to the heart



SL3.5 The Respiratory System



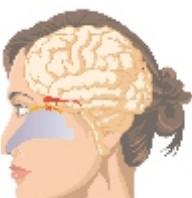
7) The heart sends the red blood cells with oxygen to all the parts of the body



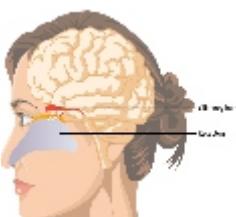
When we breathe out: 1) The red blood cells with the carbon dioxide from different parts of the body reach the capillaries
2) The capillaries pass the carbon dioxide to the alveoli



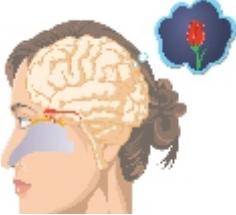
3) The lung expels the carbon dioxide 4) The carbon dioxide travels through the bronchi, trachea, larynx, and pharynx is thrown out from nostrils



The process of recognizing smell is as follows: 1) The receptors in the olfactory bulb on roof of the nasal cavity detect smell



2) The receptors carry signals to the brain



3) The brain interprets the smell and we can recognize it



SL3.6 The Urinary System

In this module, you will learn about:

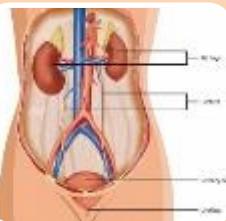
- The various parts of the urinary system
- How urine is formed and expelled out of the body
- How kidneys control blood pressure and salt level in the body
- How kidneys regulate water level in the blood
- How kidneys regulate the production of red blood cells in body

Summary

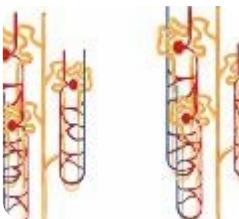
1. The parts of the urinary system are kidneys, ureters, urinary bladder, and urethra
2. A kidney contains millions of filtration units called nephrons
3. The process of urine formation and expulsion is as follows:
 - 1) Blood reaches glomerulus through renal artery
 - 2) The blood is filtered in glomerulus and the filtered liquid along with the molecules then passes through the nephron
 - 3) Nephron absorbs glucose, amino acids, sodium, and some water
 - 4) The remaining liquid, urine, passes to collecting ducts
 - 5) The urine then passes to the ureter
 - 6) Then, the urine passes to the urinary bladder
 - 7) Finally, the urine is expelled through urethra
4. The process of controlling blood pressure and salt level is as follows:
 - 1) If blood pressure and salt level drops, kidneys secrete renin
 - 2) If the blood pressure or salt level is high, no renin is secreted
5. The process of regulating the water level in the blood is as follows:
 - 1) The brain detects water level of the blood
 - 2) If there is too less water, it instructs pituitary gland in the brain to release ADH
 - 3) ADH travels to kidneys and increases water reabsorption
 - 4) If water level is too high, no ADH is secreted by the pituitary gland and there is low water reabsorption in the kidneys
6. The process of regulating red blood cells in the blood is as follows:
 - 1) When the kidneys detect low oxygen in blood, they secrete erythropoietin
 - 2) Erythropoietin stimulates the bone marrow to produce more red blood cells



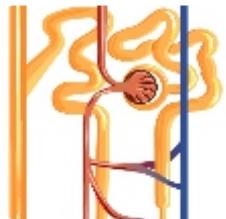
SL3.6 The Urinary System



The parts of the urinary system are kidneys, ureters, urinary bladder, and urethra

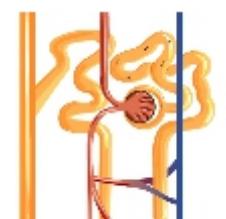


A kidney contains millions of filtration units called nephrons



The process of urine formation and expulsion is as follows:

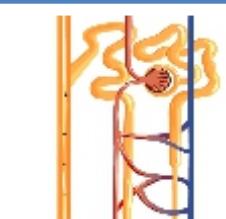
1) Blood reaches glomerulus through renal artery



2) The blood is filtered in glomerulus and the filtered liquid along with the molecules then passes through the nephron



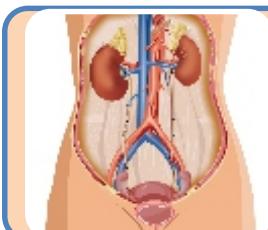
3) Nephron absorbs glucose, amino acids, sodium, and some water



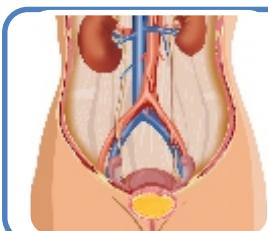
4) The remaining liquid, urine, passes to collecting ducts



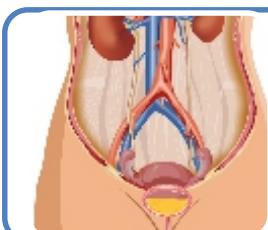
SL3.6 The Urinary System



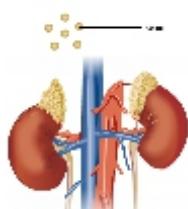
5) The urine then passes to the ureter



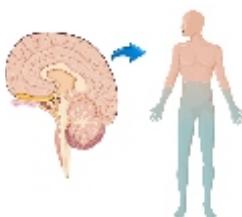
6) Then, the urine passes to the urinary bladder



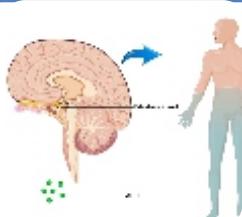
7) Finally, the urine is expelled through urethra



The process of controlling blood pressure and salt level is as follows: 1) If blood pressure and salt level drops, kidneys secrete renin 2) If the blood pressure or salt level is high, no renin is secreted



The process of regulating the water level in the blood is as follows: 1) The brain detects water level of the blood 2) If there is too less water, it instructs pituitary gland in the brain to release ADH



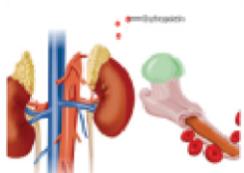
3) ADH travels to kidneys and increases water reabsorption 4) If water level is too high, no ADH is secreted by the pituitary gland and there is low water reabsorption in the kidneys



SL3.6 The Urinary System



The process of regulating red blood cells in the blood is as follows: 1) When the kidneys detect low oxygen in blood, they secrete erythropoietin



2) Erythropoietin stimulates the bone marrow to produce more red blood cells

Thank
You!

Quiz Test Day 3

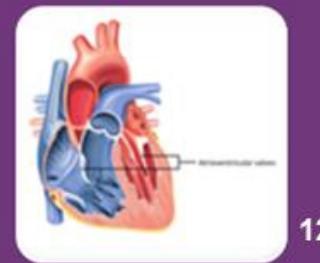
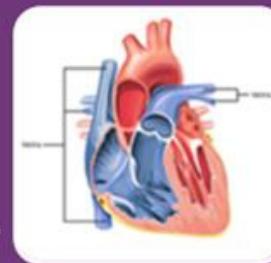
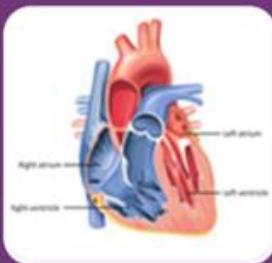
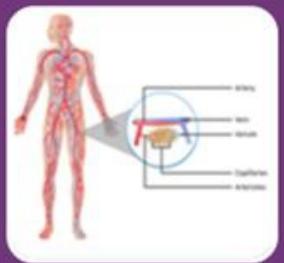
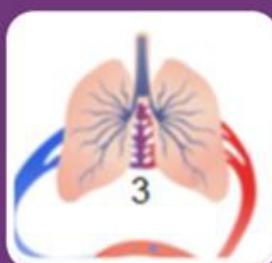
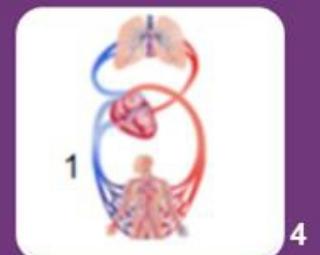
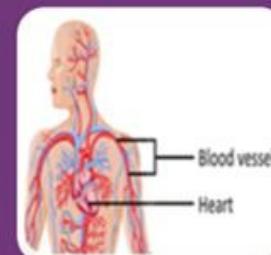
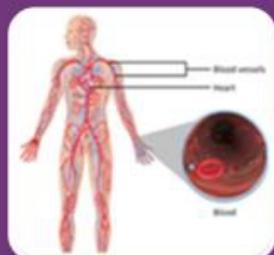


A LIFE ENHANCING SUITE



SL3.1 The Cardiovascular System

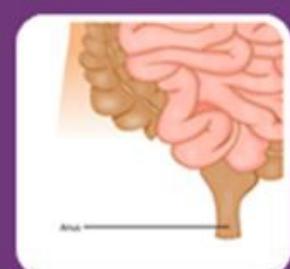
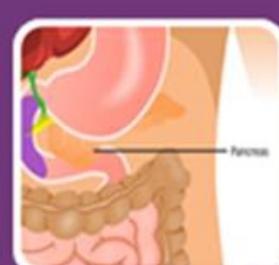
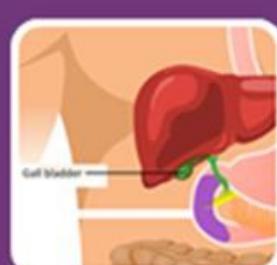
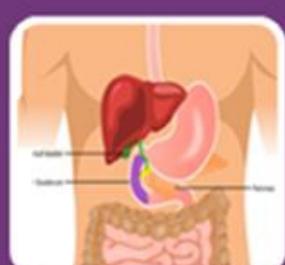
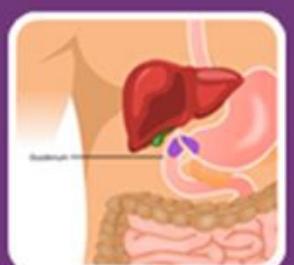
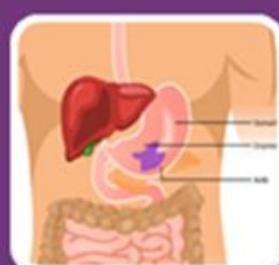
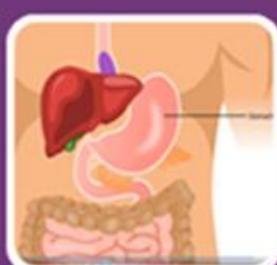
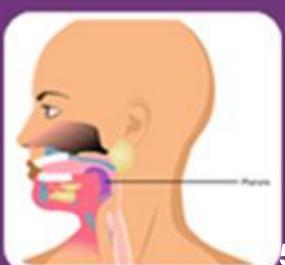
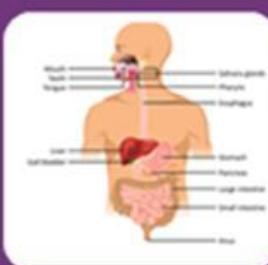
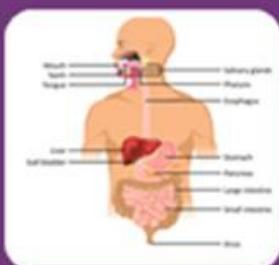
Label the Pictures:





SL3.2 The Gastrointestinal system

Label the Pictures:





SL3.3 The Musculoskeletal System

Label the Pictures:



1



2



3



4



5



6



7



8



9



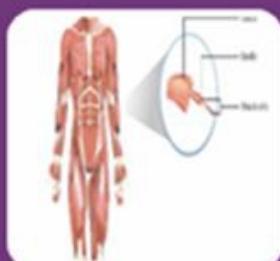
10



11



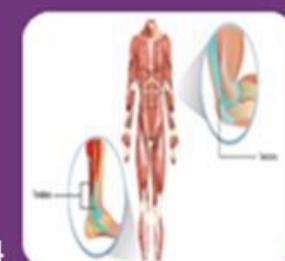
12



13



14



15

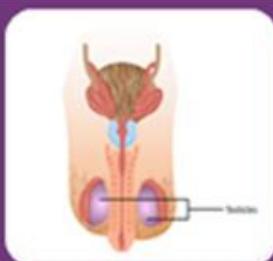


16

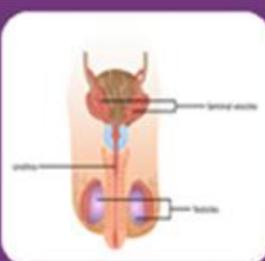


SL3.4 The Reproductive Systems

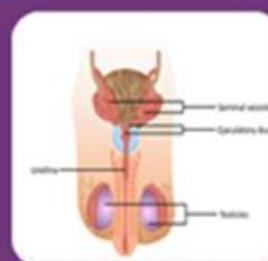
Label the Pictures:



1



2



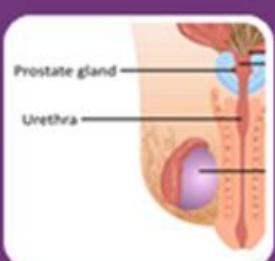
3



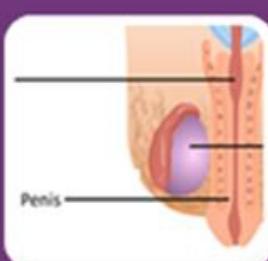
4



5



6



7



8



9



10

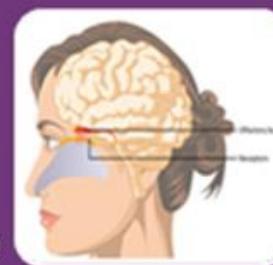
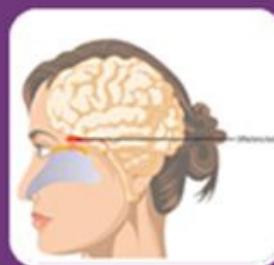


11



SL3.5 The Respiratory System

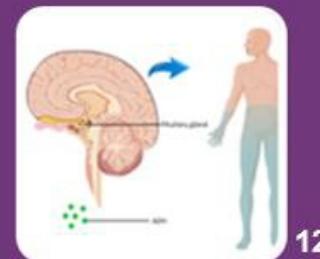
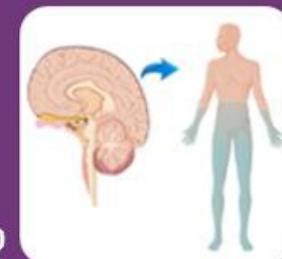
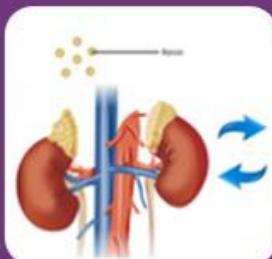
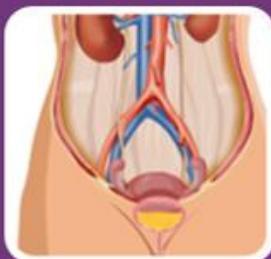
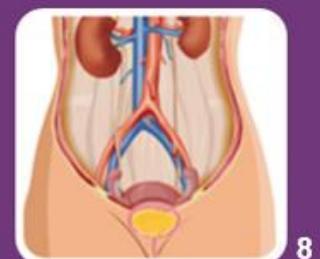
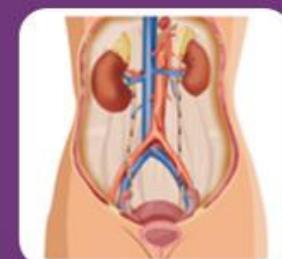
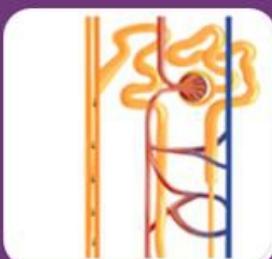
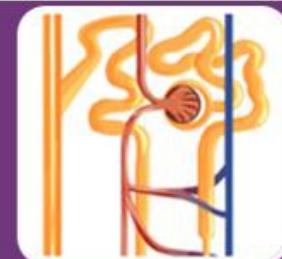
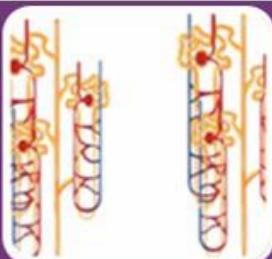
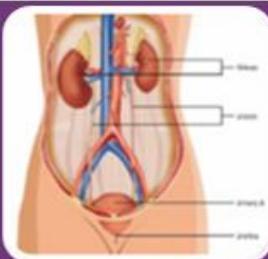
Label the Pictures:





SL3.6 The Urinary System

Label the Pictures:



Thank
You!