

ANATOMY & PHYSIOLOGY WORKBOOK

Student name:.....

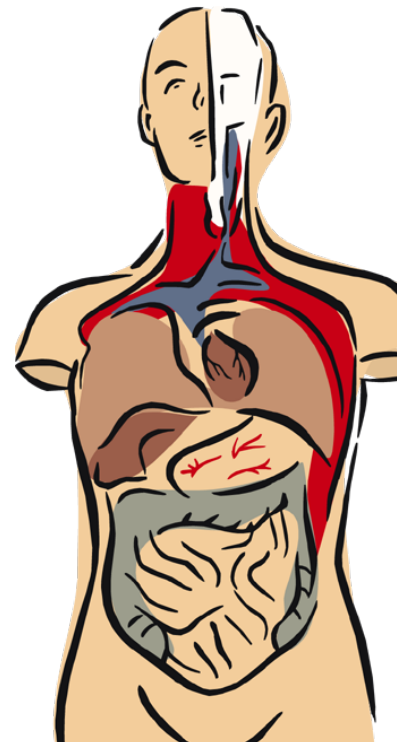
Student ID:.....

Module name: Introduction to Physiology

Module code: BMHP5023

Lecturer name:

Module Lead: Shaila Hussain



Week 1 – Introduction to Physiology

Key learning:

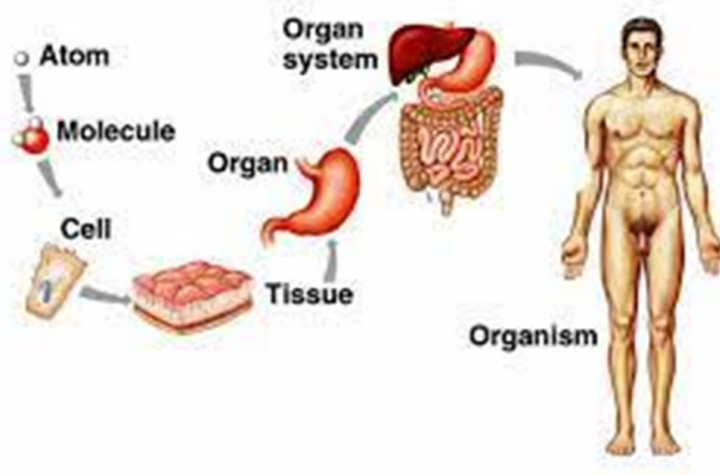
- Define the terms for anatomy and physiology
- Anatomical regions of the human body
- Cells to organisms

What is anatomy and physiology?

Anatomy

Physiology

Anatomical regions of the human body



Define and state the function of the following

Atoms

Compounds

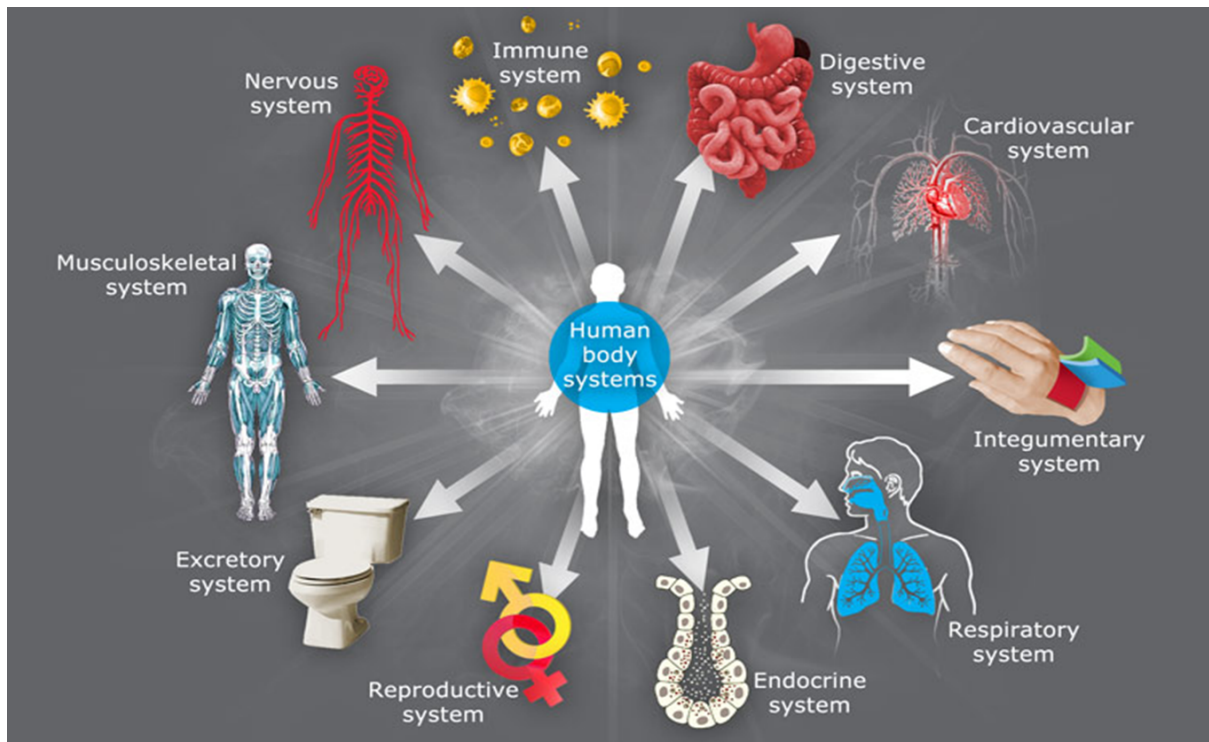
Cell

Tissue

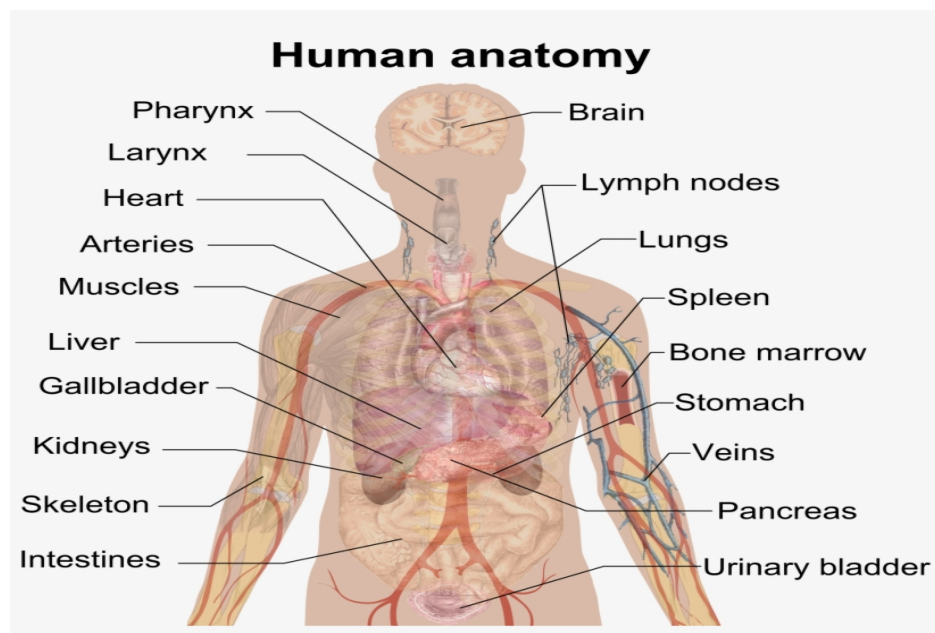
Organ

System

The human body systems

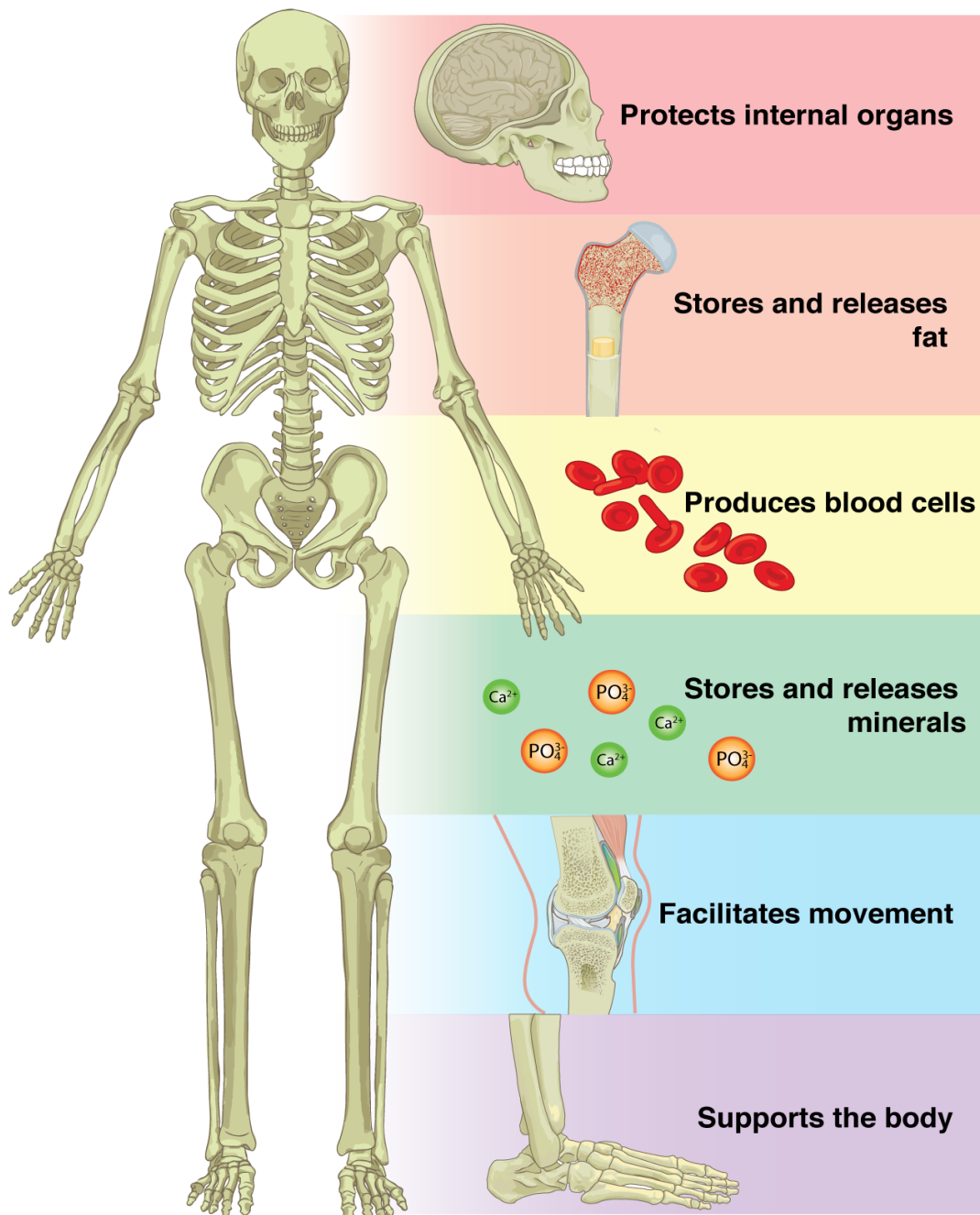


The human anatomy



Week 1 – Session 2 – The musculoskeletal system

The main functions of the musculoskeletal system are:



How does the skeletal system work?

What are the main injuries and diseases of the skeletal system?

How many bones do we have in our bodies?

Name the 4 types of bones

How is the musculoskeletal system important in the health and social care practice (state one example)?

How do you prevent falls for an elderly person?

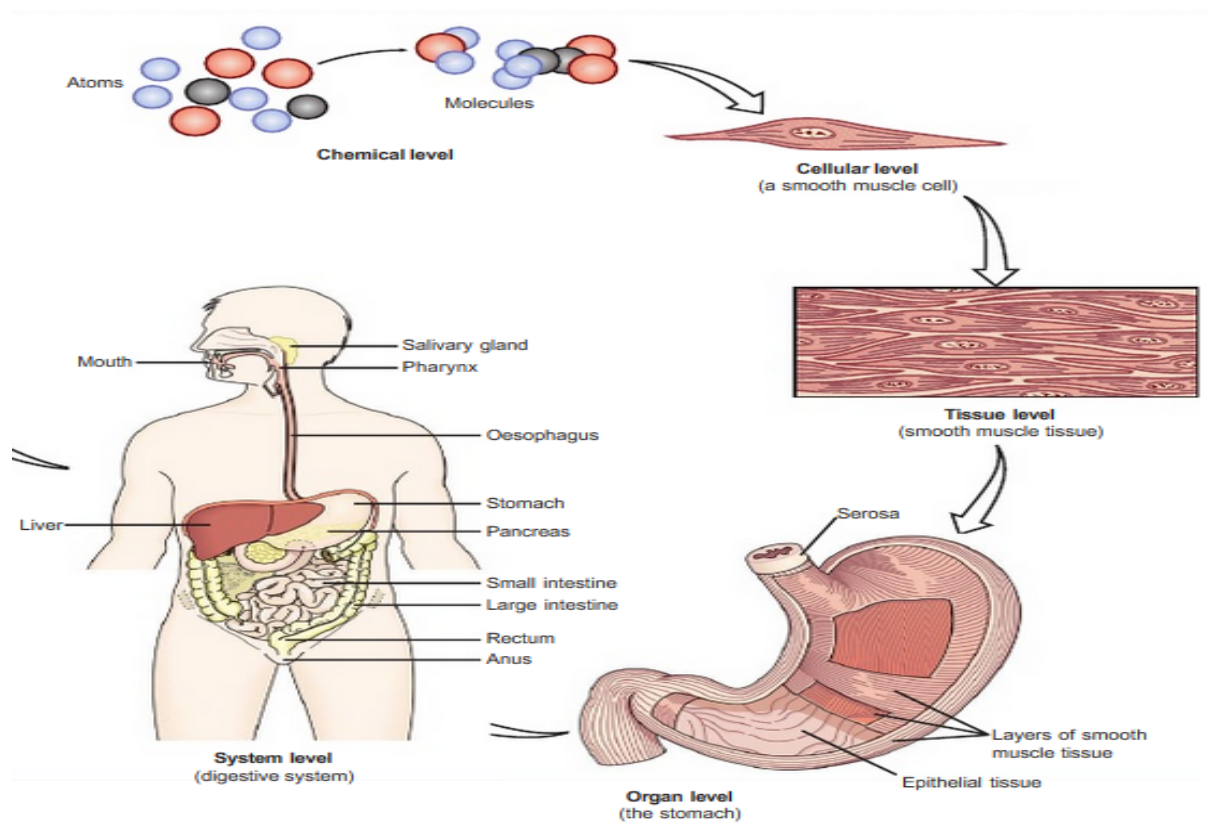
What are the care monitoring, care plans and care routines for an individual with skeletal problems?

Week 2 – Session 1 – Chemicals of life

Key learning:

- Understanding the basic atomic structure
- Explain the organic substances

The fundamentals of Human Anatomy from the chemical level to the system level



Name some examples of atoms, molecules and compounds

Week 2 – Session 2 – The Cell Structure

Key learning:

- The structure and function of the human cells
- Explain how the cells work with other systems
- Explaining cell damage in health and social care situations

Who discovered the cell?

How many cell types are there?

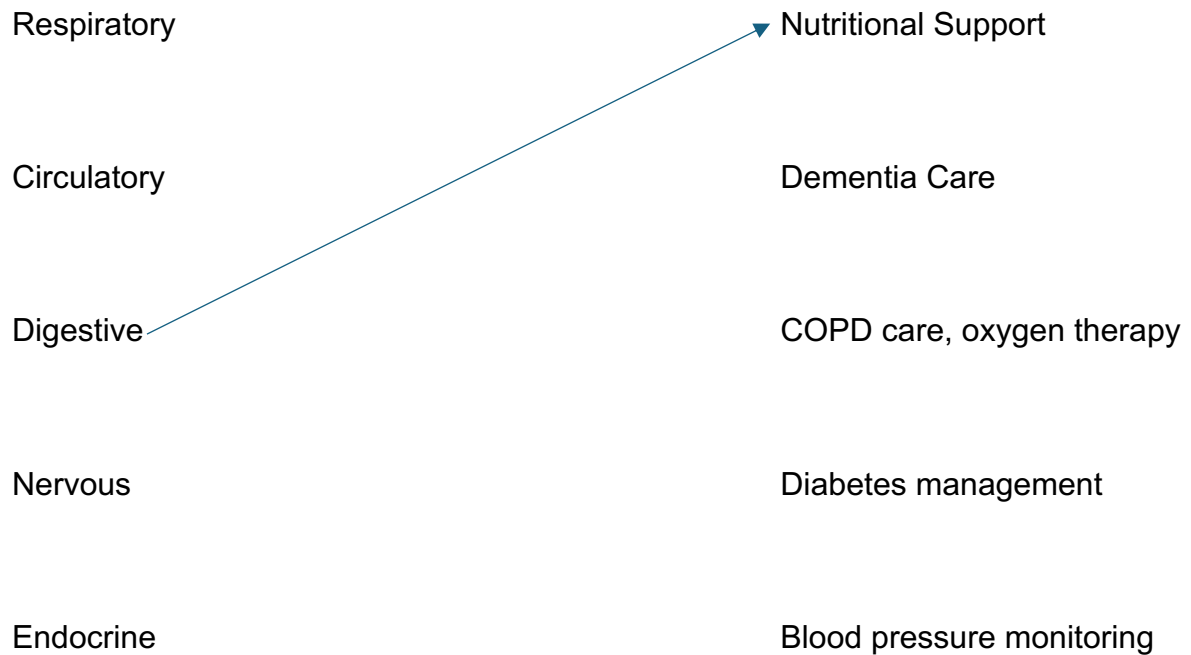
Name the 3 basic cell structures

Name the 4 types of tissues and their function

Explain what problems in cells can lead to disease?

Give some examples of cell damage

What is the care relevance to the following systems (draw to the right system)



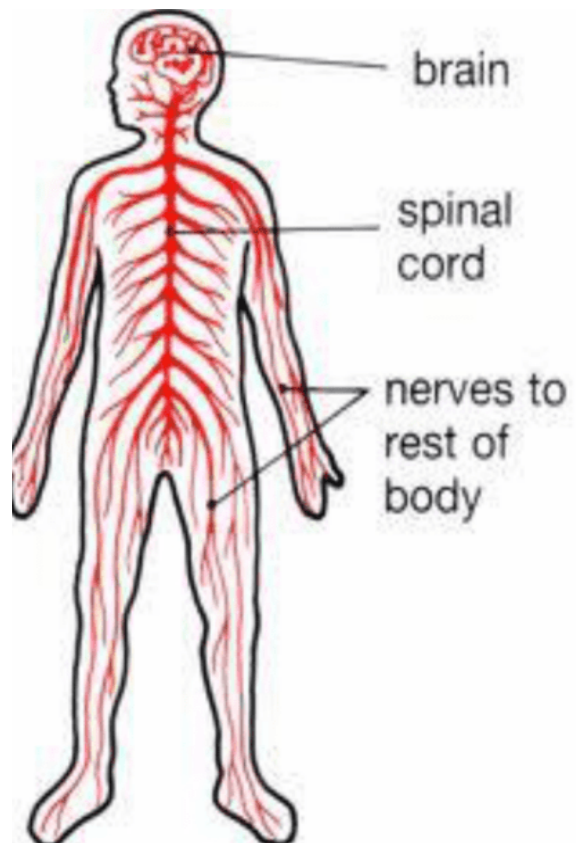
Name two diseases related to red blood cells and explain how healthcare workers can support them

Week 3 – Session 1 – The Nervous System

Key learning:

- To be able to discuss the function of the nervous system in relation to the principle of homeostasis

The Nervous system consists of the following parts



Explain how the nervous and endocrine systems work together

Define homeostasis

Name the functions of the nervous system

What is the difference between sympathetic and parasympathetic

Name the diseases of the nervous system

Explain some key responsibilities of a healthcare worker to support an individual with a disease of the nervous system

Name some health promotion activities of the nervous system

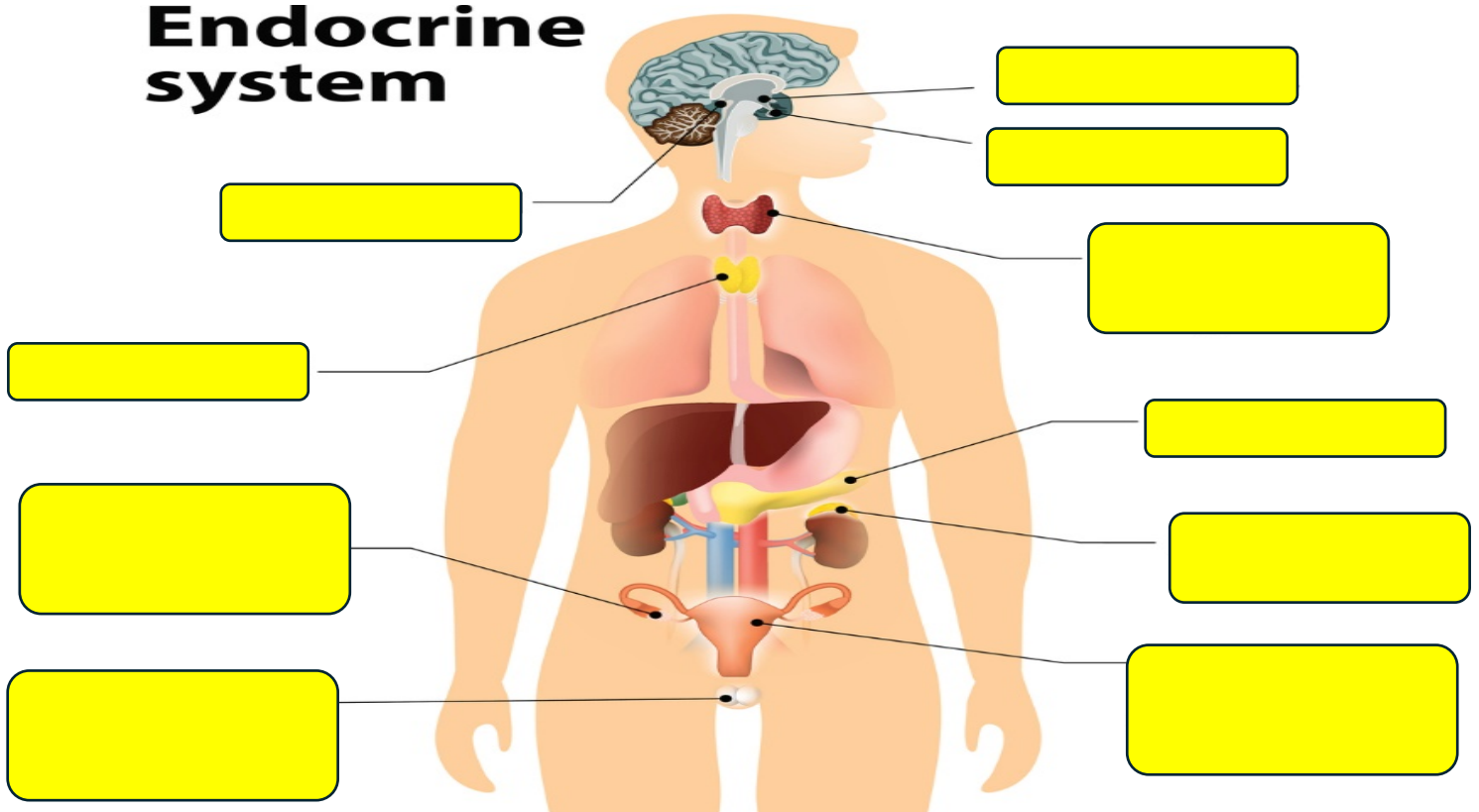
Week 3 – Session 2 – The Endocrine System

Key learning:

- To be able to discuss the function of the endocrine system in relation to the principle of homeostasis

Name the following parts

Endocrine system



What are the general functions of the hormones within the endocrine system

Name the two main hormones that the thyroid gland secretes

Explain how insulin is produced in the pancreas

What is the difference between type 1 and type 2 diabetes?

Name the diseases of the endocrine system

Briefly explain how a healthcare professional would care for a diabetic patient

Week 4 – Session 1 – The Cardiovascular System

Key learning:

- To be able to outline the structure of the heart
- List the functions of the heart
- How the cardiovascular system functions

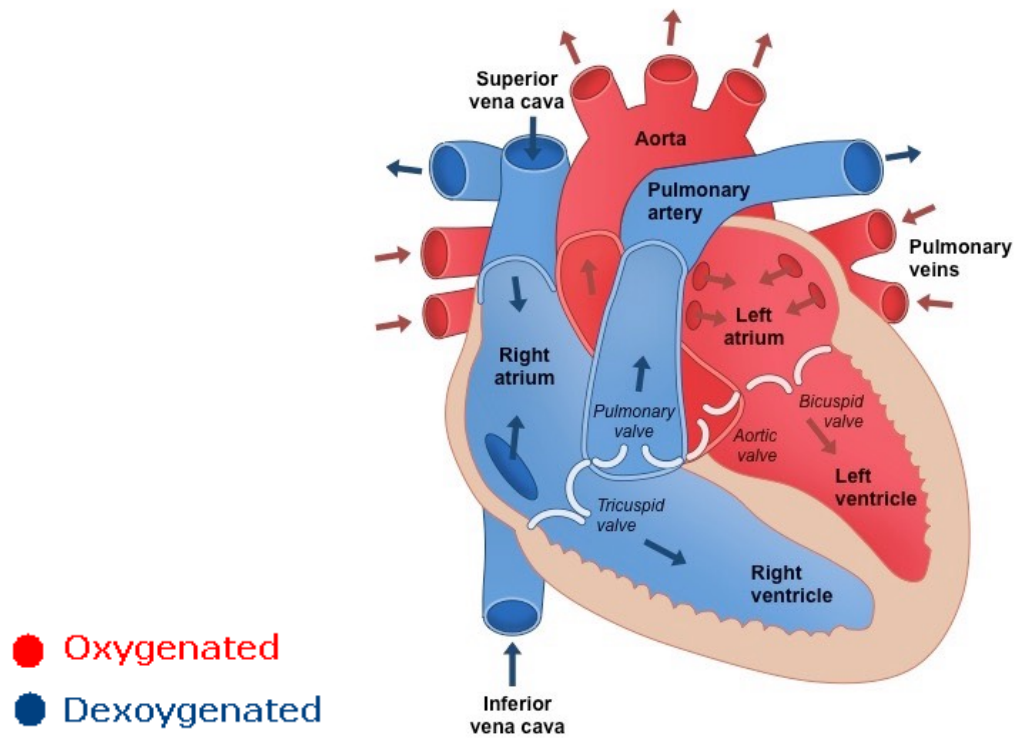
What side is the heart situated, right or left?

The cardiovascular system is made up of three main components:

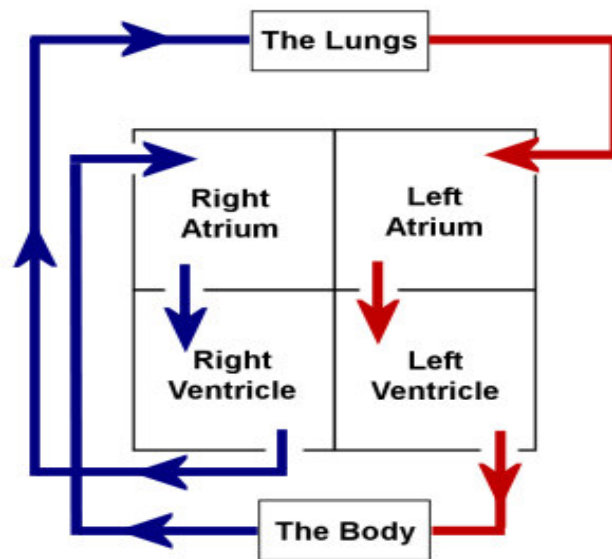
Heart, blood vessels and the blood

What is the difference between the double-pump system in pulmonary and systemic circulation?

What is the function of the cardiovascular system?



Explain the structure of the heart



What are the 3 main types of blood vessels, and explain their function

Label the functions correctly; the first one has been done for you.

Right atrium

Pumps blood to lungs(pulmonary)

Right ventricle

Receives systemic blood

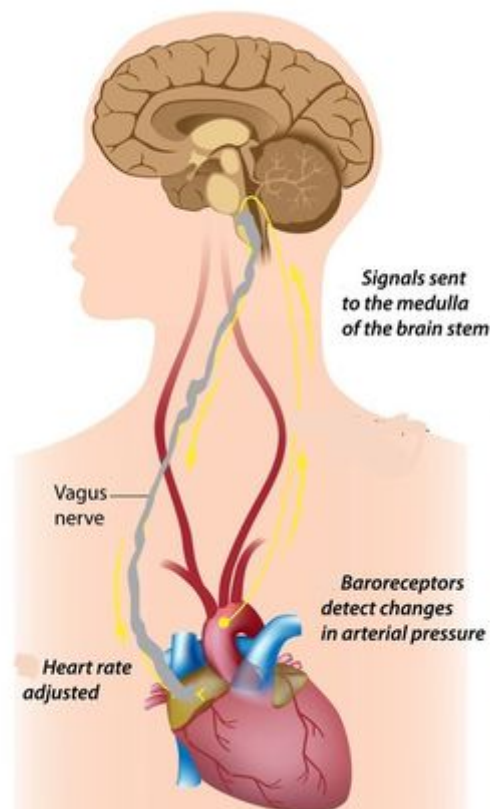
Left atrium

Pumps blood to organ systems (systemic).

Left ventricle

Receives blood from lungs

How does the heart regulate?

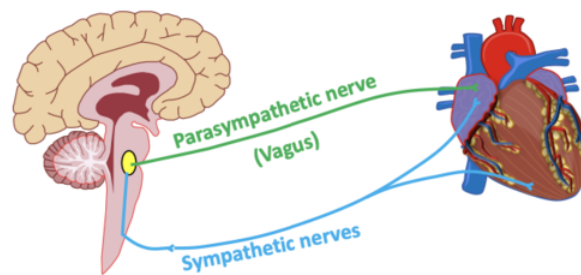


How does the cardiovascular system work with the nervous system?

How does the cardiovascular system work with the muscular system and the kidneys?

How does the cardiovascular system work with the skin?

How does the cardiovascular system work with the brain?



How do the following diseases affect the cardiovascular system?

Coronary Heart Disease (CHD)

Hypertension

Stroke

What lifestyle factors can healthcare professionals recommend for people with any cardiovascular disease?

Week 4 – Session 2 – The Respiratory System

Key learning:

- The function of the respiratory system
- Anatomy of the lungs
- Common lung diseases

Mark the correct answer for the main purpose of the respiratory system.

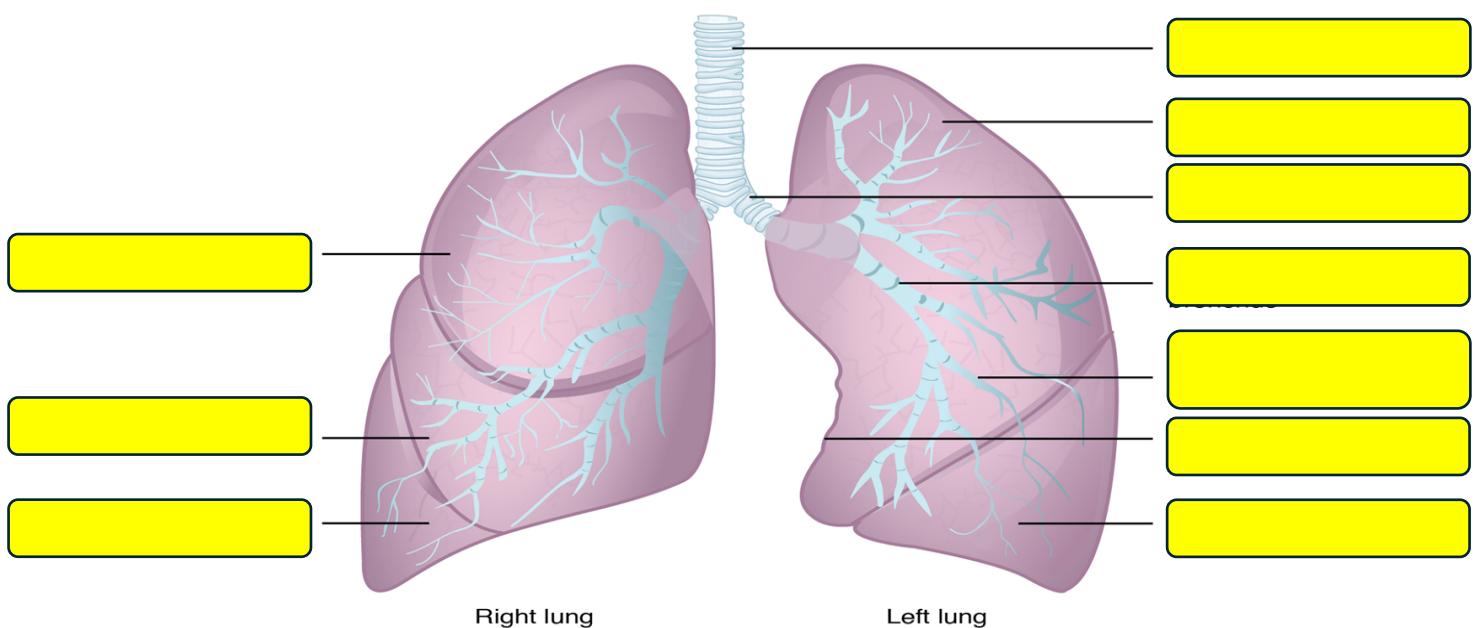
To digest food

Give oxygen to the blood to deliver to all parts of the body

To enable cells to communicate with one another

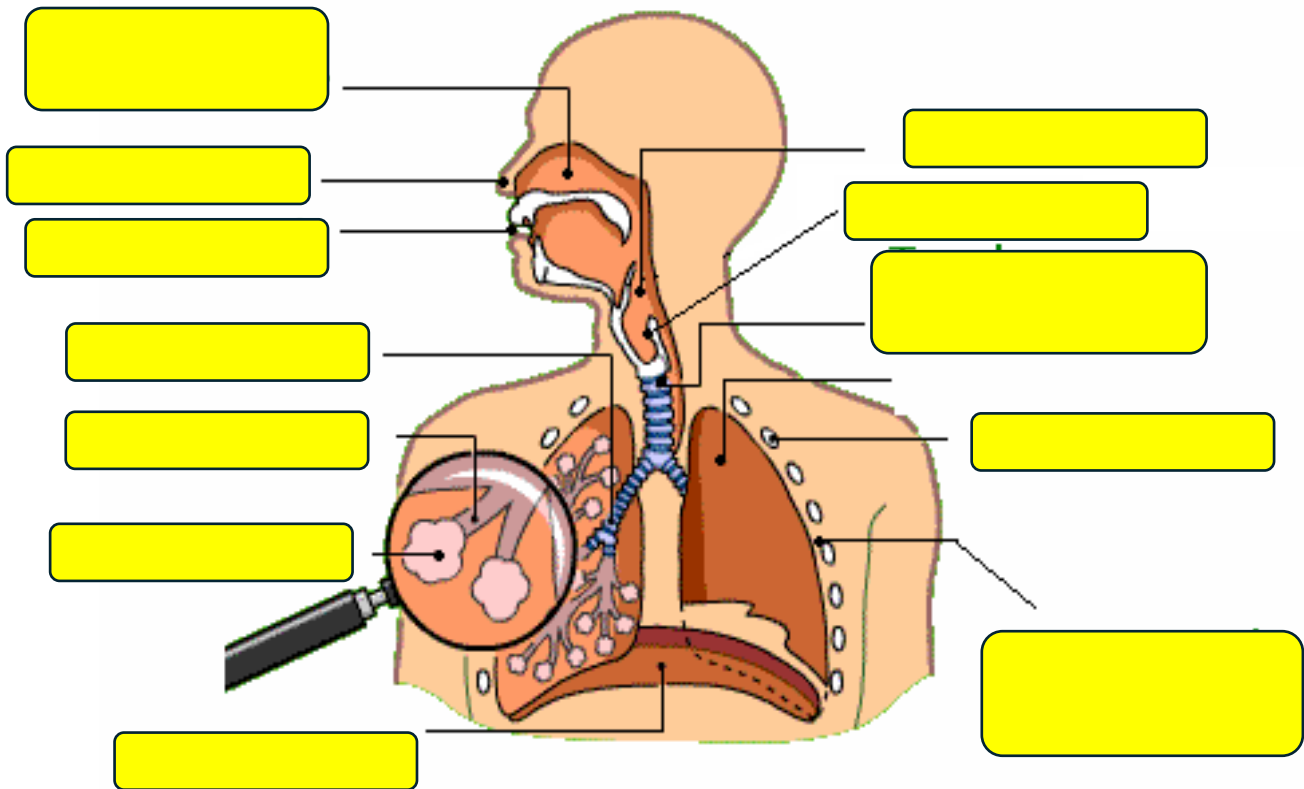
To help the body eliminate liquid urea

Label the following diagram – Gross anatomy of the lungs



The main structures of the lungs

Label the parts below

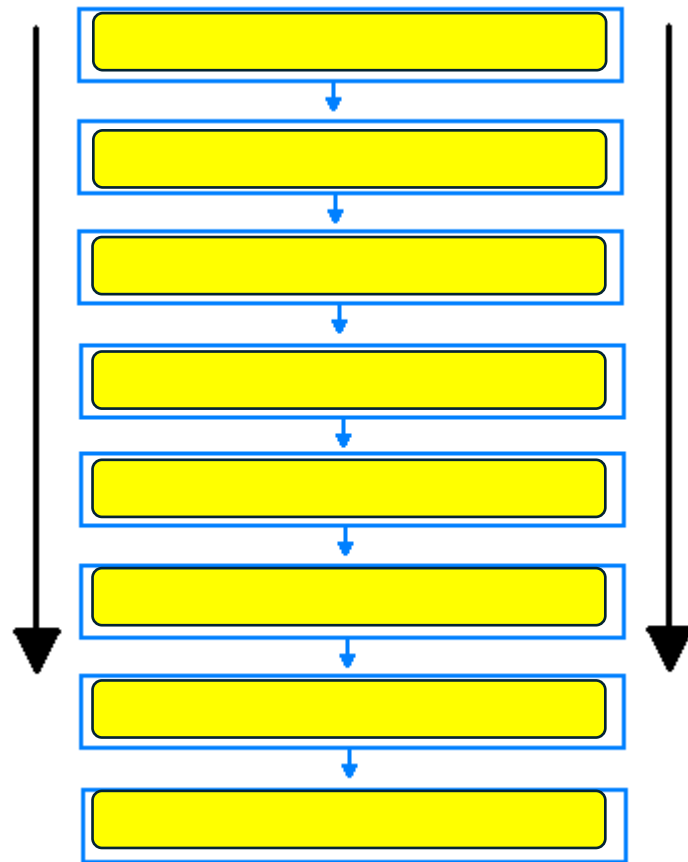


Explain the tiny capillaries around the alveoli that help in the gaseous exchange

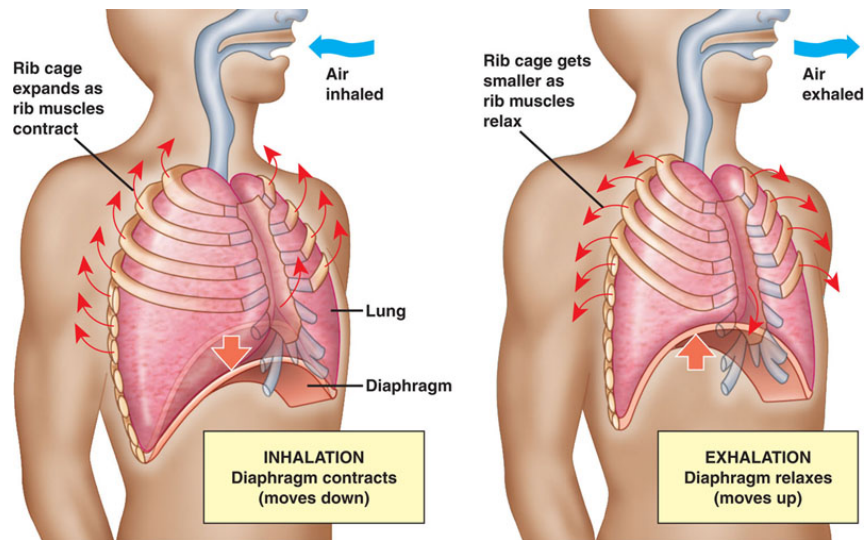
Red

Blue

Fill in the correct terms



Explain the function of the respiratory system – use the diagram to help you



What is gaseous exchange?

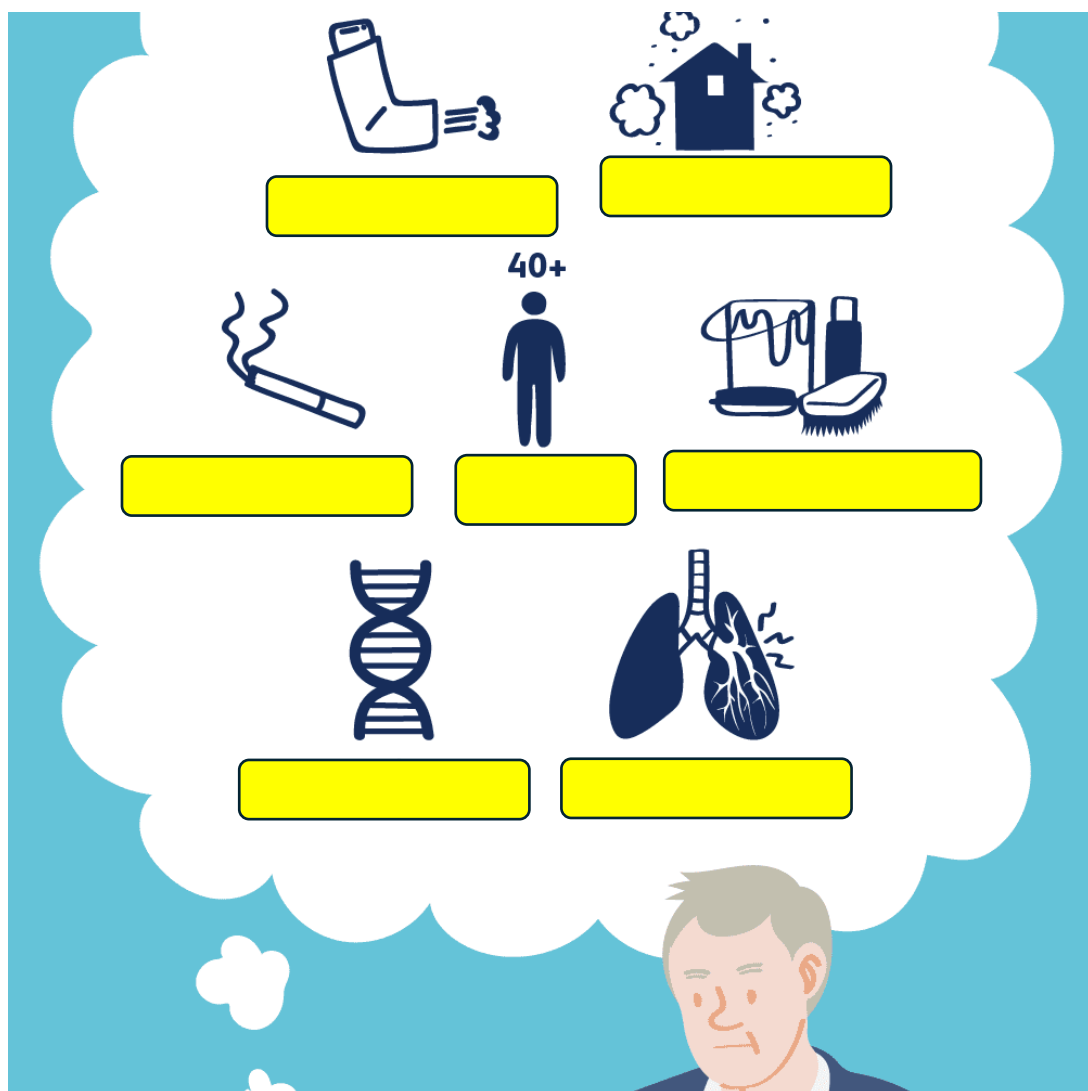
Define the following common lung diseases

Pneumonia

Lung cancer

What is the role of the healthcare professional in supporting individuals with common lung diseases?

The main causes of respiratory diseases – label the following



Week 5 – Session 1 – The Digestive System

Key learning:

- List the organs associated with the digestive system
- Explain the function of the digestive system
- Common diseases of the digestive system

What is the function of the digestive system?

Put the following in order of how the digestive system works

Oesophagus

Mouth

Large intestine

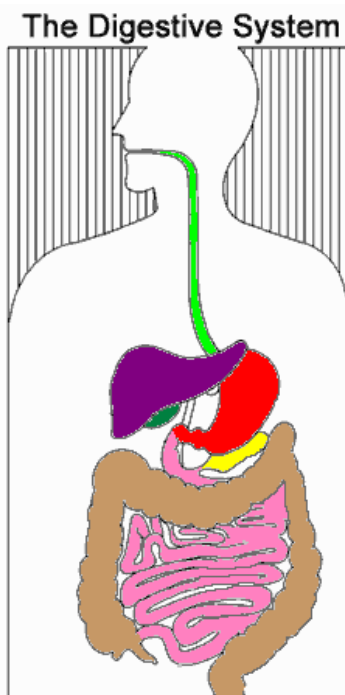
Stomach

Small intestine

How does the digestive system contribute to other systems – label the correct terms

Nervous	Respiratory organs provide oxygen and remove carbon dioxide
Respiratory	Kidneys convert vitamin D into its active form, allowing calcium absorption in the small intestine
Skeletal	Sensory and motor neurons help regulate secretions and muscle contractions in the digestive tract
Urinary	Bones help protect and support digestive organs

Label each coloured organ



- Light green:
- Red:
- Pink:
- Brown:
- Purple:
- Dark green:
- Yellow:

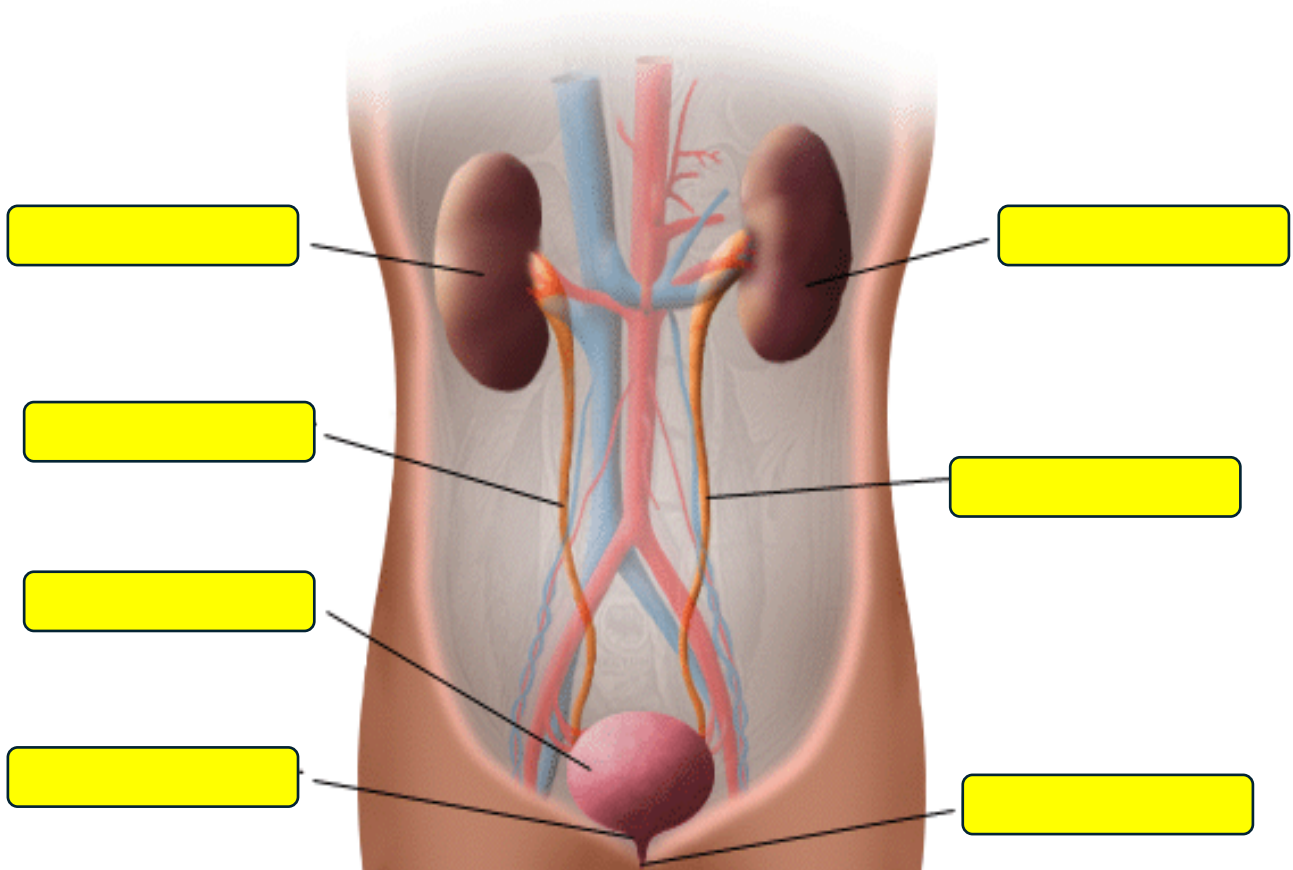
Name the 4 common diseases of the digestive system

Week 5 – Session 2 – The Urinary System

Key learning:

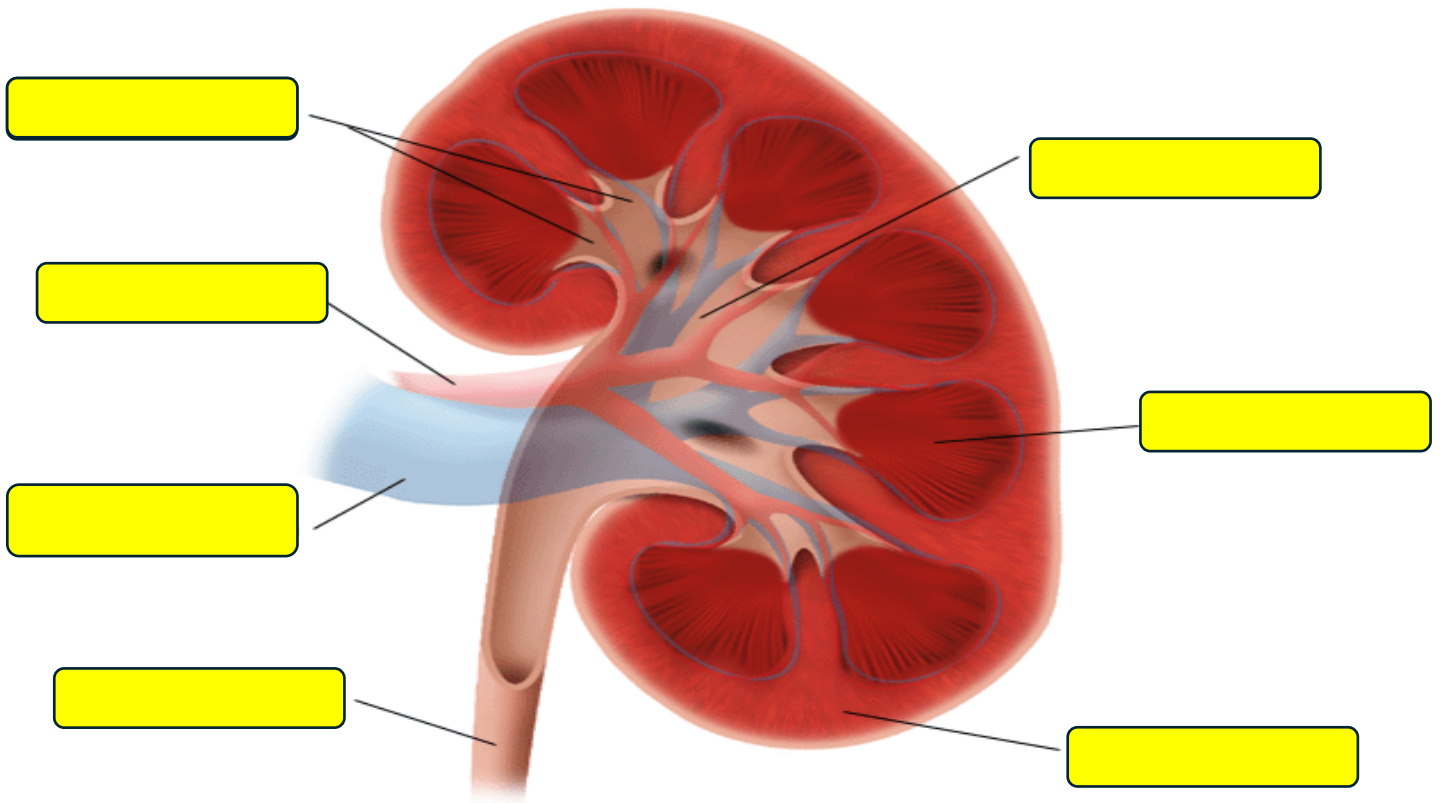
- Explain the function of the urinary system
- Explain the function of the kidneys

Front View of Urinary Tract



What are the main functions of the kidneys?

Anatomy of the Kidney



What are the other functions of the kidney?

There are three named below – explain these

Blood pressure

Erythropoietin

Acid base balance

How many ureters are there?

1, 2, 3, or none

How many cups can a healthy adult hold in the bladder?

1 cup

2 cups

4 cups

3 cups

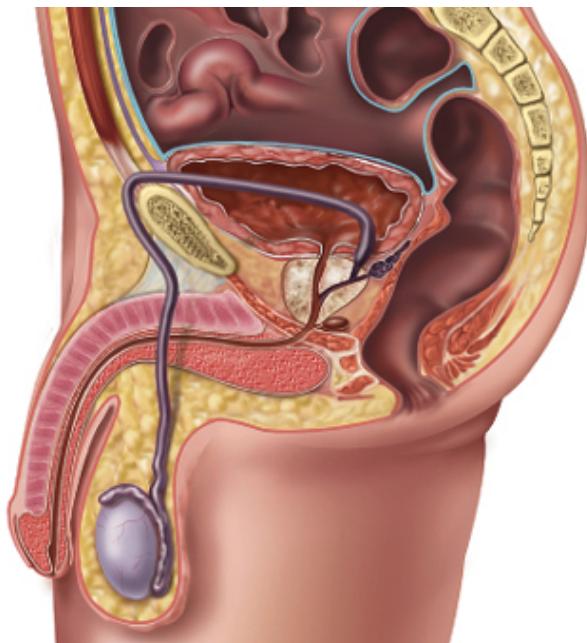
Name the common diseases of the urinary system and explain these

Week 6 – Session 1 – The Male Reproductive System

Key learning:

- Explain the function of the male reproductive system

The male reproductive system

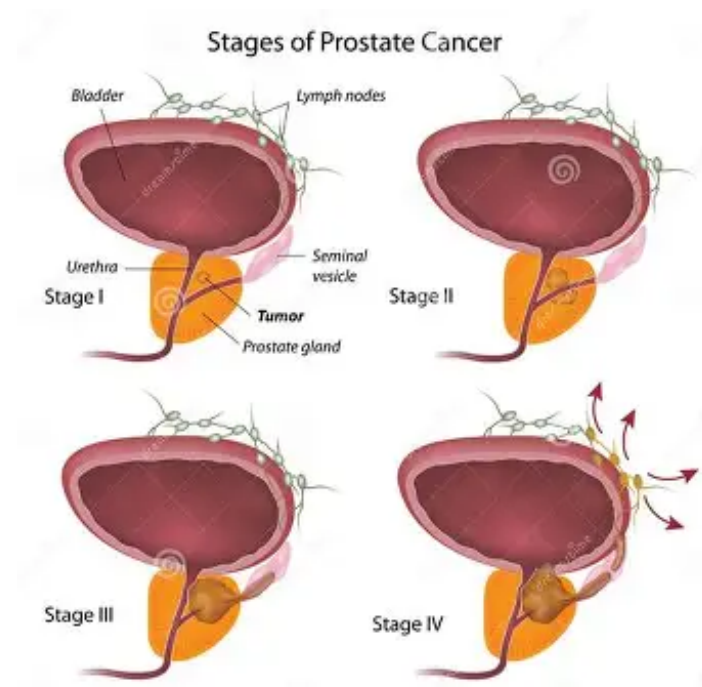


What is the function of the testes?

What is the name of the fluid expelled during orgasm?

Explain the male sexual response

What are the common diseases of the male reproductive system?

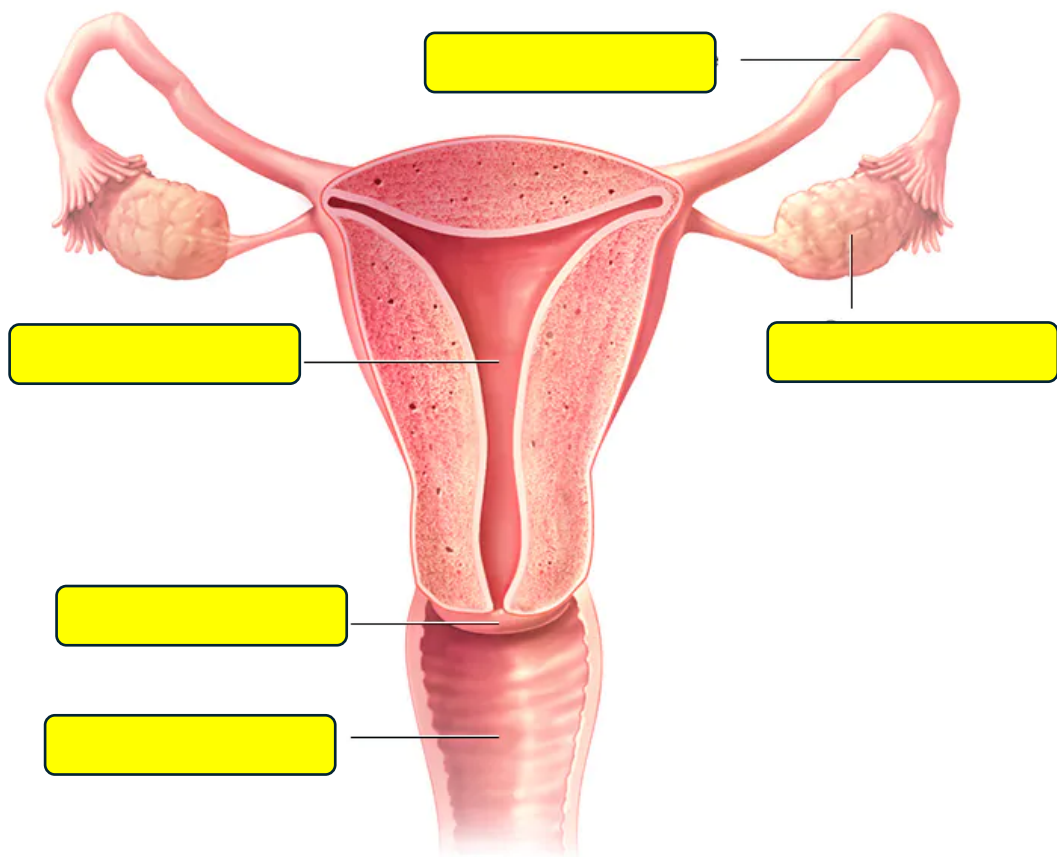


Week 6 – Session 2 – The Female Reproductive System

Key learning:

- Explain the function of the female reproductive system
- Label the structure of the female reproductive system

Label the diagram



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What is the role of the female reproductive system? Name the three below

What is the average length of a menstrual cycle?

23 days

25 days

28 days

34 days

Put the following in order of the ovarian cycle

Luteal phase

Follicular phase

Ovulation

Menstrual

At what age can the cessation of menstruation occur?

What are the common illnesses of the female reproductive system?

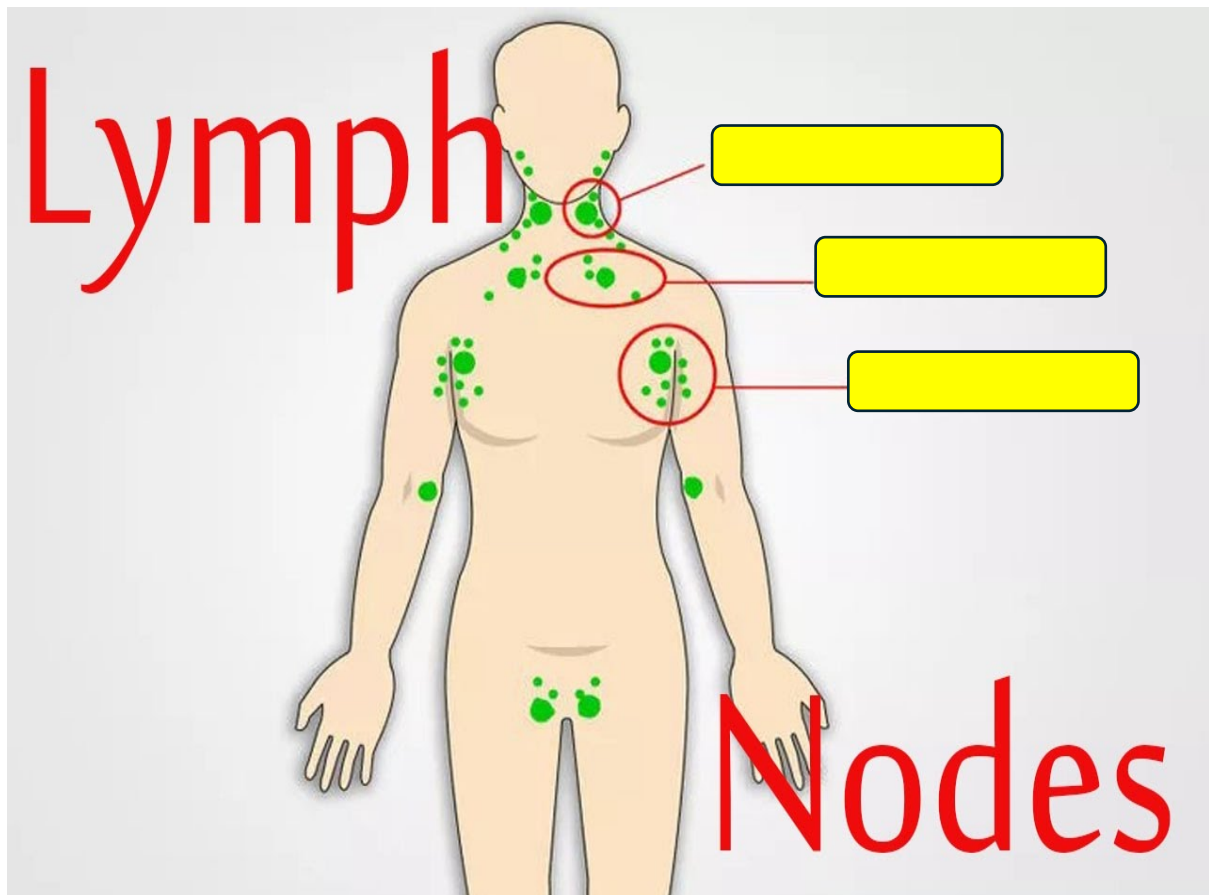
Week 7 – The Lymphatic and Immune System

Key learning:

- How the lymphatic system works with the haemostasis
- Explain the immune system

What is the main function of the lymphatic system?

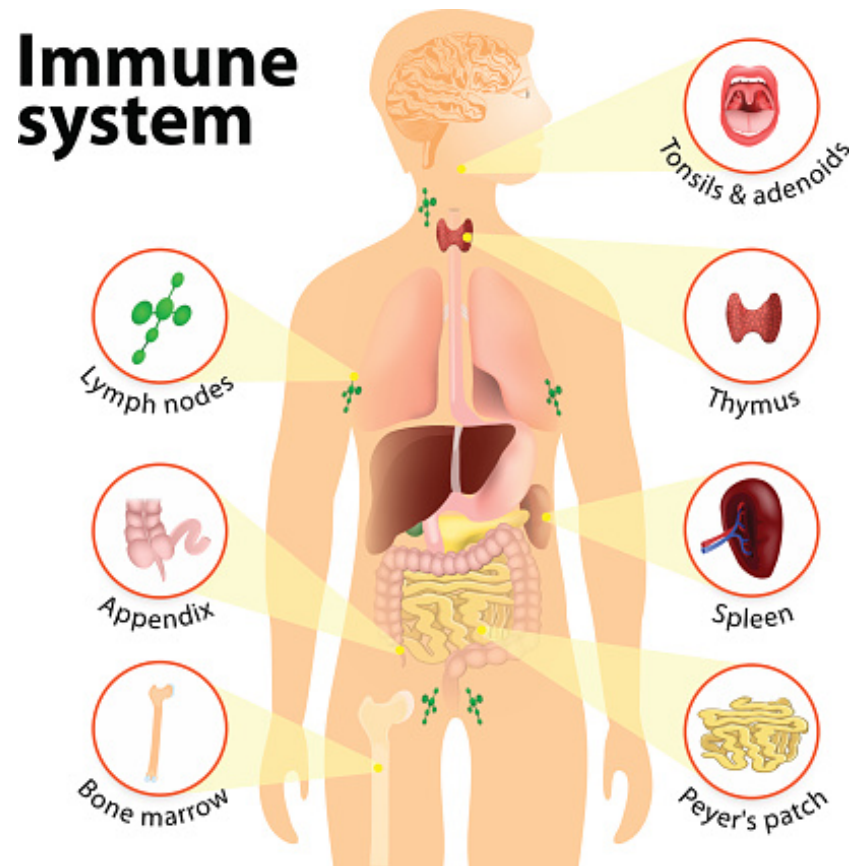
What is the lymph fluid?



How many lymph nodes are there near the armpit?

Explain why the lymph nodes swell

The function of the immune system



What are the common diseases of the immune and lymphatic system?

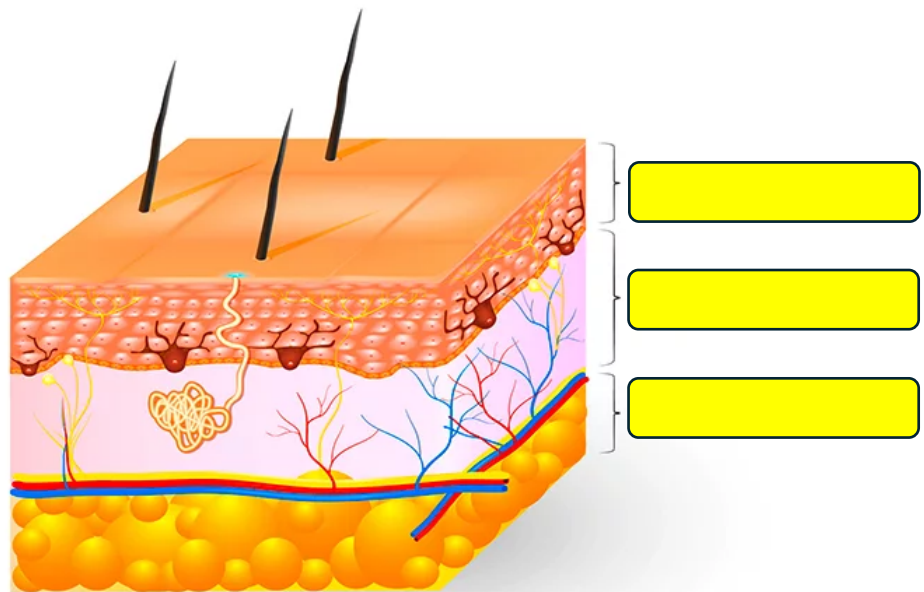
Week 8 – Integumentary system

Key learning:

- Describe the layers of the skin and the functions of each layer
- Explain the principles of haemostasis in terms of receptors

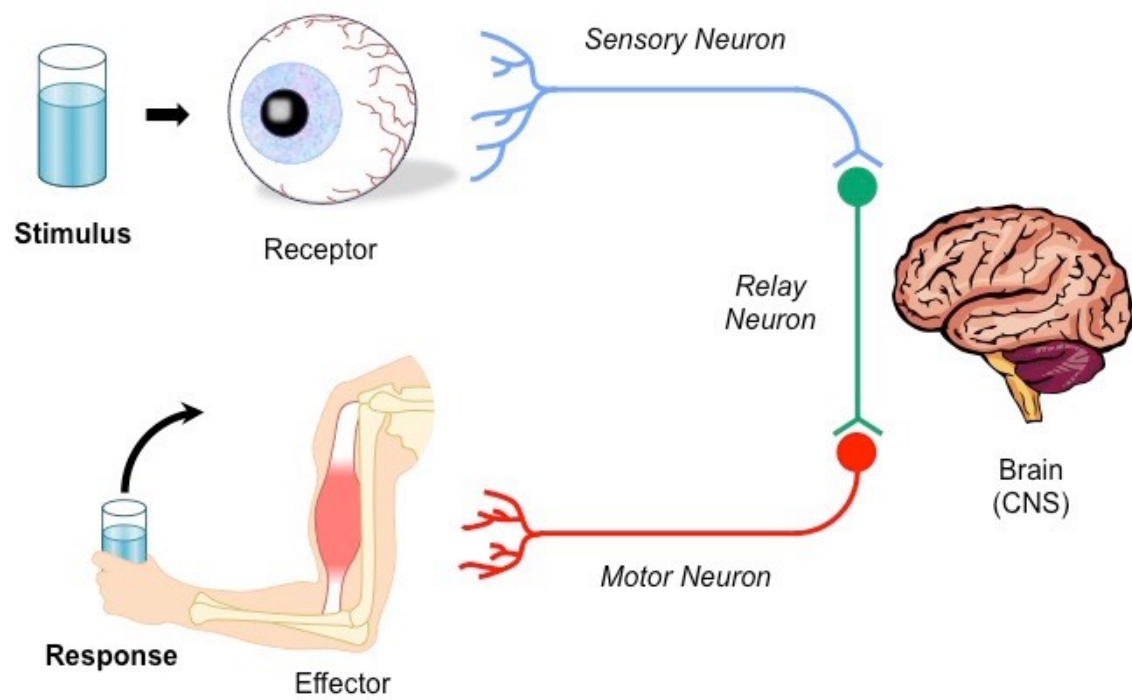
Label the following diagram

THE LAYERS OF HUMAN SKIN



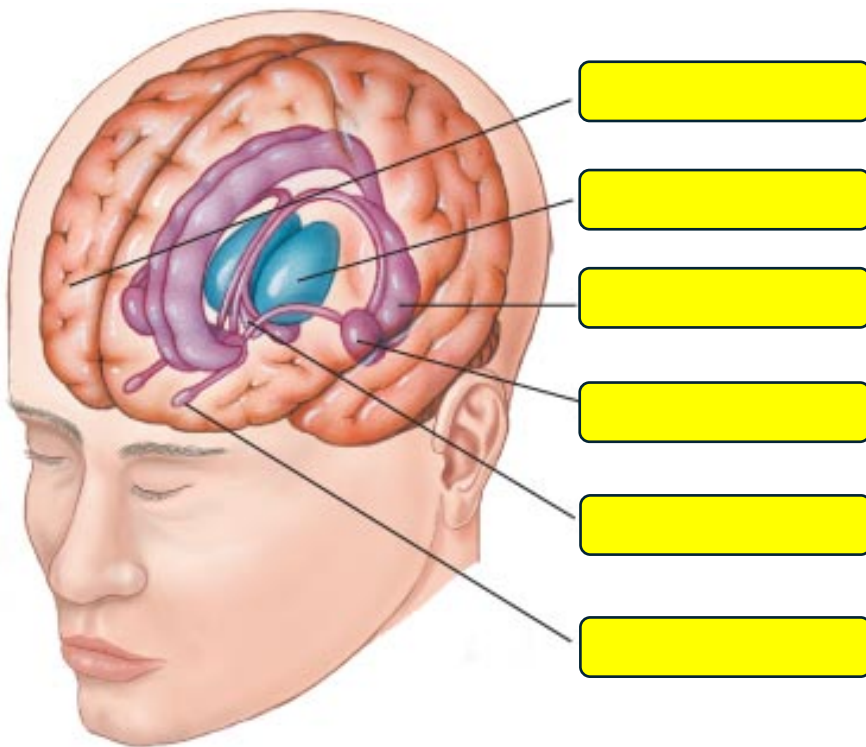
Explain how cells communicate – use the diagram below to help

What are receptors and effectors?



Name the 6 functions of homeostasis

Label the diagram below



How is the body temperature controlled?

Explain why we shiver?

What are the common diseases of the skin?

Notes:

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