

MENGO SENIOR SCHOOL
BIOLOGY DEPARTMENT
BIOLOGY TOPICS (Research work) FOR S.3 TERM 1 2024

THEME: TRANSPORT IN PLANTS AND ANIMALS

CHAPTER: TRANSPORT IN ANIMALS

Competence; *The learner appreciates that animals have special systems for the efficient transport of materials around their bodies, and understand the principles of how these systems operate.*

Key words;

Heart, Blood, Cardiac cycle, Heartbeat, Blood transfusion, Blood clotting, Blood pressure, lymph

By the end of this chapter, the learner should be able to;

- Understand the **principle of surface area to volume ratio**. *Use cubes of different dimensions to calculate the surface area to volume ratio of the cubes. Discuss and explain* the biological significance of calculated ratios.
- Know the **need for a transport system**. Do we really need a transport system in our bodies? **Which materials should be transported?**
- Identify the **components** of the transport system in mammals.
- Describe the **structure of the heart**. *Draw and label the mammalian heart.*
- Describe the **functioning of the heart**. *Read about the cardiac cycle*
- Identify the different **blood vessels** and state **their functions**.
- Describe the **structure** of the different blood vessels.
- **Compare** arteries, veins and capillaries.
- Identify the major **functions of blood**.
- Outline the **components of blood**. List **their functions** and **adaptations** to their functions.
- Identify the **causes** and **prevention** of diseases associated with the heart *e.g. high blood pressure, coronary heart disease and stroke.*
- Define **blood transfusion**. State the benefits and risks involved.
- **Describe** how the knowledge of blood groups is used during blood transfusion.
- State the role of blood in defence of the human body. *Immunity*

- Describe how immunity is weakened by various **infections including HIV**.
- Describe the process of **formation of lymph** and its **flow** in the body.
- Describe the **function of the lymphatic system** in maintaining a healthy body.
- Outline **differences** between blood and lymph.

Sample activity of integration;

1. During a medical camp in Arua, doctors were invited to give a talk to the community about heart diseases associated with one's lifestyle. Many people including some young children in the community admitted that they had relatives suffering from these heart related diseases.

TASK;

As a medic, prepare a speech you would give to create awareness.

end