

GRADE 10 BIOLOGY TERM 3 LESSON PLANS - KICD CURRICULUM DESIGN

Grade 10 Biology LESSON PLAN: Week 1, Lesson 1

SCHOOL	LEV EL	LEARNI NG AREA	DATE	TIME	ROLL
.....	Grad e 10	Biology			

WEEK 1: LESSON 1

Strand:

Anatomy and Physiology of Animals

Sub Strand:

Transport

Specific Learning Outcomes:

By the end of the lesson, the learner should be able to:

- Explain the meaning and importance of transport systems in animals.
- Analyze why simple diffusion is insufficient for large multicellular animals.
- Relate internal transport in animals to real life the way a city road network distributes essential goods to every neighborhood.

Key Inquiry Question(s):

- Why is transport essential in animals?

Core Competencies, Values, and PCIs:

Core Competencies	Values	PCIs
Critical thinking and problem solving	Responsibility	Health education
Communication and	Respect	Environmental awareness

Core Competencies	Values	PCIs
collaboration		

Learning Resources:

- Grade 10 Biology Curriculum Design
- Digital devices
- Reference charts
- Textbooks

Organization of Learning:

Introduction (5 minutes):

- Introduce the lesson by asking learners how food and essential supplies reach every home in a large city.
- Connect this analogy to cellular requirements and state the lesson objectives.

Lesson Development (25 minutes):

- **Step 1:** Guide learners through direct instruction on the definition of internal transport and the role of nutrients, respiratory gases, and metabolic wastes.
- **Step 2:** Lead a discussion on surface area-to-volume (SA:V) ratio, demonstrating mathematically why diffusion distance becomes too large in multicellular organisms.
- **Step 3:** Organize learners into small groups to brainstorm the physiological consequences of relying solely on simple diffusion in large animals.
- **Step 4:** Facilitate group presentations linking efficient transport systems to metabolic rate and body size.

Conclusion (10 minutes):

- Conduct a brief formative question-and-answer session on SA:V ratio and diffusion limits.
- Summarize the core reasons why complex animals require specialized circulatory mechanisms.

Extended Activities:

- Write a short paragraph explaining why flatworms can survive without a circulatory system whereas earthworms require one.