

Unit	Topic	Sub-Topic	Learning Objectives	Activities	Assessment
Unit 1: Introduction to Biology	The Cell	1.1 The cell theory	Understand the cell theory and the discovery of cells.	Microscopic study of plant and animal cells.	Written test on cell theory.
		1.2 Structure of a cell	Identify the structure of a cell and its components.	Diagramming a cell and labeling its parts.	Practical work on identifying cell parts.
		1.3 Diffusion and osmosis	Understand the processes of diffusion and osmosis.	Practical work on osmosis using dialysis tubing.	Lab report on osmosis.
		1.4 Transport in plants	Understand the transport of water and nutrients in plants.	Practical work on transpiration using a potometer.	Lab report on transpiration.
		1.5 Transport in animals	Understand the transport of blood in animals.	Microscopic study of blood smears.	Written test on blood components.
		1.6 The heart	Understand the structure and function of the heart.	Dissection of a mammalian heart.	Diagramming the heart and labeling its parts.
		1.7 The lungs	Understand the structure and function of the lungs.	Practical work on breathing apparatus.	Lab report on breathing.
		1.8 The digestive system	Understand the structure and function of the digestive system.	Dissection of a mammalian digestive system.	Diagramming the digestive system and labeling its parts.
		1.9 The circulatory system	Understand the structure and function of the circulatory system.	Microscopic study of blood vessels.	Written test on blood vessels.
		1.10 The respiratory system	Understand the structure and function of the respiratory system.	Practical work on breathing apparatus.	Lab report on breathing.
		1.11 The excretory system	Understand the structure and function of the excretory system.	Microscopic study of excretory organs.	Written test on excretory organs.
		1.12 The reproductive system	Understand the structure and function of the reproductive system.	Dissection of a mammalian reproductive system.	Diagramming the reproductive system and labeling its parts.
		1.13 The nervous system	Understand the structure and function of the nervous system.	Microscopic study of nerve tissue.	Written test on nerve tissue.
		1.14 The endocrine system	Understand the structure and function of the endocrine system.	Microscopic study of endocrine glands.	Written test on endocrine glands.
		1.15 The immune system	Understand the structure and function of the immune system.	Microscopic study of immune cells.	Written test on immune cells.
Unit 2: Plant Biology	Photosynthesis	2.1 The light-dependent reactions	Understand the light-dependent reactions of photosynthesis.	Practical work on measuring photosynthesis.	Lab report on photosynthesis.
		2.2 The Calvin cycle	Understand the Calvin cycle of photosynthesis.	Diagramming the Calvin cycle and labeling its parts.	Written test on the Calvin cycle.
		2.3 Factors affecting photosynthesis	Understand the factors affecting photosynthesis.	Practical work on measuring photosynthesis under different conditions.	Lab report on factors affecting photosynthesis.
		2.4 Transpiration	Understand the process of transpiration.	Practical work on measuring transpiration using a potometer.	Lab report on transpiration.
		2.5 The xylem	Understand the structure and function of the xylem.	Microscopic study of xylem tissue.	Written test on xylem tissue.
		2.6 The phloem	Understand the structure and function of the phloem.	Microscopic study of phloem tissue.	Written test on phloem tissue.
		2.7 The water potential	Understand the concept of water potential.	Practical work on measuring water potential.	Lab report on water potential.
		2.8 The water potential	Understand the concept of water potential.	Practical work on measuring water potential.	Lab report on water potential.
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