

YEAR PLAN 2018 – 2019

Grade VIII BIOLOGY

The academic year is divided into **two** sessions

Session One: June 2018 to October 2018

Session Two: November 2018 to March 2019

Continuous assessments: June, July, September, November, December , January, February

Summative Assessment I: October 2018

Summative Assessment II: March 2019

Please check the **index page** in the notebooks for Continuous Assessment marks.

General Objectives: To

- Learn the different branches of biology and its latest developments.
- Understand and acquire the functions of the different types of microscopes, magnification and resolution, the different resolutions and dimensions of light and electron microscope and techniques of using a microscope and the purpose of staining cells.
- types, shapes, and sizes of cells, the cell theory and the structures and functions of cells and the differences between animal cells and plant cells.
- Develop skills and abilities of writing scientific names properly
- classifying some common plants and animals including humans based on the classification groups, planting and growing trees
- scientific enquiry: observing, classifying, comparing, making models, communicating, measuring, asking questions, drawing conclusions, applying ,concepts, interpreting photos and illustrations and relating cause and effect.
- Develop the habit and attitude participation in community tree planting and growing activities, intellectual curiosity, co-operation, reasoning, openness, honesty, love, tolerance, respect and freedom.
- Develop understanding and acquire knowledge of the six classes of food, their sources, functions and deficiency diseases of each class, nutrition and the importance of balanced diet, oral hygiene and the cares that should be taken when buying and using canned, packed and bottled foods and the importance of keeping food hygiene for health the functions of human breathing structures, the composition of inhaled and exhaled air, the mechanism of breathing and gas exchange and the factors that affect breathing methods of keeping hygiene of breathing and the effects of smoking on health and family economy..
- Enable the students to understand that plants also need food and energy to grow; they reproduce, respond to their environment and remove waste materials from their bodies.
- Give an insight into the study of five kingdom classification of organisms.
- To have an awareness on the Health organizations.

Projects:

SA I Prepare a science magazine which includes topics from classification of organisms, health and the latest findings.

**SA II: Prepare a report on different health issues with reference to different programmes undertaken by the government of Kerala
(reference www.arogayakeralam.com)**

Yearlong project: Study and extension of paludarium in the school campus.

Session One: June 2018 to October 2018

Duration	Topics	Specific Learning Objectives	ACTIVITIES
June	1.INTRODUCING BIOLOGY	<ul style="list-style-type: none"> To recall about the growth of Biology To illustrate the branches of biology To recall that the study of biology helps us in many ways 	To find out the different branches in biology and prepare a dictionary or pamphlet of it.
June - July	8. FIVE KINGDOM CLASSIFICATION. 10.NUTRITION.	<ul style="list-style-type: none"> To be able to identify organisms based on Five Kingdom classification To be able to explain main characteristics of each kingdom with suitable examples. To differentiate between the major groups of organisms. To understand the need for nutrition. To be able to differentiate between the various nutrients. To understand the various deficiency diseases. 	<ul style="list-style-type: none"> Certain examples are given and ask to classify hierarchically based on the five kingdom classification. Find scientific names of any five common animals and plants. Draw pictures of organisms representing each kingdom. Collect the specimens from different divisions in plants and write their characteristics. Prepare a table on deficiency diseases. Make a comparison between the human body and a machine and establish that the role of food is in providing the body with nutrients, and also with energy like a fuel is the source of energy for a machine. Test for different food items.
July-August	4. THE FLOWER	<ul style="list-style-type: none"> To be able to identify and explain-the different whorls of a flower To identify different types of flowers. Relate the structure of a bisexual flower and general description with functions of various parts Compare Complete and incomplete flowers Describe Essential and non-essential parts of a flowers, bracts, nectarines, unisexual, bisexual and neuter flowers 	<ul style="list-style-type: none"> Study different flowers. The method to dissect a flower is demonstrated. Structure of different types of flowers to be studied. Observing permanent slides in the laboratory; Make a booklet on the classification of flowers. Prepare a herbarium of different flowering plants.
September	5.POLLINATION AND FERTILIZATION	<ul style="list-style-type: none"> To define pollination To able to explain- Self and Cross pollination , advantages and disadvantages of the above Agents of pollination, features of flowers pollinated by various agents Various conditions which favour cross pollination in nature Fertilization Describe the structure of a pollen grain and an ovule Germination of a pollen grain double fertilization and triple fusion Fate of floral parts after fertilization 	<ul style="list-style-type: none"> Study the structures of specific flowers to understand how each is suited for pollination Diagrams for the structural ovule and fertilization process. Observing the pollinators movement from one to another of same plant, or from a flower of one plant to flower of another plant, observing a flower changing into a fruit in a kitchen garden etc.) and discussing pollination process in them. Video on the fertilization process. Practice the manual pollination in unisexual flowers and observe the changes in them.
October – Revision and SA1			
Session Two:November 2018 to March 2019.			
Project:			
November	6.SEEDS-STRUCTURE AND GERMINATION	<ul style="list-style-type: none"> To identify the structure of dicot and monocot seeds, germination of seeds, types and conditions for seed germination. To be able to explain structure of bean seed and maize grain. Differences between hypogeal and epigeal germination, conditions for germination. 	<ul style="list-style-type: none"> Observe - the external morphology of various seeds and the stages of germination Germinate both dicot and monocot seeds to observe types of germination and draw the

			changes in the notebook.
November-December	7.RESPIRATION IN PLANTS	<ul style="list-style-type: none"> To illustrate the process of respiration in plants; Glycolysis, Krebs's cycle and their significance. To differentiate- aerobic and anaerobic respiration with chemical equation To be able to contrast Respiration and Photosynthesis 	<ul style="list-style-type: none"> Experiments to show that heat is evolved during respiration. Experiment to show that gas is evolved during respiration. To conduct experiments on aerobic and anaerobic respiration.
January	2. CELL: THE UNIT OF LIFE	<ul style="list-style-type: none"> To define cell To be able to compare the relation between the invention of the microscope and the discovery of cell Illustrates the Cell theory To describe the characteristics of Unicellular, multicellular organisms To recall the relationship between small size of cells and efficiency To relate cell shapes and functions To compare structure of a cell, cell organelles, their main characteristics and chief functions To differentiate between plant and animal cells To be able to define Protoplasm To differentiate between prokaryotic and eukaryotic cells To be able to recollect that every activity of a living organism is the outcome of cellular activity 	<ul style="list-style-type: none"> To label the cell and the cell organelles by giving hints regarding its functions. Video of stem cell transplantation. Prepare a chart on different organelles, its function and location. Write a note on different types of stem cell and its importance.
January-February	3. TISSUES: PLANT AND ANIMAL TISSUES	<ul style="list-style-type: none"> To be able to define, explain and relate Describe the types of tissues. Illustrate Plant Tissues: Types, location, basic structure and functions. Describe Animal Tissues: Types, location, basic structure and functions. 	<ul style="list-style-type: none"> Observe permanent slides in the Laboratory. Draw diagrams of plant and animal tissues. PPT on Tissues. Conduct experiments on plant tissues to identify xylem and phloem.
February	17. AIDS TO HEALTH. 18. HEALTH ORGANISATIONS.	<ul style="list-style-type: none"> To develop a strong immune system and defence system. To understand the structure and functions of antibodies. To define vaccination, antitoxins, antiseptics and antibiotics. To understand the common health problems in India. To have an idea on the various International bodies of health. 	<ul style="list-style-type: none"> Collect more information Red cross. Make table on the activities of WHO. Prepare a posture/drawing on the world health day. Prepare a chart on innate immunity and acquired immunity Make a poster on vaccinations and different types of antibiotics

Facilitator: Mrs. Neethu Rani Joseph and Ms. Josephine Joseph

Name of the text book: Concise Biology for class IX Part I

Publisher: Selina

Suggested learning resources: Textbook-Ratnasagar, Class edge/Smart class.

Approved by the Principal