

Scheme of Learning: Organisation

Topic Sequence:

1	2	3	4	5	6	7	8	9	10	11
Organisation	Electric Circuits	Chemical Changes	Mains Electricity	Quantitative Chemistry	Using Resources	Electro-Magnetism	Homeostasis & Response	Energy Changes	Ecology	Waves

Topic Overview:

In this topic we will learn about the human digestive system which provides the body with nutrients and the respiratory system that provides it with oxygen and removes carbon dioxide. In each case they provide dissolved materials that need to be moved quickly around the body in the blood by the circulatory system. Damage to any of these systems can be debilitating if not fatal. Although there has been huge progress in surgical techniques, especially with regard to coronary heart disease, many interventions would not be necessary if individuals reduced their risks through improved diet and lifestyle. We will also learn how the plant's transport system is dependent on environmental conditions to ensure that leaf cells are provided with the water and carbon dioxide that they need for photosynthesis

Lesson Sequence:

We build on the cells topic to show how cells work together to make tissues to organ systems with the digestive and respiratory systems as particular examples. We include the required practical activities in the process. We move onto looking at factors that have a negative impact on health and finish by describing the organ systems in plants. The focus skill for this topic is 'evaluate'.

Sequence of Lessons:

1	Cells, Tissues & Organs
2	The Human Digestive System
3	Digestive Enzymes
4	Amylase & pH <i>Required Practical</i>
5	Bile
6	Food Tests <i>Required Practical: Glucose & Starch</i>
7	Food Tests <i>Required Practical: Protein & Fats. Mid Topic Assessment: teacher marked</i>
8	Blood & Blood Vessels
9	The Heart
10	Helping the Heart
11	The Lungs
12	Breathing <i>Mid Topic Assessment 2: teacher marked</i>
13	Health Interactions
14	Risk Factors
15	Cancer
16	Plant Tissues and Organs
17	Transpiration
18	Revision: this is a big topic, so give two lessons to revision
19	Test

Supportive Reading:

Comprehension activity	The circulation system.
Literacy tasks	Literacy tasks in lessons 3, 4, 5, 7, 9, 10, 12, 17

Assessment:

Knowledge:	Multiple choice and short answer questions.
Application of Knowledge:	Exam questions based on the skill of 'evaluate'

Resources:

1	Worksheets in folder
2	Worksheets in folder. Cheese sandwich demo: cheese sandwich, washing up bowl, pestle & mortar, funnel and tube, clear plastic bag, tights, scissors, gloves, liquid labelled 'saliva', 'bile', 'enzymes', 'stomach acid'.
3	Exam question in folder
4	Iodine, dimple trays, water bath at 37°C, starch solution, solution labelled 'pH4' containing no amylase, solution labelled 'pH 8' containing high conc amylase, and solution labelled 'pH 10' containing a slightly lower conc of amylase, extra pipettes. Exam question foundation or higher: print separately.
5	Vegetable oil for demo.
6	Iodine, dimple trays, Benedict's solution, variety of foods to test
7	Biuret solution, Sudan III, variety of foods to test Mid topic assessment in folder.
8	Worksheets in folder
9	Hearts, dissection kit, gloves, bin bag, disinfectant for tables, comprehension activity.
10	Print the table on slide 3
11	Pluck, pump, dissection kit. Worksheets in folder.
12	Bell jar lungs model. Mid topic assessment in folder.
13	Board game (laminated in filing cabinet), dice, counters. Graphs and question sheet.
14	Nothing required
15	Cancer cause cards – in filing cabinet. Cancer exam question in folder.
16	Celery that has been kept in inky water. White tile, knife, microscopes. Phloem xylem sorting sheet.
17	Demo: two colours of ink and white tissue paper
18	Resources in shared area folder
19	Test in shared area folder