



ARAB UNITY SCHOOL

CURRICULUM OVERVIEW

YEAR 10

2019 – 2020

A guide for Parents and Students

Syllabus aims

The aims are:

1. Provide an enjoyable and worthwhile educational experience for all learners, whether or not they go on to study science beyond this level
2. Enable learners to acquire sufficient knowledge and understanding to:
 - become confident citizens in a technological world and develop an informed interest in scientific matters
 - be suitably prepared for studies beyond Cambridge IGCSE
3. Allow learners to recognize that science is evidence based and understand the usefulness, and the limitations, of scientific method
4. Develop skills that:
 - are relevant to the study and practice of biology – are useful in everyday life – encourage a systematic approach to problem solving – encourage efficient and safe practice – encourage effective communication through the language of science
5. Develop attitudes relevant to biology such as:
 - concern for accuracy and precision – objectivity – integrity – enquiry – initiative – inventiveness
6. Enable learners to appreciate that:
 - science is subject to social, economic, technological, ethical and cultural influences and limitations – the applications of science may be both beneficial and detrimental to the individual, the community and the environment.

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| <p>Term 1</p> | <p>1. Characteristics and classification of living organisms</p> <ul style="list-style-type: none"> · Characteristics of living organisms · Concept and use of a classification system · Features of organisms · Dichotomous keys <p>2. Organization of the organism</p> <ul style="list-style-type: none"> · Cell structure and organization · Levels of organization · Size of specimens <p>3. Movement in and out of cells</p> <ul style="list-style-type: none"> · Diffusion · Osmosis · Active transport <p>4. Biological molecules</p> <p>5. Enzymes</p> | <p>Role-play/Bingo- in class rooms (self-managing)</p> <p>Stating levels using unfamiliar examples- in classrooms (Reflective learning)</p> <p>Osmosis-investigatory experiment(Lab)-Octo</p> <p>Story writing on cholera-Nov week1- BYOD(creative thinking)</p> <p>Planning activities- amylase(enquiring) Investigatory lab experiments- Catalase(Team working)</p> | <p>Internal assessment- Oct10(unit 1)</p> <p>Curricular test -Oct 20-24 (Unit 1 and 2)</p> |
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| | | | Winter exam Nov18- Dec9 (Unit 1 to 4) |
| | | Winter break | Internal assessment-Nov 14(unit5) |
| Term 2 | <p>6. Plant nutrition</p> <ul style="list-style-type: none"> · Photosynthesis · Leaf structure · Mineral requirements <p>7. Human nutrition</p> <ul style="list-style-type: none"> · Diet · Alimentary canal · Mechanical digestion · Chemical digestion · Absorption <p>8. Transport in plants</p> <ul style="list-style-type: none"> · Transport in plants · Water uptake | <p>Independent Research project- model of DAM. Dec 12-Jan5 (creative thinking, self-organising and enquiring)</p> <p>Research-deficiency diseases –BYOD-in class rooms(Enquiring and reflective learning)</p> <p>Investigatory Lab Experiment- DCPIP(Enquiring, Reflective learning, Self-organising, Team work)</p> | <p>Internal assessment Feb 2 (Unit6)</p> <p>Curricular test - Feb6 (units 5 - 6)</p> |

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| | · Transpiration | Factors affecting transpiration-Interpret data and draw graph-Numeracy(Reflective learning and enquiring) | |
| | · Translocation (Extended candidates only) | | |
| | | | Spring Exam-March1-12(Units 5-8) |
| Term 3 | <p>9. Transport in animals Transport in animals Heart</p> <p>Blood and lymphatic vessels Blood</p> <p>10. Gas exchange in humans</p> <p>11. Respiration</p> <p>· Respiration</p> <p>· Aerobic respiration</p> | <p>Spring break Independent research project (March 26 to April 12) Sewage treatment plant model(Creative thinking and self-managing)</p> <p>Impact of modern lifestyle-CHD-documentary presentation in CR1 - Feb 26-(creative thinking, enquiring, self-organizing and team work)</p> <p>Planning activity-breathing rate</p> <p>Investigatory experiments in Lab-yeast</p> | Internal assessment – May9 (Unit 9) |

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| | · Anaerobic respiration 12. Excretion in humans | | |
| | 13. Homeostasis | Planning- Heat loss with surface area (in class rooms) | |
| | 19. Organisms and their environment | Research topic(BYOD) And Home work | |
| | Energy flow | | |
| | Food chains and food webs Nutrient cycles Population size | | |
| | 21 Human influences on ecosystems Food supply Habitat destruction Pollution Conservation | Research topic-BYOD And Home work | |
| | | | Final end of year exam - June 1 - 18 (All units) |

BYOD-Story writing on cholera

<https://www.youtube.com/watch?v=jG1VNSCsP5Q>

<https://www.bbc.co.uk/bitesize/guides/z83qfcw/revision/5>

BYOD-Research on deficiency diseases

<https://www.bbc.co.uk/bitesize/guides/zdifr82/revision/2>

www.bbc.co.uk/learningzone/clips/a-balanced-diet/10609.html

lgfl.skool.co.uk/content/keystage4/biology/pc/modules/digestion/malnutrition/index.html

BYOD-Impact of modern lifestyle-CHD-documentary presentation

Mary Jones Revised text book

<https://www.bbc.co.uk/bitesize/guides/z324fcw/revision/1>

BYOD-Human influences on ecosystems

<https://www.bbc.co.uk/bitesize/guides/zt8f4qt/revision/1>

<https://www.bbc.co.uk/bitesize/guides/ztr2w6f/revision/1>

BYOD-Organisms and their environment

Mary Jones text book

<https://www.bbc.co.uk/bitesize/guides/zwnxtyc/revision/1>