



The Camford International School

ANNUAL LESSON PLAN 2023-2024

GRADE: 12B

SUBJECT: Biology (044)

MONTH	CHAPTER NO.	DETAIL CONCEPTS TO BE COVERED	PRACTICALS/ ACTIVITIES
MARCH (24)	CHAPTER 1 CHAPTER 2 CHAPTER 3	Introduction to asexual/ sexual reproduction in organisms. Flower structure; parts of flower and their functions. Development of male and female gametophytes; pollination - types, agencies and examples; outbreeding devices; pollen-pistil interaction; double fertilization; post fertilization events ; Special modes- Apomixis, parthenocarpy, polyembryony; Significance of seed dispersal and fruit formation. Male/female reproductive system, testis and ovary, Spermatogenesis, Oogenesis, menstrual cycle, fertilization.	Activity to observe pollen germination on slide using nutrient solution.
APRIL (14)	CHAPTER 3 CHAPTER 4	Embryo development, implantation, pregnancy, parturition. Sexually transmitted diseases (STD), Birth control – Need and Methods, Contraception and Medical Termination of Pregnancy (MTP); Amniocentesis; Infertility and assisted reproductive technologies.	Class room discussions on reproductive health and STDs. Identification of slides of TS of Ovary and Testes.
MAY (8)	CHAPTER 5	Mendelian Inheritance; Incomplete dominance. Co-dominance, Multiple alleles and Inheritance of blood groups, Pleiotropy. Genetic Disorders- Mendelian and chromosomal disorders. Pedigree charts and their analysis.	Classroom discussions on MTP and misuse of amniocentesis. Study of common Mendelian traits using Pedigree charts.

<p>JUNE (23)</p>	<p>CHAPTER 6 CHAPTER 7</p>	<p>Genetic material and DNA as genetic material; Structure of DNA and RNA; DNA packaging; DNA replication; Central dogma;</p> <p>Transcription, genetic code, translation; Gene expression and regulation - Lac Operon; human genome project; DNA fingerprinting.</p> <p>Evolution- Inherited and acquired traits, theories of origin of life, evidences of evolution, Hardy- Weinberg's principle, Human evolution.</p>	<p>Discussions on the significance and applications of DNA fingerprinting</p> <p>Isolation of DNA from plant specimen.</p>
<p>JULY (24)</p>	<p>CHAPTER 11 CHAPTER 12 CHAPTER 8</p>	<p>Genetic engineering (Recombinant DNA technology). Application of Biotechnology in health and agriculture: Human insulin and vaccine production.</p> <p>Gene therapy; Genetically modified organisms-Bt crops; Transgenic Animals; Bio piracy and patents. Pathogens; parasites causing human diseases (Malaria, Filariasis, Ascariasis, Typhoid, Pneumonia, common cold, amoebiasis, ring worm); Basic concepts of immunology – vaccines. Cancer, HIV and AIDs; Adolescence, drug and alcohol abuse.</p>	<p>Detailed class room discussions on AIDS and its effect on society.</p> <p>Sharing ideas and discussions on alcohol and drug abuse and its effects.</p>
<p>AUGUST (23)</p>	<p>CHAPTER 10 CHAPTER 13</p>	<p>Microbes in food processing, industrial production, sewage treatment, energy generation and microbes as bio-control agents and bio-fertilizers. Antibiotics; production and judicious use.</p> <p>Population and ecological adaptations; population interactions - mutualism, competition, predation, parasitism; population attributes - growth, birth rate and death rate, age distribution.</p>	<p>Studying population density and frequency of plants.</p>

<p style="text-align: center;">SEPTEMBER (20)</p>	<p>CHAPTER 14 CHAPTER 15</p>	<p>Productivity, decomposition, energy flow, ecological pyramids and ecological succession, nutrient cycling.</p> <p>Biodiversity - Concept, patterns, importance; loss of biodiversity; biodiversity conservation</p> <p>Hotspots, endangered organisms, extinction, Red Data Book, Sacred Groves, biosphere reserves, national parks, wildlife, sanctuaries and Ramsar sites.</p>	<p>Seminar by students on topics from the Biodiversity.</p> <p>Study of soil samples for its texture, pH, water holding capacity and moisture content.</p>
<p>OCTOBER (17)</p>		<p>Revision</p>	