

Class of 2018 - IB Biology Scope & Sequence 2016/17/18

Term 1: IB Biology A			
Week	IB Topic	Unit Name	Unit Subtopic
1	2.1	Biochem	Molecules to Metabolism
2	2.2, 2.3, 2.4	Biochem	Water Carbohydrates & Lipids Proteins
3	2.5	Biochem / Cells	Enzymes
4	1.1, 1.2, 1.5	Cells	Intro to Cells Ultrastructure of cells Origin of Cells
5	1.3, 1.4	Cells	Membrane Structure Membrane Transport
6	2.9	Photosynthesis	Photosynthesis
7	2.8	Cell Respiration	Cell Respiration
8	1.6, 3.3	Cell Cycle / Genetics	Cell Division Meiosis
9	3.1, 3.2, 3.4	Genetics	Genes Chromosomes Inheritance
10		Genetics	
11	2.6	DNA	Structure of DNA & RNA
12	2.7	DNA	DNA Replication, Transcription, Translation

Term 2: IB Biology B			
Week	IB Topic	Unit Name	Unit Subtopic
1	5.1, 5.2	Evolution	Evidence for evolution Natural selection
2		Evolution	
3		Evolution	
4	5.3, 5.4	Classification	Classification of Biodiversity Cladistics
5	(various)	Animals	Intro Structure and Function of Animals
6	(9.1-9.4)	Plants	Intro Structure and Function of Plants
7	4.2	Ecology	Energy Flow
8	4.3, 4.4	Ecology	Carbon Cycling Climate Change
9	4.1	Ecology	Species, Communities, Ecosystems
10		Ecology	
11	6.5	Physiology	Neurons and synapses
12	6.3	Physiology	Defence against infection disease

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Term 3: IB Biology C			
Week	IB Topic	Unit Name	Unit Subtopic/Labs/Activities
1	Topic C	Ecology Option C	Survivorship Labs
2			
3	Topic 2	Revisit molecules to metabolism	Review basics (bonding...), Properties of Water Carbon molecules & bonding; 4 biological macromolecules. Drawing ring forms of Glucose (α and β) and Ribose Online homework
4	8.1	Enzymes	Protein structures, Enzyme Function; Amylase Lab (Practical 3), Online homework
5			Independent Enzyme Lab, Poster Symposium, Unit Test
6	8.2	Cell Respiration	Notes, Study Guides, Online homework
7			Labs: Vernier Probe CO ₂ lab; Unit Test
8	8.3	Photosynthesis	Notes, Study Guides, Online homework
9			Floating Disk Lab; Student t-test; Unit Test
10	1.1, 1.2	Cells	Estimating size, ultrastructure, membrane models (Davson-Danielli)
11	1.3, 1.4		Osmosis, osmolarity, Osmosis lab
12		Final Exam and plan for summer work	

Summer Work	
Unit Name	Details
Group 4 Collaborative Project	Groups of diploma candidates will pick a research question that includes both Chemical and Biological components
	Divide the question into subtopics that individual diploma candidates will investigate
	During the summer, candidates will carry out investigative labs or review current research relevant to their chosen subtopics
	During the summer, groups will collaborate to compile their findings
	On the first day of class after returning from summer break, groups will be given one class period to refine or develop their presentations. The following day will be devoted to a Symposium during which groups will present their findings.

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IB Biology 2 Term 1 Senior Year		
Week	IB Topic	Unit Name
1		Symposium: Present Group 4 projects
2	6.6; 11.3	Homeostasis; Osmoregulation
3	8.1, D.5	Metabolism, Hormones
4	11.2; 6.1, D.1, D.2	Movement; Digestion/Absorption
5	6.6, 11.4	Hormones & Reproduction
6		
7	6.4, D.6	Gas exchange
8	6.2, D.4	The blood system, the heart
9	6.5	Nervous system
10		
11	D.3	The Liver
12	6.3; 11.1	Antibody production & vaccination

IB Biology 2 Term 2 Senior Year		
Week	IB Topic	Unit Name
1	7.1, 7.2, 7.3	DNA/RNA: Replication, Transcription & Translation
2		
3	3.5	Genetic modification & biotech
4	9.1, 9.2	Transport in Plants
5	9.3, 9.4	Growth and Reproduction in plants
6		
7		Independent Labs
8		Independent Labs
9		Internal Assessment: Ind Labs
10	5.4	Cladistics
11	10.3	Gene pools & speciation
12		Review
13		3-day Cumulative IB Bio Final (Covers all content from the five terms of IB Biology sequence)

