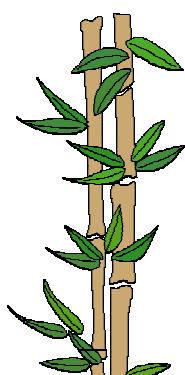


Content 目錄

Book 3

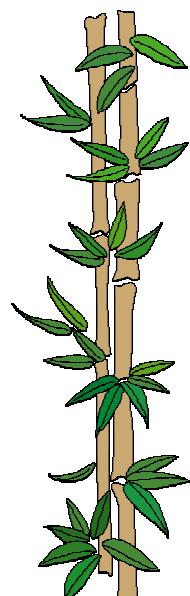
II Organisms and environment 生物與環境

19	Biodiversity 生物多樣性	1
19.1	The characteristics of living organisms 生物的特徵	1
19.2	The need of classification 分類的需要	1
19.3	Taxonomy 分類學	2
19.4	The Six-Kingdoms and Three-domains 六界和三域	3
19.5	Organisms of different Kingdoms 各界生物簡介	5
20	Ecosystems 生態系	21
20.1	Physical environment 物理環境	21
20.2	Biotic environment 生物環境	22
20.3	The concept of ecosystem 生態系的概念	24
20.4	Food chain 食物鏈	26
20.5	Food web 食物網	27
20.6	Trophic levels 營養級(食性層次)	27
20.7	Loss of energy along a food chain 能量沿食物鏈散失	28
20.8	Ecological pyramids 生態塔(生態錐體)	29
20.9	The cycling of materials 物質的循環	36
20.10	The interdependence of organisms 生物間的互相依賴	39
20.11	Species diversity and dominant species 物種多樣性與優勢種	44



III Health and Diseases 健康與疾病

23 Personal health 個人健康	103
23.1 Some factors affecting health 影響健康的因素	103
23.2 Diet 膳食	103
23.3 Exercise 運動	104
23.4 Rest 休息	106
23.5 Smoking , alcohol and drug abuse 吸煙、酗酒和濫用藥	107
23.6 Personal hygiene 個人衛生	109
24 Infectious diseases 傳染病	112
24.1 Causes of infectious diseases 傳染病的成因	112
24.2 Routes of transmission and control measures 傳播途徑和控制措施	113
24.3 Treatment of infectious diseases 治療傳染病的方法	115
25 Non-infectious diseases and disease prevention 非傳染病和疾病的預防 (組合科學不須學)	119
25.1 Non-infectious diseases 非傳染病	119
25.2 The prevention and control of diseases 疾病的預防	126
26 Body defence mechanisms 身體的防禦機制 (組合科學不須學)	130
26.1 Non-specific defence mechanism 非特異性防禦機制	130
26.2 Specific defence mechanism 特異性防禦機制	131
26.3 Primary and secondary immune response 原發免疫反應和繼發免疫反應	137
26.4 Types of immunity 免疫的種類	139
26.5 Practical application of immune mechanism (vaccination) 免疫機制的實際應用(免疫接種)	139



IV Genetics and Evolution 遺傳與進化

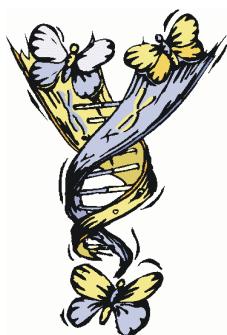
27 Basic genetics 基礎遺傳學

27.1	Gene and chromosome 基因與染色體	146
27.2	Nucleic acids 核酸	147
27.3	DNA replication DNA的複製	150
27.4	Monohybrid inheritance: 單基因遺傳	153
27.5	Dihybrid inheritance 雙基因遺傳	166
27.6	Multiple alleles 複等位基因	171
27.7	Linkage 連鎖	174
27.8	Sex determination 性別之決定	177
27.9	Sex linkage 性連遺傳	178
27.10	Variation 變異	180



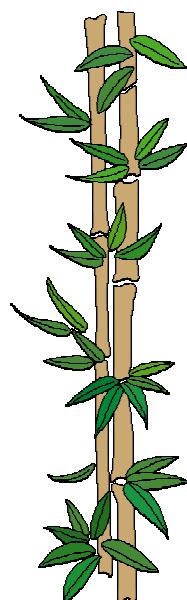
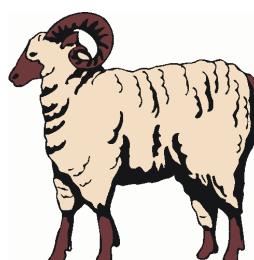
28 Molecular genetics 分子遺傳學 (組合科學不須學)

28.1	Genetic code 遺傳密碼	187
28.2	Transcription 轉錄	190
28.3	Translation 轉譯	191
28.4	Mutation 突變	193



29 Applied genetics 應用遺傳學

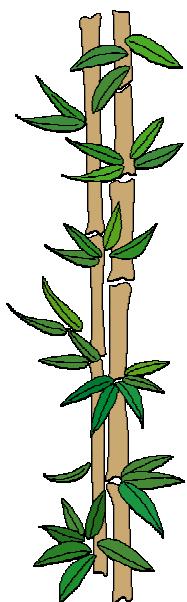
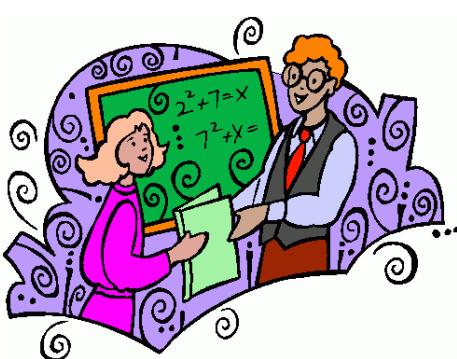
29.1	Genetic engineering 遺傳工程	201
29.2	Genetic fingerprinting DNA指紋分析	204
29.3	Human genome project 人類基因組計劃	205



30	Evolution I 進化 I	208
30.1	The origins of life 生命的起源	208
30.2	Darwin's theory of evolution 達爾文之進化論	208
30.3	Evidence of evolution 進化論的證據	209
31	Evolution II 進化 II (組合科學不須學)	214
31.1	Mechanism of evolution 進化的機制	214
31.2	Speciation 物種形成	217
31.3	Plant and animal breeding as an illustration of evolution 以動植物育種來顯示進化	219



Exercise 練習		
19	Biodiversity 生物多樣性	221
20	Ecosystems 生態系	223
21	Photosynthesis 光合作用	225
22	Respiration 呼吸作用	227
23	Personal health 個人健康	229
24	Infectious diseases 傳染病	231
25	Non-infectious diseases and disease prevention 非傳染病和疾病的預防	233
26	Body defence mechanisms 身體的防禦機制	235
27	Basic genetics 基礎遺傳學	237
28	Molecular genetics 分子遺傳學	239
29	Applied genetics 應用遺傳學	241
30	Evolution I 進化 I	243
31	Evolution II 進化 II	245



本書練習分甲、乙兩部，甲部同學可上官網下載答案，乙部(作為家課)答案只給老師，老師請上官網申請下載密碼。

下載答案(練習及測試站): <http://www.rytc.com.hk/seniorbio.htm>

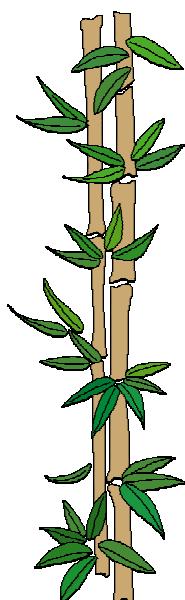
Book 1

I Cells and molecules of life 細胞與生命分子

- 1 Cell structure
細胞的構造
- 2 Chemicals of life
生命的化學成份
- 3 Movement of substances across cell membrane
物質穿越細胞膜的途徑
- 4 Enzymes and metabolism
酶和新陳代謝

II Organisms and environment 生物與環境

- 5 Food and humans
食物和人類
- 6 Nutrition in humans
人的營養
- 7 Gas exchange in humans
人體的氣體交換
- 8 Transport in humans
人體內物質的轉運
- 9 Nutrition and gas exchange in plant
植物的營養和氣體交換
- 10 Transpiration, transport and support in plant
植物的蒸騰、轉運和支持



Book 2

II Organisms and environment 生物與環境

- 11 Cell cycle and division**
細胞週期和分裂
- 12 Reproduction in flowering plants**
有花植物的生殖 (組合科學不須學)
- 13 Reproduction in human**
人的生殖
- 14 Growth and development**
生長與發育 (組合科學不須學)
- 15 Detecting the environment**
環境狀況的探測
- 16 Coordination in human**
人體的協調
- 17 Movement in humans**
人體的運動 (組合科學不須學)
- 18 Homeostasis**
體內平衡

Book 4

Elective parts 選修部份

- V Human physiology: Regulation and Control**
人體生理學：調節與控制
- VI Applied Ecology**
應用生態學
- VII Microorganisms and Humans**
微生物與人類
- VIII Biotechnology**
生物工程

