Pearson Edexcel · International A-Level · Biology Syllabus

Checklist · 大纲自查表

Tick one box per statement: ☐ not yet ☐ nearly ☐ confident. 每条打一个勾：尚未掌握 / 快会了 / 有把握。

1. Molecules, Diet, Transport and Health 分子、饮食、运输与健康

1.1 Water, carbohydrates and food tests (statements 1.1–1.4, core practical 1) 水、碳水化合物和食物检测（陈述 1.1–1.4，核心实践 1）

☐☐☐ Water, carbohydrates and food tests (statements 1.1–1.4, core practical 1)

1.2 Lipids and ester bonds (statement 1.5) 脂类和酯键（陈述 1.5）

☐☐☐ Lipids and ester bonds (statement 1.5)

1.3 Heart, blood vessels and the cardiac cycle (statements 1.6–1.8) 心脏、血管和心动周期（陈述 1.6–1.8）

☐☐☐ Heart, blood vessels and the cardiac cycle (statements 1.6–1.8)

1.4 Haemoglobin and gas transport (statement 1.9) 血红蛋白和气体运输（陈述 1.9）

☐☐☐ Haemoglobin and gas transport (statement 1.9)

1.5 Atherosclerosis, blood clotting and CVD risk (statements 1.10–1.13, core practical 2) 动脉粥样硬化、血液凝固和心血管疾病风险（陈述 1.10–1.13，核心实践 2）

☐☐☐ Atherosclerosis, blood clotting and CVD risk (statements 1.10–1.13, core practical 2)

1.6 Interpreting health-risk data and studies (statements 1.15–1.18) 解读健康风险数据和研究（陈述 1.15–1.18）

☐☐☐ Interpreting health-risk data and studies (statements 1.15–1.18)

1.7 Diet, cholesterol and CVD treatments (statements 1.19–1.20) 饮食、胆固醇和心血管疾病治疗（陈述 1.19–1.20）

☐☐☐ Diet, cholesterol and CVD treatments (statements 1.19–1.20)

1.8 Gas exchange surfaces and membrane structure (statements 2.1–2.2, core practical 3) 气体交换表面和膜结构（陈述 2.1–2.2，核心实践 3）

☐☐☐ Gas exchange surfaces and membrane structure (statements 2.1–2.2, core practical 3)

1.9 Osmosis, diffusion and active transport (statements 2.4–2.5) 渗透作用、扩散和主动运输（陈述 2.4–2.5）

☐☐☐ Osmosis, diffusion and active transport (statements 2.4–2.5)

1.10 Amino acids, proteins and enzymes (statements 2.6–2.8, core practical 4) 氨基酸、蛋白质和酶（陈述 2.6–2.8，核心实践 4）

☐☐☐ Amino acids, proteins and enzymes (statements 2.6–2.8, core practical 4)

1.11 DNA, replication and the genetic code (statements 2.9–2.12) DNA、复制和遗传密码（陈述 2.9–2.12）

☐☐☐ DNA, replication and the genetic code (statements 2.9–2.12)

1.12 Protein synthesis, mutations and screening (statements 2.13–2.18) 蛋白质合成、突变和筛查（陈述 2.13–2.18）

☐☐☐ Protein synthesis, mutations and screening (statements 2.13–2.18)

2. Cells, Development, Biodiversity and Conservation

细胞、发育、生物多样性和保护

2.1 Cell ultrastructure and microscopy (statements 3.1–3.7, core practical 5) 细胞超微结构和显微镜技术（陈述 3.1–3.7，核心实践 5）

☐☐☐ Cell ultrastructure and microscopy (statements 3.1–3.7, core practical 5)

2.2 Meiosis, gametes and fertilisation (statements 3.9–3.13) 减数分裂、配子和受精（陈述 3.9–3.13）

☐☐☐ Meiosis, gametes and fertilisation (statements 3.9–3.13)

2.3 Mitosis, the cell cycle and mitotic index (statements 3.14–3.16, core practical 6) 有丝分裂、细胞周期和有丝分裂指数（陈述 3.14–3.16，核心实践 6）

☐☐☐ Mitosis, the cell cycle and mitotic index (statements 3.14–3.16, core practical 6)

2.4 Stem cells, specialisation and phenotype (statements 3.17–3.21) 干细胞、分化和表型（陈述 3.17–3.21）

☐☐☐ Stem cells, specialisation and phenotype (statements 3.17–3.21)

2.5 Plant cell structure, xylem and phloem (statements 4.1–4.6, core practicals 7–8) 植物细胞结构、木质部和韧皮部（陈述 4.1–4.6，核心实践 7–8）

☐☐☐ Plant cell structure, xylem and phloem (statements 4.1–4.6, core practicals 7–8)

2.6 Plant products, mineral ions and drug testing (statements 4.7–4.13) 植物产物、矿物质离子和药物检测（陈述 4.7–4.13）

☐☐☐ Plant products, mineral ions and drug testing (statements 4.7–4.13)

2.7 Classification and measuring biodiversity (statements 4.14–4.18) 分类和测量生物多样性（陈述 4.14–4.18）

☐☐☐ Classification and measuring biodiversity (statements 4.14–4.18)

2.8 Niches, Hardy–Weinberg and conservation (statements 4.19–4.21) 生态位、哈迪-温伯格平衡和保护（陈述 4.19–4.21）

☐☐☐ Niches, Hardy–Weinberg and conservation (statements 4.19–4.21)

3. Practical Skills in Biology I 生物学实践技能 I

3.1 Planning investigations (Unit 3 spec, planning section) 规划调查（单元 3 大纲，规划部分）

☐☐☐ Planning investigations (Unit 3 spec, planning section)

3.2 Implementation and measurements (Unit 3 spec, implementation section) 实施与测量（单元 3 大纲，实施部分）

☐☐☐ Implementation and measurements (Unit 3 spec, implementation section)

3.3 Processing results, graphs and uncertainties (Unit 3 spec, processing section) 数据处理、图表与不确定性（单元 3 大纲，数据处理部分）

☐☐☐ Processing results, graphs and uncertainties (Unit 3 spec, processing section)

4. Energy, Environment, Microbiology and Immunity

能量、环境、微生物学和免疫学

4.1 Photosynthesis and chloroplast pigments (statements 5.1–5.8, core practical 10) 光合作用与叶绿体色素（知识点 5.1–5.8，核心实践 10）

☐☐☐ Photosynthesis and chloroplast pigments (statements 5.1–5.8, core practical 10)

4.2 Productivity and energy transfer (statements 5.9–5.10) 生产力与能量传递（知识点 5.9–5.10）

☐☐☐ Productivity and energy transfer (statements 5.9–5.10)

4.3 Ecosystems, populations and succession (statements 5.11–5.15, core practical 11) 生态系统、种群与演替（知识点 5.11–5.15，核心实践 11）

☐☐☐ Ecosystems, populations and succession (statements 5.11–5.15, core practical 11)

4.4 Climate change evidence, causes and effects (statements 5.16–5.22, core practical 12) 气候变化的证据、成因及影响（知识点 5.16–5.22，核心实践 12）

☐☐☐ Climate change evidence, causes and effects (statements 5.16–5.22, core practical 12)

4.5 Evolution and speciation (statements 5.23–5.26) 进化与物种形成（知识点 5.23–5.26）

☐☐☐ Evolution and speciation (statements 5.23–5.26)

4.6 Culturing microorganisms and growth curves (statements 6.1–6.4, core practical 13) 微生物培养与生长曲线（知识点 6.1–6.4，核心实践 13）

☐☐☐ Culturing microorganisms and growth curves (statements 6.1–6.4, core practical 13)

4.7 Pathogens, infection routes and tuberculosis/HIV (statements 6.5–6.7) 病原体、感染途径及结核病/HIV（知识点 6.5–6.7）

☐☐☐ Pathogens, infection routes and tuberculosis/HIV (statements 6.5–6.7)

4.8 Immune response, antigens and antibodies (statements 6.8–6.12) 免疫反应、抗原与抗体（知识点 6.8–6.12）

☐☐☐ Immune response, antigens and antibodies (statements 6.8–6.12)

4.9 Antibiotics and hospital-acquired infections (statements 6.13–6.15, core practical 14) 抗生素与医院获得性感染（知识点 6.13–6.15，核心实践 14）

☐☐☐ Antibiotics and hospital-acquired infections (statements 6.13–6.15, core practical 14)

4.10 Decomposition, PCR, DNA profiling and time of death (statements 6.16–6.20) 分解作用、PCR、DNA 指纹鉴定与死亡时间推断（知识点 6.16–6.20）

☐☐☐ Decomposition, PCR, DNA profiling and time of death (statements 6.16–6.20)

5. Respiration, Internal Environment, Coordination and Gene Technology

呼吸、内环境、协调与基因技术

5.1 Respiration, glycolysis to oxidative phosphorylation (statements 7.1–7.8, core practicals 15–16) 呼吸作用：从糖酵解到氧化磷酸化（知识点 7.1–7.8，核心实践 15–16）

☐☐☐ Respiration, glycolysis to oxidative phosphorylation (statements 7.1–7.8, core practicals 15–16)

5.2 Muscles and movement (statements 7.9–7.11) 肌肉与运动（知识点 7.9–7.11）

☐☐☐ Muscles and movement (statements 7.9–7.11)

5.3 Cardiac and ventilation control (statements 7.12–7.15, core practical 17) 心脏活动与呼吸控制（知识点 7.12–7.15，核心实践 17）

☐☐☐ Cardiac and ventilation control (statements 7.12–7.15, core practical 17)

5.4 Homeostasis, feedback and thermoregulation (statements 7.14, 7.16–7.17) 稳态、反馈调节与体温调节（知识点 7.14，7.16–7.17）

☐☐☐ Homeostasis, feedback and thermoregulation (statements 7.14, 7.16–7.17)

5.5 Kidney structure and osmoregulation (statements 7.18–7.21) 肾脏结构与渗透压调节（知识点 7.18–7.21）

☐☐☐ Kidney structure and osmoregulation (statements 7.18–7.21)

5.6 Gene switching and transcription factors (statement 7.22) 基因开关与转录因子（知识点 7.22）

☐☐☐ Gene switching and transcription factors (statement 7.22)

5.7 Neurones, nerve impulses and synapses (statements 8.1–8.7) 神经元、神经冲动与突触（知识点 8.1–8.7）

☐☐☐ Neurones, nerve impulses and synapses (statements 8.1–8.7)

5.8 Nervous organisation, receptors and habituation (statements 8.8–8.10) 神经组织、感受器和习惯化（陈述 8.8–8.10）

☐☐☐ Nervous organisation, receptors and habituation (statements 8.8–8.10)

5.9 Plant responses and phytochrome (statements 8.11–8.12, core practical 18) 植物反应与光敏色素（陈述 8.11–8.12，核心实验 18）

☐☐☐ Plant responses and phytochrome (statements 8.11–8.12, core practical 18)

5.10 The brain, imaging and brain chemistry (statements 8.13–8.16) 大脑、成像与脑化学（陈述 8.13–8.16）

☐☐☐ The brain, imaging and brain chemistry (statements 8.13–8.16)

5.11 Recombinant DNA technology and drug production (statements 8.17–8.19) 重组 DNA 技术与药物生产（陈述 8.17–8.19）

☐☐☐ Recombinant DNA technology and drug production (statements 8.17–8.19)

5.12 Genetically modified organisms, microarrays and bioinformatics (statements 8.20–8.21) 转基因生物、微阵列与生物信息学（陈述 8.20–8.21）

☐☐☐ Genetically modified organisms, microarrays and bioinformatics (statements 8.20–8.21)

6. Practical Skills in Biology II 生物学实践技能 II

6.1 Planning A2 investigations (Unit 6 spec, planning section) 规划 A2 探究（单元 6 大纲，规划部分）

☐☐☐ Planning A2 investigations (Unit 6 spec, planning section)

6.2 Implementation and measurement critique (Unit 6 spec, implementation section) 实施与测量评估（单元 6 大纲，实施部分）

☐☐☐ Implementation and measurement critique (Unit 6 spec, implementation section)

6.3 Analysis, statistics and justified conclusions (Unit 6 spec, analysis section) 分析、统计与有根据的结论（单元 6 大纲，分析部分）

☐☐☐ Analysis, statistics and justified conclusions (Unit 6 spec, analysis section)