# 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)



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**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)



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**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)



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