

Edexcel Biology B AS Paper 2 Revision Checklist

Topics 3 & 4 + Practical Skills

Name: _____

Topic 3: Classification & Biodiversity

Biodiversity

- ☐ Define biodiversity
- ☐ Explain why biodiversity is important
- ☐ Explain threats to biodiversity
- ☐ Evaluate conservation strategies

Classification

- ☐ Use the classification hierarchy
- ☐ Explain binomial naming
- ☐ Compare traditional and modern classification
- ☐ Explain phylogeny and evolutionary relationships
- ☐ Describe the three-domain system

Variation & Evolution

- ☐ Distinguish genetic and environmental variation
- ☐ Compare continuous and discontinuous variation
- ☐ Explain adaptation
- ☐ Explain natural selection
- ☐ Explain evolution through selection

Conservation

- ☐ Explain in situ conservation
 - ☐ Explain ex situ conservation
 - ☐ Evaluate conservation methods
 - ☐ Explain the importance of genetic diversity
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Topic 4: Exchange & Transport

Exchange Surfaces

- ☐ Explain features of efficient exchange surfaces
- ☐ Calculate and apply surface area : volume ratio

Gas Exchange

- ☐ Label the respiratory system
- ☐ Explain alveolar adaptations
- ☐ Explain ventilation mechanisms
- ☐ Interpret lung volume data

Circulation

- ☐ Compare open and closed circulatory systems
- ☐ Describe the heart structure
- ☐ Explain the cardiac cycle
- ☐ Describe blood flow through the heart

Blood Vessels & Blood

- ☐ Compare arteries, veins and capillaries
- ☐ Explain adaptations of blood vessels
- ☐ Explain the roles of plasma, red and white blood cells, and platelets
- ☐ Explain oxygen transport by haemoglobin

Plant Transport

- ☐ Describe xylem and phloem structure
- ☐ Explain the transpiration stream
- ☐ Explain cohesion-tension theory
- ☐ Explain translocation

Factors Affecting Transpiration

- ☐ Temperature
 - ☐ Humidity
 - ☐ Wind speed
 - ☐ Light intensity
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Core Practical Skills

Ecology

- ☐ Use quadrats correctly
- ☐ Use line transects and belt transects
- ☐ Calculate percentage frequency and abundance
- ☐ Evaluate sampling techniques

Transpiration

- ☐ Use a potometer
 - ☐ Calculate transpiration rates
 - ☐ Interpret practical results
 - ☐ Identify limitations and improvements
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Mathematical Skills

- ☐ Percentages and percentage change
 - ☐ Ratios
 - ☐ Rates
 - ☐ Mean calculations
 - ☐ Standard form
 - ☐ Surface area : volume calculations
 - ☐ Graph interpretation
 - ☐ Data analysis and trends
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Working Scientifically

- ☐ Identify variables
 - ☐ Write hypotheses
 - ☐ Design investigations
 - ☐ Evaluate methods
 - ☐ Draw conclusions from data
 - ☐ Suggest improvements
 - ☐ Assess reliability and validity
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Exam Readiness

- ☐ Completed revision of Topics 3 & 4
- ☐ Reviewed all core practicals
- ☐ Completed at least 3 past papers
- ☐ Reviewed common exam mistakes

- ☐ Confident with data and graph questions
- ☐ Can answer synoptic questions independently

Traffic Light Review

Area			
Topic 3	☐	☐	☐
Topic 4	☐	☐	☐
Practicals	☐	☐	☐
Maths Skills	☐	☐	☐
Overall Readiness	☐	☐	☐

This version is condensed enough to fit comfortably on **two A4 pages** when formatted in a standard 11-12pt font.