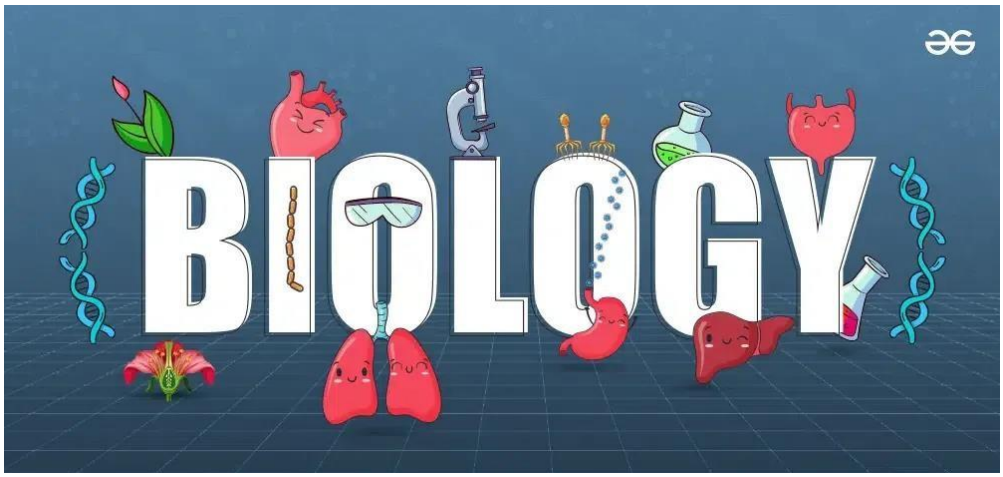

Edexcel A Level Biology A (SNAB) Transition Pack

Welcome to biology! To help you prepare for A Level Biology and make a strong start in September, you are required to complete **three summer transition tasks** (detailed below). These will help develop your skills in independent learning, scientific thinking, and curiosity about real-world biology.

You must bring all completed tasks by the second week of the Autumn term (exact date TBC in your first biology lesson).

Included in the next section you will find additional information and optional tasks. These are particularly useful if you did not do the Edexcel 9-1 Biology exam board or if you did combined Science.

Included here:

1. Course information
2. Resources and *optional* tasks (particularly useful for those who have done different exam boards to Edexcel 9-1 and/or Combined science)
3. **Summer transition work details (compulsory)**

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1. Course Information

Unit	Title	Assessment	Topics assessed	% of A Level
9BNO/01	The Natural Environment and Species Survival	Written paper 2hrs (100 marks)	1-6	33.3
9BNO/02	Energy, Exercise and Coordination	Written paper 2hrs (100 marks)	1-4, 7+8	33.3
9BNO/03	General and Practical Applications of Biology	Written paper 2hrs (100 marks)	1-8	33.3
9BNO/04	Science Practical Endorsement	**Not a written exam: i**nternally assessed by teachers against the Common Practical Assessment Criteria. Moderated by Pearson	-	-

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2. Resources and optional tasks

Resource Type	Detail	Notes
Specification	**Edexcel A (SNAB)**	At WHSG we follow Edexcel A (a context-led approach)
Transition document	Links between the GCSE (Edexcel 9-1 Biology) and GCE specification	You will receive a hard copy of this in your first lesson in September. You can use this to see where the GCSE content links to the upcoming AS topics. **This is saved as a separate doc: 'GCSE to A level Biology Mapping'*
Online subscription	ActiveLearn	This will give you access to SNAB online and a vast amount of interactive resources (login details will be provided in September)
Textbook	**Salters-Nuffield AS/A level Biology Student Book 1 (ISBN: 978-1447991007)**	**You need to buy your own copy of this before the course starts in September**
Textbook (optional)	CGP Head Start to A-Level Biology (ISBN: **978-1782942795)**	A good selection of books and tasks. Useful for filling in gaps in knowledge (***particularly if you did not do Edexcel 9-1 at GCSE or did the Combined Science A Level***) Not essential but a popular revision resource.
Textbook (optional)	CGP A-Level Biology: Edexcel A Year 1 & 2 Complete Revision and Practice (ISBN: **978-1782942986)**	

Optional Tasks:

All students are encouraged to complete the optional transition tasks provided to help prepare for the upcoming course. Task 1 is the most important of the three tasks below. While these tasks are optional, they are **strongly recommended,** particularly for the following students:

- Those who attained a **Grade 7 in Biology GCSE**
- Those who **did not study the Edexcel 9–1 exam board at GCSE**
- Those who completed **Combined Science at GCSE**

Completing these tasks will help identify and fill any potential gaps in knowledge, ensuring you begin the course with a strong and confident foundation (you do not need to bring evidence of these tasks in September):

Task	Objective	Instructions
1. **Bridging GCSE to A-level Biology**	To review essential GCSE knowledge and introduce key biological concepts that will be studied in greater depth during Year 12.	Create a one-page summary (bullet points or a mind map) for each of the following topics: • Cells and Microscopy (including plant vs animal cells and cell structures) • Enzymes (structure, function and factors affecting activity) • Osmosis, Diffusion and Active Transport • Protein Synthesis (including transcription and translation) • Cell Ultrastructure (including the functions of organelles and the differences between prokaryotic and eukaryotic cells) • Kidney Function (including the structure of the nephron, ultrafiltration and selective reabsorption) ➢ Use BBC Bitesize (GCSE Biology) or another trusted revision website. ➢ For topics that are new to you, focus on understanding the key ideas rather than memorising every detail. ➢ Highlight anything new or unfamiliar as a question to follow up later.
2. **Learn Key Scientific Skills**	Develop the practical and data skills required at A-Level.	Watch a short video/research and write a short guide on each of the following skills: • How to use a **microscope** (including preparing slides) • How to **plot and interpret graphs** (including using a line of best fit and identifying anomalies) • Understanding **variables** in experiments (independent, dependent, control)

3. **Vocabulary Builder** - Biological Terms Glossary	Build confidence with key terminology used in A-Level Biology.	• Create a glossary of **important biology terms**, including:
		  ○ Prokaryote, Eukaryote, Diffusion, Osmosis, Enzyme, Substrate, Active Site, Mitochondria, Nucleus, transcription, translation
		• Write:
		  1. The **definition** in your own words
		  2. A **diagram or sketch** (if helpful)
		  3. An **example** or sentence using the term

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3. **Summer transition work details (compulsory)**

<u>Compulsory Task 1: Research Project – Explore a Big Biological Question (~3-4 hours)</u>

What to Do: You will complete a project based on one of the **core A Level biology themes** you'll study early in Year 12. Choose **one question** from the list below. These questions are based on **Topic 1: Lifestyle, Health and Risk** or **Topic 2: Genes and Health** in the Edexcel SNAB specification.

🗄 Choose ONE of the following project questions:

1. **Can we reprogram cells to cure disease?**
   (Focus: stem cells, gene therapy, and regenerative medicine)
2. **Is cardiovascular disease preventable—or inevitable?**
   (Focus: diet, lifestyle, genetics, and heart disease)
3. **Can gene editing eliminate inherited disorders?**
   (Focus: cystic fibrosis, CRISPR, and ethics of gene editing)
4. **How does lifestyle affect the risk of developing chronic disease?**
   (Focus: smoking, diet, exercise, and non-communicable diseases)
5. **How do genetic disorders like cystic fibrosis impact the body?**
   (Focus: gene mutations, inheritance, and treatment options)

Format: Choose **one format** for your final output:

- A 1000-word mini-essay
- An infographic

Your project must include:

Component	Description
1. Scientific Explanation	Clear, accurate, and detailed explanation of the key biological principles and processes.
2. Case Study / Example	At least one real-life example (e.g. disease, individual case, population study, or scientific breakthrough) clearly linked to your topic.
3. Ethical/Social/Economic Implications	Thoughtful discussion of any ethical, social, or economic issues relevant to the topic.
4. Use of Sources (bibliography)	At least 3 reliable, properly cited sources. These should include textbooks, science journals, or reputable websites (e.g. NHS, WHO, BBC Science).
5. Structure and Communication	Logical organisation, clear headings, coherent flow of ideas. Biological terminology is used correctly.
6. Creativity and Presentation	(Infographic only) Visually engaging, well-organised, and informative. (Essay) Clearly formatted, free from spelling and grammar errors.

Suggested Structure (for Essay Format)

1. **Introduction (100–150 words)** ○ Briefly introduce your topic and key question.
    - Outline what you will explore in the project.
2. **Main Body (700–800 words)** ○ **Scientific Explanation**: Explain the biology in detail, using diagrams where helpful.
    - **Case Study/Example**: Include a real-life case to illustrate the science.
    - **Ethical/Social/Economic Issues**: Discuss the wider impact of the issue or scientific development.
3. **Conclusion (100–150 words)** ○ Summarise your key findings.
    - Highlight the significance or relevance of the topic to human health or society.
4. **Bibliography** ○ List at least 3 reliable sources in a consistent format (e.g. Harvard or Stanford). ○ Use credible sources (textbooks, academic journals, reputable websites).

Suggested Layout (for Infographic Format)

- **Title**: Clear and informative.
- **Sections with Subheadings**:
  - *The Science Explained*
  - *Case Study / Real-life Example*
  - *Ethical/Social/Economic Aspects*
  - *Summary or Key Facts*
  - *Sources / References*
- **Visuals**: Use diagrams, illustrations, or charts to enhance understanding.
- **Layout Tips**: Keep text concise, use bullet points, and ensure the infographic is easy to follow.

🔍 Checklist for Students

When you have finished, check the following:

- Have I explained the **key biology** clearly?
- Did I include at least **one real-life case**?
- Did I consider **ethical, social, or economic** aspects?
- Have I used at least **3 reliable sources** and **listed** them properly?
- Is my work **well-organised** and clearly presented?
- If I chose an infographic, is it **visually clear** and **informative**?

Evidence to Bring:

- A printed copy of your **finished project (essay or infographic)**

Compulsory Task 2: Biology Reading & Reflection Log (reading time + ~1 hour reflection)

What to Do: Choose and read **two popular science articles, podcasts, videos, or books** with a biology focus.
Some examples: "The Gene" by Siddhartha Mukherjee, BBC Science Focus articles, Inside Science podcast, Nature/Science news.

For each one, write a **100-word reflection** including:

- A short summary of the content
- A question you'd like to research further

Evidence to Bring:

- A **typed or handwritten log** with both reflections clearly labelled
- The **titles, authors/sources**, and dates of what you read/listened to

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Compulsory Task 3: Biology in the News Scrapbook (reading time + ~1 hour reflection)

What to Do: Find and collect **3 recent news stories** (from the last 12 months) related to biology, especially those connected to:

- Health and disease
- Genetics and biotechnology
- Scientific breakthroughs or ethical debates

For each article:

- Print a hard copy
- Annotate with where this article links to the topics you will be studying in The Autumn term
- In a different colour annotate with where this article links KS4 knowledge
- Highlight key words (look up any that you do not know the meaning of)
- Critique the article (e.g. any bias? Is the source reliable? Is the biology inaccurate?)

Evidence to Bring:

- A **physical scrapbook** containing:
    - Hard copies or printouts of each article
    - Your annotations

What to Bring on the date specified by your teacher (TBC in your first biology lesson)

Item	Evidence Required
1	Final project (essay or poster/infographic) including bibliography
2	Two reading reflections (250 words each) with source details
3	News scrapbook (3–5 articles) with annotations