



# The Thomas Hardy School

## Summer Preparation Task

### Biology AS

#### Purpose of task:

We follow the new AQA Biology AS and A level specification (7401=AS, 7402=A level). As you will see, the course contains a great deal of new topics to understand and to learn and this sometimes feels like a big step up from GCSE. Therefore, it is really important that you get an idea of what is coming up for the Autumn term before, and briefly look at the overview of the rest of the course.

These summer tasks will help you to get ahead of the game and ensure that you start with a solid foundation in September, so enjoy and good luck!

#### Recommended resources:

<http://www.aqa.org.uk/subjects/science/as-and-a-level/biology-7401-7402>

<https://www.youtube.com/watch?v=URUJD5NEXC8>

<https://www.mindmapping.com/>

#### Task 1 - Getting to know the specification from the exam board (2 x 30 min)

**Read** the pages 9-11 of the new AQA Biology specification <http://www.aqa.org.uk/subjects/science/as-and-a-level/biology-7401-7402>

Then read through the subject content part of the spec. as follows:

- SECTION 3.1 Biological molecules (pages 12-19)
- SECTION 3.2 Cells (Pages 20-25)

**Make a detailed poster / mind map** on A3 paper for each section to summarise key parts of the two topics and the study requirements. Add as much detail as you think is useful. You could tick those topics that you already know something about or topics that you cover during these summer tasks (such as cell structure).

<https://www.mindmapping.com/>

#### Task 2 - Key terms (1 hour)

Biology has a language and set of key words all of its own and every year students get muddled by this. So why not get a head start? Find out **definitions** of the selection of **40 useful key words** below. Try to write definitions in your own words to ensure that you fully understand them. You will go through these words (and others!) in class. Feel free to **EXPAND** the boxes so can fit everything in properly!

### Task 3 -Researching cell structure (Getting ahead of topic 1)

Start by watching the following clip: <https://www.youtube.com/watch?v=URUJD5NEXC8>

Use the internet to research “Eukaryote cell structure” and make either a powerpoint or word document that summarises key information. Find out what a eukaryote cell is and look into plant and animal cells in detail. Select the best **images** to show all the main structures found in cells.

Add simple bullet notes (not huge copied chunks of text!) about structure and function e.g:

- **Describe** key features & facts about the organelle or structure (including size).
- **Explain** what the organelle or structure does and **how** it does that.
- **List** which kinds of specialised cells have it and **why**.

Key things to research include: plasma membrane, cytoplasm, nucleus, mitochondrion, chloroplast, vacuole, cellulose cell wall, endoplasmic reticulum (rough & smooth), golgi apparatus, vesicles, lysosomes, centrioles, cilium, flagellum, microvillus.

In total this should be less than 10 pages long. When printed off, this will make an excellent visual overview of the first topic, forming the starting basis for your unit 1 notes.

**A Level BIOLOGY KEY WORDS**

Name: \_\_\_\_\_

Key words	Definitions / details
Active site	
Active transport	
Aerobic respiration	
Alpha helix	
Arteriosclerosis	
Atheroma	
Benedict's test	
beta (pleated) sheet	
Biuret test	
Bronchioles	
Condensation reaction	
Diaphragm	
Diffusion	
Disaccharide	
Epithelium	
Eukaryote	

Glucose	
Glycogen	
Glycosidic bond	
Hydrogen bond	
Hydrolysis reaction	
Light microscope	
Lipid	
Monosaccharide	

Mutualism	
Organelle	
Osmosis	
Peptide	
Peptide bond	
Permeable	
Plasma membrane	
Polysaccharide	
Primary structure (protein)	
Prokaryote	
Scanning electron microscope	
Surface area to volume ratio	
Symbiosis	
Transmission electron microscope	
Transpiration	
Ventilation	

**Additional Information:**