

## Summer Project

Name:
Subject: Medical Science AAQ

The purpose of this Summer Project is to introduce you to studying this subject at an A level standard. You will need to complete 10 hours of study on each subject every week, 4½ in class with your teacher and the rest as independent learning. Therefore, it is important that you enjoy this subject and that you start to practice your study skills as early as possible. Some subjects have significant maths content (for example business, psychology, economics); others require strong essay writing skills (for example history, English). Think about the study skills and underpinning knowledge you will require in this subject - not just the title.

If after completing this project you think this may not be your ideal choice, you can ask to transfer to another subject at the start of term, as long as you have the entry requirements and it fits alongside your other choices on the Matrix (timetable). If you do decide to change subject, you will be required to complete the transition project for your new choice too.

This is also your first taste of Flipped Learning and elements will be used within your first week of lessons.

Please ensure your name, student number and subject are clearly noted on each page and bring it with you to hand in at Enrolment.

Have a good summer and we look forward to seeing you in September.

### HOW TO SUBMIT:

Please print your completed project and bring a copy with you to Induction.

If you don't have access to a printer, electronic copies can be emailed as an attachment to [MedicalScience@chichester.ac.uk](mailto:MedicalScience@chichester.ac.uk) with the email clearly labelled 'Medical Science Summer Project' prior to Induction.

## Welcome to A level Medical Science.

To **EVERY** lesson, you are expected to bring:

- an A4 ring-binder folder,
- lined paper
- pens, pencils, ruler and scientific calculator
- any current workbooks/worksheets
- In addition you will be expected to purchase a lab coat and lab book (these can be purchased through the college when you start the course)

Text book: There is no dedicated text book for this course. Any A level biology book will be useful for some aspects of this course but there is no need to purchase a text book before you start.

You will be provided with some workbooks and worksheets throughout the course, but you will be expected to print off some key material e.g. exam questions and flipped learning pre-work.

The transition work below will help you to understand the level of material we will cover in your first year. Read the attached article first, then answer **all** the questions. For some questions, you will be able to pull information from the article (though it must be written in your own words and not copied) which will demonstrate understanding. For other questions you will need to carry out additional research using either an A level/level 3 biology book or, if using the Internet, a good A level revision site. E.g. <https://www.s-cool.co.uk/a-level/biology>

Throughout your study on this course, completing additional work to a good standard will help you gain a higher final grade.

**Task 1: Research the eukaryotic cell structure (you can use any A level biology revision site or text book). You should then:**

- a) Produce TWO drawings on plain A4 paper. You should fill the paper. One should be of an animal cell and one a plant cell. You should include all the following components in the appropriate cells:

- Plasma membrane
- Cell wall
- Nucleus
- Nucleolus
- Cytoplasm
- Lysosome
- Rough endoplasmic reticulum
- Smooth endoplasmic reticulum
- Ribosomes
- Mitochondria
- Chloroplasts
- Cytoskeleton
- Large/permanent vacuole
- Golgi apparatus

Label all components included. Make sure you use a ruler to label.

- b) Produce a table with the following columns

Cell component/organelle	Function	Description of structure

- c) Learn the structure of cells and cell components from the information you have produced. You will have an initial assessment on this topic in your first lesson.

Task 2: Carry out some research into cardiovascular disease and answer the following questions. The NHS website is a good source of information.

- 1: What is coronary heart disease?
- 2: Which blood vessels are blocked with coronary heart disease?
- 3: What is angina?
- 4: What is the difference between angina and a heart attack?
- 5: What is heart failure?

**6: High blood pressure is a common problem in the population. List 5 risk factors for high blood pressure (factors that increase your risk of developing high blood pressure)**

**7: High blood pressure can lead to strokes if not controlled. What is a stroke?**

**8: What would be the course of action a health professional would give to a patient to help lower their blood pressure?**

**9: What medications can be used to lower blood pressure.**

**10: Atherosclerosis is a common cause of coronary heart disease and high blood pressure. One cause of this is high blood cholesterol levels.**

**a) How would someone change their lifestyle to reduce blood cholesterol?**

**b) What medication can be given to lower blood cholesterol?**