

SUMMER WORK

Before you return to classes in September you need to complete these two tasks

Task 2. Complete the labelling and filling in the blanks in the following tables on pages 7 to 8.

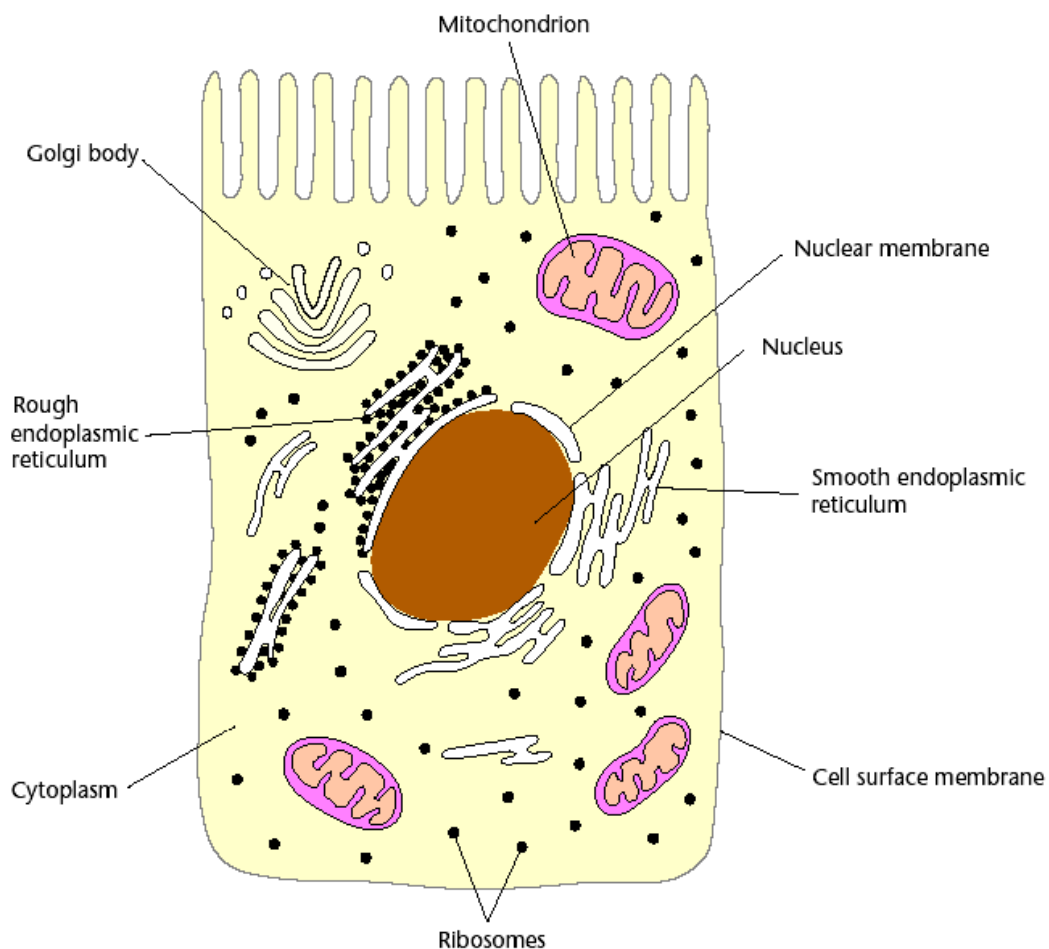
You need to carry out research and find at least one function of the organelles found in the main types of cells - Eukaryotic and prokaryotic - as shown in the accompanying diagrams

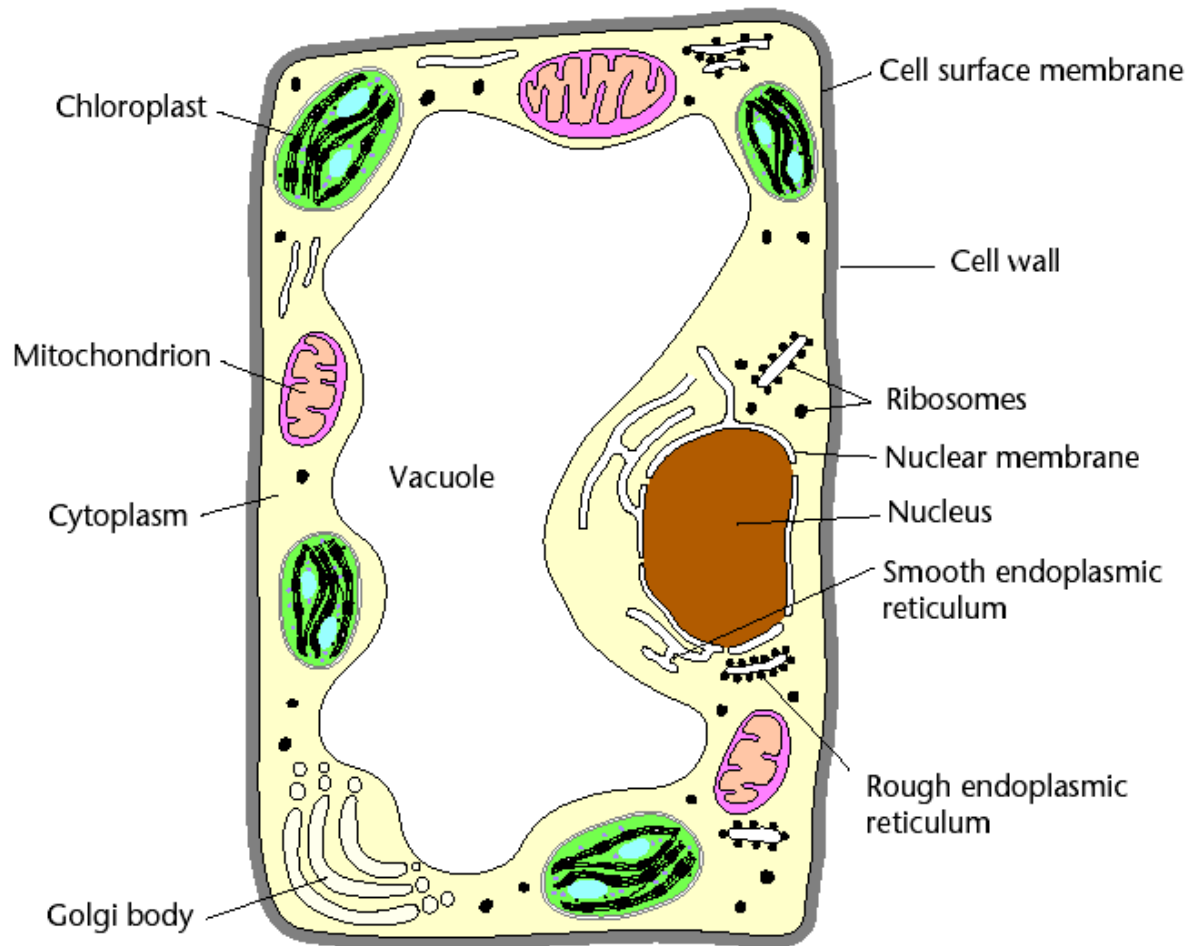
You need to prepare suitable notes for the organelles of the plant and animal cells so you can complete the diagrams of the two eukaryotic cells yourself.

Note that some of the organelles are common to both types of cell.

DO NOT USE CUT-AND PASTE FOR ANY PART OF THE ASSIGNMENT

EUKARYOTIC CELLS (PLANTS AND ANIMALS)





Task 3

Cell Organelles

Use your research to complete the following table by writing the name of the cell part or organelle in the right hand column that matches the structure/function in the left hand column. A cell part may be used more than once.

Structure/Function	Cell Part
Stores material within the cell	
Closely stacked, flattened sacs (plants only)	
The sites of protein synthesis	
Transports materials within the cell	
The region inside the cell except for the nucleus	
Organelle that manages or controls all the cell functions in a eukaryotic cell	
Contains chlorophyll, a green pigment that traps energy from sunlight and gives plants their green colour	
Digests excess or worn-out cell parts, food particles and invading viruses or bacteria	
Small bumps located on portions of the endoplasmic reticulum	
Provides temporary storage of food, enzymes and waste products	
Firm, protective structure that gives the cell its shape in plants, fungi, most bacteria and some protists	
Produces a usable form of energy for the cell	
Packages proteins for transport out of the cell	
Everything inside the cell including the nucleus	
Site where ribosomes are made	
The membrane surrounding the cell	
Name for the collection of DNA in the nucleus of eukaryotic cells	
Consist of hollow tubes which provide support for the cell	
Small hair-like structures used for movement or sensing things	
Composed of a phospholipid bilayer	
Longer whip-like structures used for movement	

Put a tick in the appropriate column(s) to indicate whether the following organelles are found in plant cells, animal cells or both.

Organelle	Plant Cells	Animal Cells
Cell Wall		
Vesicle		
Chloroplast		
Chromatin		
Cytoplasm		
Cytoskeleton		
Endoplasmic reticulum		
Golgi apparatus		
Lysosome		
Mitochondria		
Nucleolus		
Nucleus		
Plasma membrane		
Central vacuole		
Ribosome		
Vacuole		

Extension Activities

If you want an extra challenge then complete the following

Go to the Open Learning Initiative

<https://oli.cmu.edu/jcourse/lms/students/syllabus.do?section=df3e23850a0001dc518491159056b43c>

Where you can complete the free introduction to Introduction to Biology course. You should aim to complete as much of units 1,3&4 as you can.

Here some sample exam questions

Below is a list of cell types and their functions

Cell Type	Function
Cardiac muscle cells	Contraction of the heart
Alveolar macrophage cells	To ingest and digest pathogens invading the lungs
Beta cells in islets of Langerhans	To produce insulin (a protein)
Proximal tubule epithelial cells	To reabsorb useful molecules filtered out of the blood by the kidneys.

Name one organelle you would expect to find a lot of in the cardiac muscle cells. Give a reason for your answer.

Suggest how alveolar macrophage cells are adapted to their function in terms of the organelles that they contain.

Name three organelles you would expect to find **a lot of** in beta cells in the islets of Langerhans

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ALL this work will support your lessons and homework set in September.