Organelles- F211

Organelle	Structure	Function
Nucleus	- largest organelle - double nuclear envelope - nuclear pores - dense sphere- nucleolus - contains chromatin	- houses the genetic information - chromatin consists of DNA and proteins - when cells divide they to make chromosomes - nucleolus makes RNA and ribosomes - RNA passes through the pores to assemble proteins
Endoplasmic recticulum	- flattened membrane bound sacs-cisternae - continuous with the nuclear envelope - RER is studded with ribosomes	- RER transports proteins made by the ribosome's on its membrane - SER makes lipids
Golgi apparatus	stack of membrane bound flattened sacs (look like pita bread)	- receive proteins from the ER and modifies them by adding sugar - packages the proteins into vesicles t be transported - some modified proteins may be excreted from the cell
Mitochondria	- sausage shaped - double membrane - inner membrane highly folded int cristae - centre in known as matrix	- produce ATP - ATP needed in many metabolic processes
Chloroplasts- PLANT ONLY	- double membrane - inner membrane continuous with thylakoids (stack of which is a grana) - chlorophyl molecules are on the thylakoids membranes	- SIte of photosynthesis - uses light energy to drive the reaction
Lysosomes	- spherical sacs - single membrane	- contain a hydrolytic/digestive enzyme - which breaks down cells and/or organelles
Ribosome's- NOT MEMBRANE BOUND	- tiny - 2 sub units - some in cytoplasm other on RER	- site of protein synthesis - acts as an assembly line where mRNA is used to make proteins from amino acids
Centrioles- NOT MEMBRANE BOUND	- small tubes of protein fibres - pair in nucleus of animal cells	- take part in cell division - form the spindle during nuclear division to move chromosomes
Cilia / Flagella(undipodia)	- hair like projections - cylinder of 9 microtubles in a circle - flagella longer than cilia - cilia found in groups ,flagella found in 1's or 2's	- cilia move in a synchronized wave to move substances(mucus,egg) - flagellum propel cells in a coiling/corkscrew movement