	B1 – spec cells	Answers
1.	What is a specialised cell?	One that has differentiated to have different structures to enable it to carry out a certain function.
2.	Why do sperm cells have many mitochondria in their middle section?	They provide energy for the tail to move towards the egg as respiration happens here.
3.	What is the function of a root hair in a root hair cell?	To increase the surface area of the root hair cell so that water and minerals can easily move in.
4.	List two adaptations of the muscle cell with reasons	1. They are made of long fibres of protein to allow the cell to contract and relax 2. They contain many mitochondria for respiration to provide energy for contraction and relaxation.
5.	Describe two adaptations of the nerve cell.	1. They are long and branched so they can send messages long distances around the body. 2. They have dendrites at the end of them to connect with other neurones.
6.	List two adaptations of the xylem cells in a plant with reasons.	1. Hollow inside to allow water and minerals to travel through them with very little resistance. 2. The walls are strong and contain a material called lignin which allows these cells to support the plant
7.	List adaptations of the phloem cells with reasons	1. The sieve tubes have little cytoplasm or nuclei , with plates with holes in to allow the sugar to pass through. 2. The companion cells have many mitochondria for respiration so that energy is provided for active transport.
8.	Mature organisms usually carry out cell division for 2 purposes. What are they?	1. To repair old cells 2. To replace old cells
9.	Which piece of scientific equipment has much higher magnification than a light microscope that we may use in the lab?	Electron microscope
10.	What formula do we use to calculate the magnification produced by a microscope?	Magnification = image size / Real size