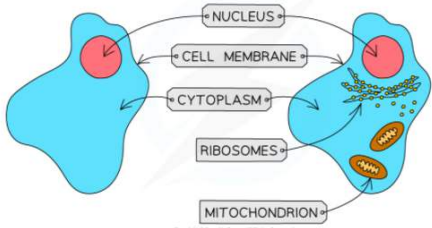


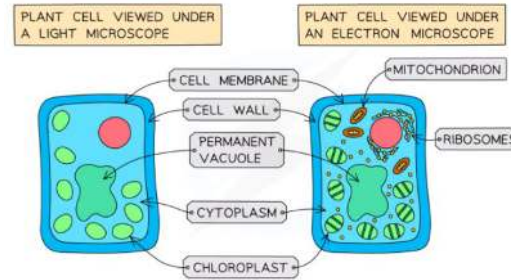
Animal Cells

STRUCTURE	FUNCTION
NUCLEUS	<ul style="list-style-type: none"> CONTAINS THE GENETIC MATERIAL (DNA) WHICH CONTROLS THE ACTIVITIES OF THE CELL
CYTOPLASM	<ul style="list-style-type: none"> A GEL-LIKE SUBSTANCE COMPOSED OF WATER AND DISSOLVED SOLUTES SUPPORTS INTERNAL CELL STRUCTURES SITE OF MANY CHEMICAL REACTIONS, INCLUDING ANAEROBIC RESPIRATION
CELL MEMBRANE	<ul style="list-style-type: none"> HOLDS THE CELL TOGETHER, SEPARATING THE INSIDE OF THE CELL FROM THE OUTSIDE CONTROLS WHICH SUBSTANCE CAN ENTER AND LEAVE THE CELL
RIBOSOMES	<ul style="list-style-type: none"> FOUND IN THE CYTOPLASM SITE OF PROTEIN SYNTHESIS
MITOCHONDRIA	<ul style="list-style-type: none"> SITE OF MOST OF THE REACTIONS INVOLVED IN AEROBIC RESPIRATION, WHERE ENERGY IS RELEASED TO FUEL CELLULAR PROCESSES CELLS WITH HIGH RATES OF METABOLISM (CARRYING OUT MANY DIFFERENT CELL REACTIONS) HAVE SIGNIFICANTLY HIGHER NUMBERS OF MITOCHONDRIA THAN CELLS WITH FEWER REACTIONS TAKING PLACE

ORGANELLES NOT VISIBLE UNDER A LIGHT MICROSCOPE

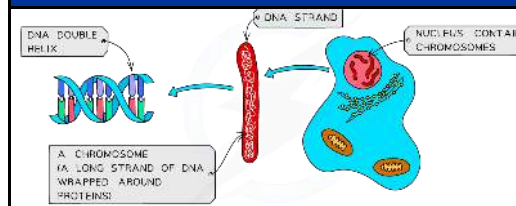


Plant Cells



STRUCTURE	FUNCTION
CELL WALL	<ul style="list-style-type: none"> MADE OF CELLULOSE (A POLYMER OF GLUCOSE) GIVES THE CELL EXTRA SUPPORT, DEFINING ITS SHAPE
CHLOROPLASTS	<ul style="list-style-type: none"> CONTAINS GREEN CHLOROPHYLL PIGMENTS (TO ABSORB LIGHT ENERGY) AND THE ENZYMES NEEDED FOR PHOTOSYNTHESIS
A PERMANENT VACUOLE	<ul style="list-style-type: none"> CONTAINS CELL SAP; A SOLUTION OF SUGARS AND SALTS DISSOLVED IN WATER USED FOR STORAGE OF CERTAIN MATERIALS ALSO HELPS SUPPORT THE SHAPE OF THE CELL

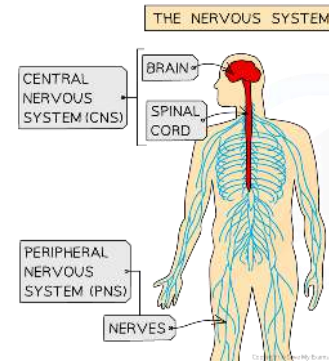
DNA



Chromosome – Tightly coiled structure made of DNA
DNA – Chemical that carries genetic information
Gene – Small section of DNA that codes for a particular sequence of amino acids to make a specific protein.
Genome – All the genetic material of an organism

The Nervous System

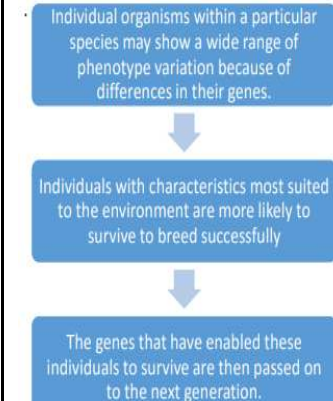
- The human nervous system consists of the:
 - central nervous system (CNS) - the brain and the spinal cord
 - peripheral nervous system (PNS) - all of the nerves in the body
- It allows us to make sense of our surroundings and respond to them and to coordinate and regulate body functions
- Information is sent through the nervous system as nerve impulses - electrical signals that pass along nerve cells known as neurones
- A bundle of neurones is known as a nerve



Natural Selection

What is Darwin's theory of evolution?
 All species of organisms arise through natural selection of small inherited variations that increase the individual's ability to compete, survive and reproduce.

The three main stages of natural selection.



Specialised Cells

- You, as a human being, are made from trillions of cells, but only of about 250 different types
- A specialised cell is a cell that has a particular structure and composition of subcellular structures
- Structural differences between different types of cells enable them to perform specific functions within the organism
- Cells specialise by undergoing a process known as differentiation

Variation

- the genes they have inherited (genetic causes)
- the conditions in which they have developed (environmental causes)
- a combination of genes and the environment

Inheritance

Genotype – The genes that are present in an organism
Phenotype – the physical characteristics of an organism
Allele – Different version of a gene
Recessive – An allele that only shows the characteristics when there are two copies – (b)
Dominant – An allele that always shows the characteristics (B)
Heterozygous – Having two different alleles (Bb)
Homozygous – Having two of the same alleles (BB or bb)

B – dominant purple
 b- recessive white

