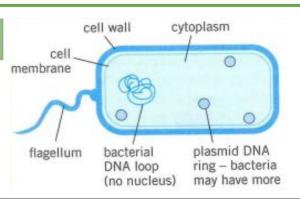
# Biology

#### GCSE Cell Biology

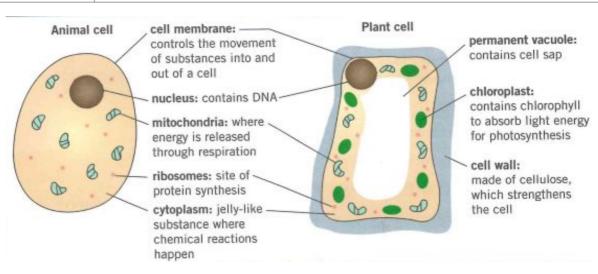
Learned	Revised	Confident					
% Achieved:							

1 Bacterium



N°	Keyword	Definition			
2	Cell cycle	A process that all body cells use to grow and divide - it includes the stages "cell growth and DNA replication", "mitosis" and "cell division"			
3	Chromosome	A long molecule of DNA found in the nucleus, which carries genes			
4	Eukaryotic cell	A complex cell that has a nucleus, e.g. plant and animal cells			
5	Meristem	Unspecialised cells in plants that are capable of cell division			
6	Mitosis	When a cell reproduces itself by splitting to form two identical offspring			
7	Prokaryotic cell	A simple cell with no "true nucleus", e.g. a bacterium			
8	Specialised cell	A cell that is adapted to a particular function			
9	Stem cells	A cell that has not yet become specialised			
10	Therapeutic cloning	A type of cloning where the embryo is made to have the same genetic information as the patient			

11

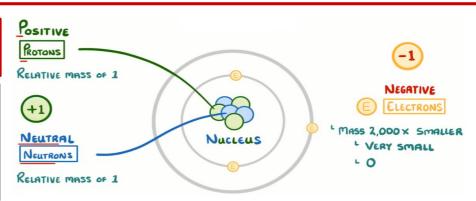


N°		Cell transport
12	Diffusion	Movement of particles from a high concentration to a low concentration
13	Osmosis	Diffusion of water from a dilute solution to a concentrated solution through a partially permeable membrane
14	Active transport	Movement of particles from a low concentration to a high concentration - needs energy from respiration

### Chemistry

### GCSE Atomic structure

Learned	Revised	Confident					
% Achieved:							



N°	Keyword	Definition			
1	Atom	The smallest part of an element that can exist			
2	Element	A substance made from only one type of atom			
3	Compound	A substance made from two or more different types of atoms that are chemically bonded			
4	Mixture	Two or more different substances that are mixed but not chemically bonded			
5	lon	A charged particle formed from losing or gaining electrons			
6	Isotope	Atoms of the same elements, with the same number of protons but a different number of neutrons			
7	Electronic configuration	How the electrons are arranged in the shells on an atom			
8	Relative atomic mass	The number of protons and neutrons in the nucleus of an atom			
9	Atomic (proton) number	The number of protons in the nucleus of an atom			





Sum of ( ISOTOPE ABUNDANCE X ISOTOPE MASS)

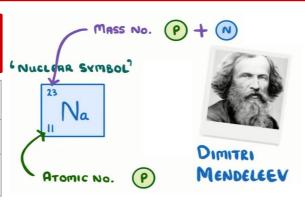
Sum of ABUNDANCE OF ALL ISOTOPES

Subatomic particle	Relative mass	Relative charge	Location in atom		
Proton	1	+1	Nucleus		
Neutron	1	0 / neutral	Nucleus		
Electron	1/2000	-1	Shells		

N°	Fact
10	Mixtures can be easily separated through physical processes such as filtration, distillation, chromatography and crystallisation - compounds cannot.
11	When an element loses electrons it forms a positive ion, when it gains electrons it forms a negative ion.

### GCSE Periodic table

Learned	Revised	Confident						
% Achieved:								





N°	Keyword	Definition			
1	Group	The columns in the periodic table			
2	Period	The rows in the periodic table			
3	Trend	A pattern that can be seen e.g. reactivity or boiling point			
4	Property	How a chemical behaves e.g. during a chemical reaction			

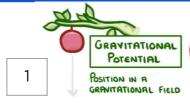
1	2											3	4	5	6	7	0
				Key			1 H hydrogen										4 He helium 2
7 Li	9 Be			e atom		] '						11 B	12 C	14 N	16 <b>O</b>	19 <b>F</b>	20 Ne
lithium 3	beryllium 4		69 91	name	) numbe	r						boron 5	carbon 6	nitrogen 7	oxygen 8	fluorine 9	neon 10
23 Na sodium	24 Mg magnesium 12		10 20		72 .	_						27 Al aluminium 13	28 Si silicon 14	31 P phosphorus 15	32 <b>S</b> sulfur 16	35.5 CI chlorine 17	40 Ar argon 18
39 K	40 Ca	45 Sc scandium	48 Ti	51 V	52 Cr	55 Mn manganese	56 Fe	59 Co	59 Ni	63.5 Cu	65 Zn	70 Ga	73 Ge	75 As	79 Se	80 Br	84 Kr krypton
19	20	21	22	23	24	25	26	27	28	29	30	31	32	33	34	35	36
85 Rb rubidium 37	88 Sr strontium 38	89 Y yttrium 39	91 Zr zirconium 40	93 Nb niobium 41	96 Mo molybdenum 42	[98] Tc technetium 43	101 Ru ruthenium 44	103 Rh rhodium 45	106 Pd palladium 46	108 Ag silver 47	112 Cd cadmium 48	115 In indium 49	119 <b>Sn</b> tin 50	122 Sb antimony 51	128 Te tellurium 52	127 I iodine 53	131 Xe xenon 54
133 Cs caesium 55	137 Ba barium 56	139 La* lanthanum 57	178 Hf hafnium 72	181 Ta tantalum 73	184 W tungsten 74	186 Re	190 Os osmium 76	192 Ir iridium 77	195 Pt platinum 78	197 Au gold 79	201 Hg mercury 80	204 TI thallium 81	207 Pb	209 Bi bismuth 83	[209] Po polonium 84	[210] At astatine 85	[222] Rn radon 86
[223] Fr	[226] Ra	[227] Ac*	[261] Rf	[262] Db	[266] Sg	[264] Bh	[277] Hs	[268] Mt	[271] Ds	[272] Rg	[285] Cn	[286] Nh	[289] FI	[289] Mc	[293] Lv	[294] Ts	[294] Og
87	88	89	104	105	106	107	108	109	110	111	112	113	114	115	116	117	118

N°	Fact
5	Elements in the same group all have similar properties, this is because they have the same number of electrons on their outer shell
6	Elements in the same period have the same number of electron shells
7	Down a group: Atomic radius increases; the number of electron shells increases; the outer shell/electron is further away from the nucleus; nuclear attraction decreases. These 4 factors affect the reactivity of the elements in that group
8	The boiling/melting points og group 7 and 8 increase as you go down the group. This is because the atoms/molecules get bigger and so they have more intermolecular forces to overcome.

## Physics

#### GCSE Energy 1

Learned	Revised	Confident					
% Achieved:							













N°	Keyword	Definition
2	Conduction	The process by which vibrating particles in solids transfer energy to neighbouring particles.
3	Convection	Where more energetic particles in fluids move apart, become less dense, and rise through the fluid (from hot to cold).
4	Efficiency (energy)	The proportion of input energy transfer which is usefully transferred.
5	Efficiency (power)	The proportion of input power which is usefully output.
6	System	An object or group of objects.
7	Work done	Energy transferred.

N°	Facts	
8	Energy can be transferred usefully, stored, or dissipated, but never created or destroyed	
9	Specific heat capacity is the amount of energy needed to raise the temperature of a substance of a 1kg substance by 1°C	
10	Efficiency can be increased by streamlining and lubricating.	
11	No device is 100% efficient and the wasted energy is usually transferred to useless thermal energy stores.	

N°	Equations to learn
12	Kinetic energy = 0.5 x mass x speed <sup>2</sup>
13	Gravitational potential energy = mass x gravitational field strength x height
14	Power = <u>energy transferred</u> time
15	Power = <u>work done</u> time
16	Efficiency = <u>useful power output</u> total power input
17	Efficiency = <u>useful output energy transfer</u> total input energy transfer

#### GCSE Energy 2

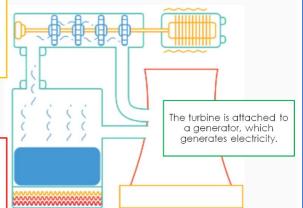
Learned	Revised	Confident		
% Achieved:				

#### Power station

1

Steam is used to turn a turbine <u>OR</u> the turbine is turned directly (eg. by wind)

Heat is produced (eg. by burning fossil fuels) to heat water.



N°	Keyword	Definition
2	Biofuels	Energy released from plant products or animal dung by burning
3	Finite	A limited amount.
4	Fossil fuels	Energy released by the burning of coal, oil and natural gas.
5	Geothermal power	Uses energy in the thermal stores of hot, underground rocks to generate electricity, or to heat water directly.
6	Hydroelectricity	Electricity is generated by water moving through turbines in a dam
7	Non renewable	An energy resource that is finite (cannot be replaced as quickly as it is used) - it will run out
8	Nuclear fuels	Releases energy by the nuclear fission of uranium or plutonium.
9	Reliable	Consistent in quality - can be trusted. E.g. wind power isn't reliable - it isn't always windy.
10	Renewable	An energy resource that can be replaced as quickly as it is being used - it will not run out
11	Solar cells	Generate electric currents directly from the Sun's radiation.
12	Tidal barrages	Electricity is generated by harnessing the movement of the tides.
13	Wave power	Electricity is generated by harnessing the movement of water waves by the coast.
14	Wind power	The wind turns a turbine directly to generate electricity.

N°	Facts
15	Energy resources are used for generating electricity, heating and transport.