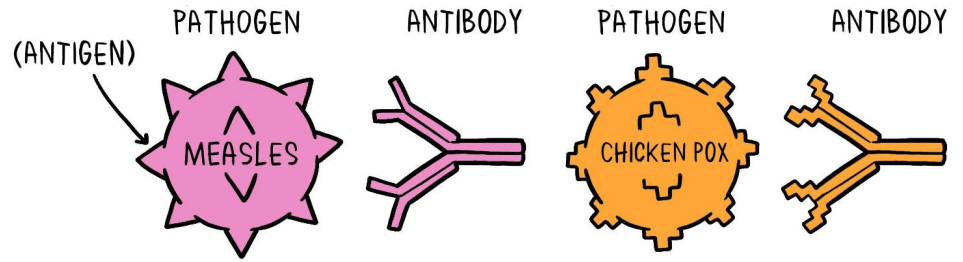


Biology

GCSE Infection and Response

1

Antibodies and antigens



Learned	Revised	Confident
_____ % Achieved: _____		

N°	Keyword	Definition
2	Antibiotic	A drug used to kill or prevent the growth of bacteria (e.g. penicillin)
3	Antibody	A protein produced by white blood cells in response to the presence on an antigen
4	Antigen	A molecule on the surface of a cell, with a specific shape
5	Antitoxin	A protein produced by white blood cells which counteracts toxins (poisons) produced by bacteria
6	Clinical trials	Drug tests on human volunteers
7	Communicable disease	A disease that can be spread between individuals
8	Double-blind trial	A clinical trial where neither the doctors nor the patients know who has received the drug and who has received the placebo until after the trial
9	Efficacy	Whether something (e.g. a drug) works or not
10	Immunity	The ability of the white blood cells to respond quickly to a pathogen (so symptoms don't occur)
11	Painkiller	A drug that relieves pain. It does NOT treat the disease.
12	Pathogen	A microorganism that causes disease
13	Phagocytosis	The process by which white blood cells engulf pathogens and digest them.
14	Placebo	A dummy pill. Used in drug trials to test the effect of the real drug.
15	Preclinical trial	Drug tests on human cells and tissues, and animals
16	Vaccination	An injection of dead or inactive pathogens to provide immunity

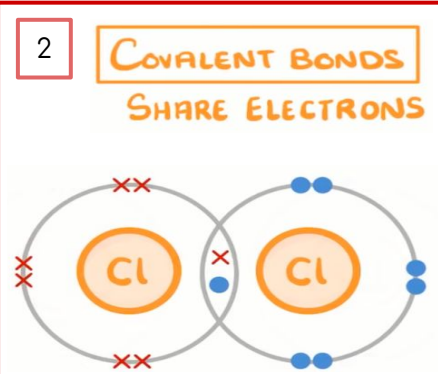
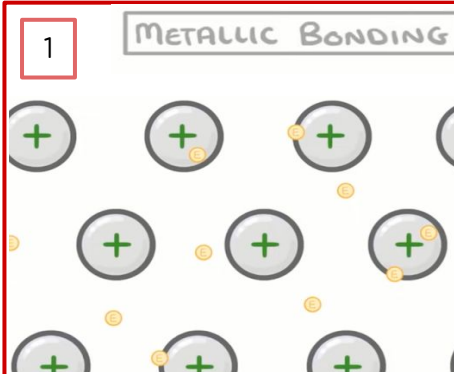
N°	Facts
17	Bacteria, fungi, protists and viruses can all be pathogens (cause disease)
18	The skin, hair, mucus and stomach acid are general defenses that prevent pathogens from infecting the body.

Chemistry

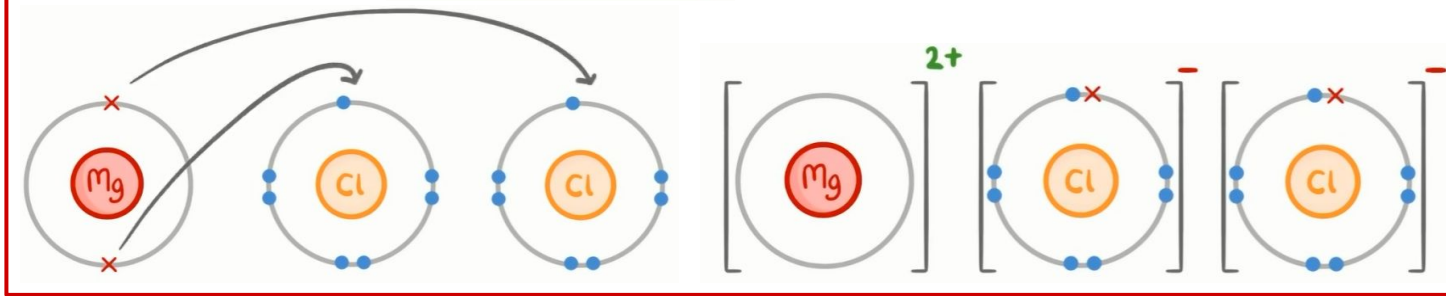
GCSE Structure and bonding

Learned Revised Confident

_____ % Achieved: _____



3 **IONIC BONDS** **TRANSFER OF ELECTRONS**



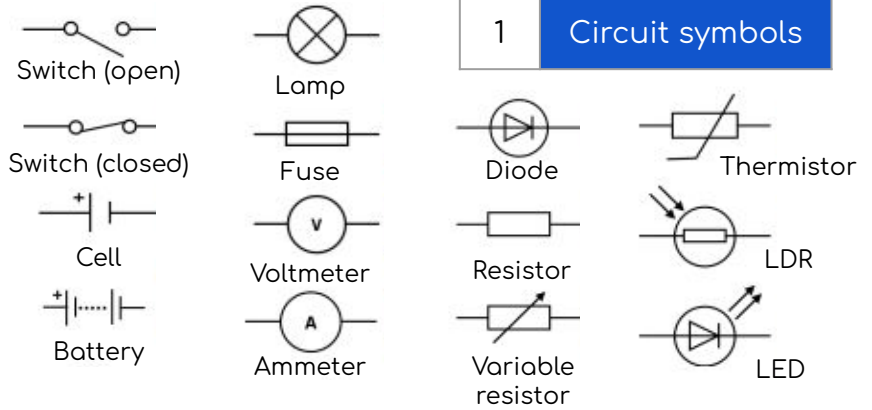
Nº	Keyword	Definition
4	Delocalised electron	An electronic that isn't associated with an atom or bond, it is free to move through the structure
5	Metallic bond	Giant structure of positive metal ions in a sea of delocalised electrons-forming strong electrostatic forces of attraction
6	Ionic bond	Strong electrostatic forces of attraction between oppositely charged ions (formed from the transfer of electrons)
7	Covalent bond	Shared pair(s) of electrons between non-metal atoms
8	Electrostatic forces	Strong forces of attraction between oppositely charged particles e.g. ions and/or electrons
9	Intermolecular forces	Weak forces of attraction that occur between molecules.

Nº	Fact
10	In bonding, atoms look to gain a full outer shell of electrons. They can lose electrons to drop down a shell, gain to fill their shell or share electrons between their outer shell
11	In ionic bonding, the metal atom loses electron(s) to become a positive ion, the non-metal gains the electron to become a negative ion. These ions then form a giant structure.
12	In covalent bonding, atoms share pairs of electrons to fill their outer shells. This can form a simple molecule (e.g. H ₂ O) or a giant structure like diamond.
13	The properties of a substance relate to its structure and bonding. For example, giant structures will generally have high melting and boiling points whereas small, simple structures will have low melting and boiling points

Physics

GCSE Electricity

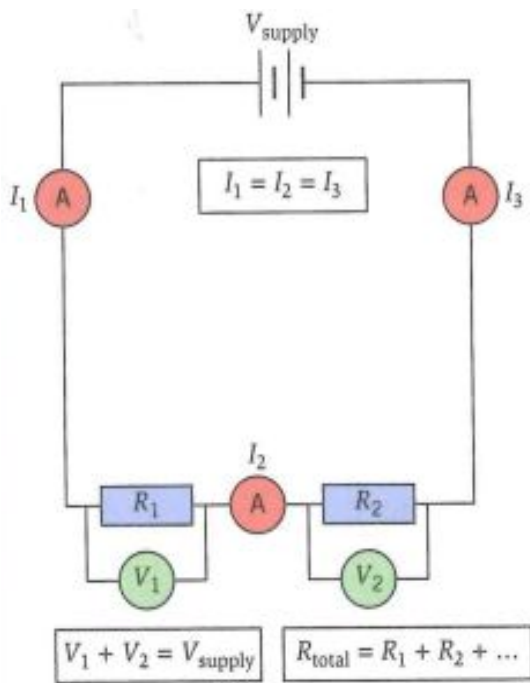
Learned	Revised	Confident
_____ % Achieved: _____		



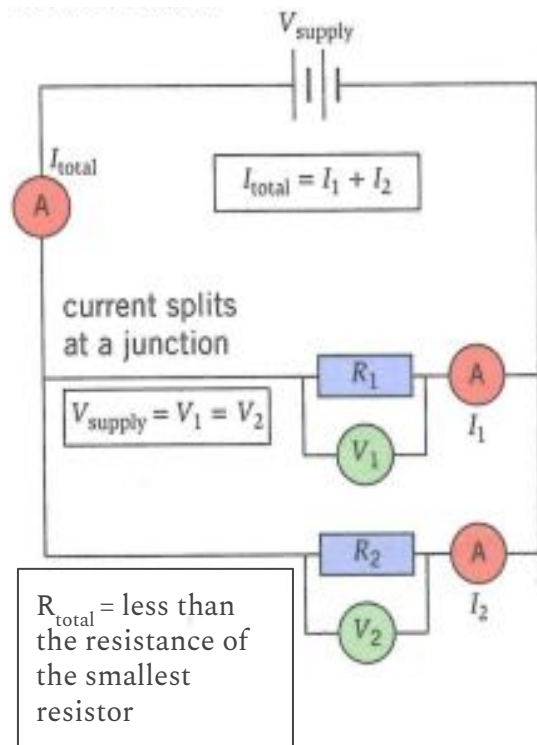
1 Circuit symbols

Nº	Keyword	Definition
2	Current	Flow of charge, measured in amperes (A)
3	Potential difference	A measure of how much energy is transferred between two points in a circuit, measured in volts (V)
4	Resistance	Anything that opposes the flow of charge (eg, electrons colliding with ions in the wire), measured in Ohms (Ω)
5	Series circuit	Every component is connected in a line (one "loop")
6	Parallel circuit	Every component is connected to the battery separately (it has multiple "loops")

7 Series circuit rules



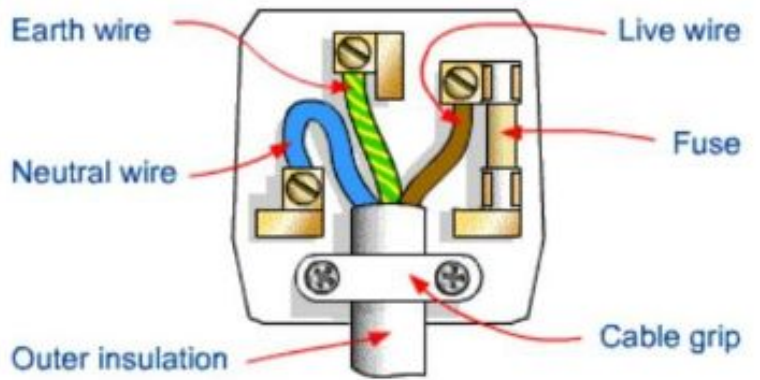
8 Parallel circuit rules



Nº	Equations to learn
9	charge flow = current \times time
10	potential difference = current \times resistance

GCSE Electricity (2)

1

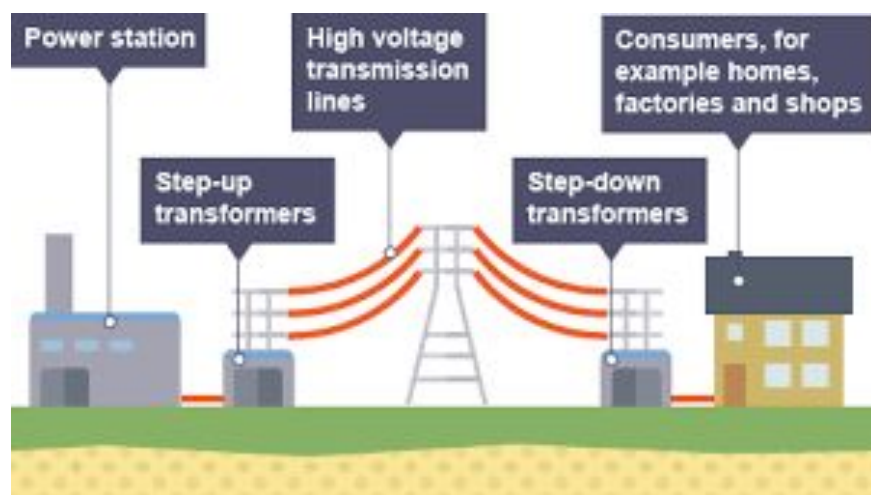


Learned	Revised	Confident
_____ % Achieved: _____		

N°	Keyword	Definition
2	Alternating current	Current that changes direction
3	Direct current	Current that flows in one direction only
4	Step up transformer	Increases the potential difference and decreases the current (reducing resistance and heat loss, and increasing efficiency)
5	Step down transfer	Decreases the potential difference to a safe level (230V for homes).
6	The national grid	A network of cables and transformers that links electricity power stations to consumers

N°	Facts
7	UK alternating current has a potential difference of 230 V and a frequency of 50 Hz

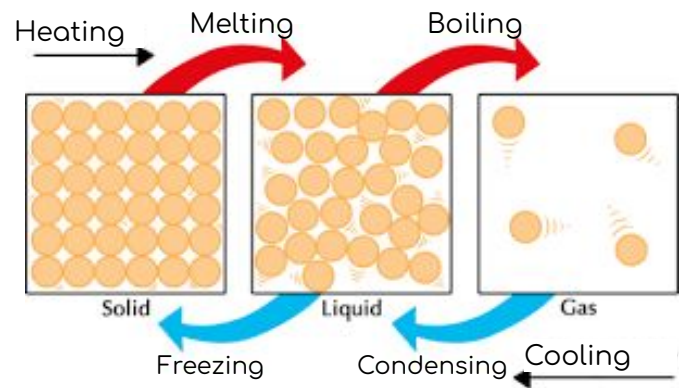
8 The National Grid



N°	Equations to learn
9	power = potential difference × current
10	power = (current) ² × resistance
11	energy transferred = power × time
12	energy transferred = charge flow × potential difference

GCSE Particle model

1



Learned	Revised	Confident
_____ % Achieved: _____		

N°	Keyword	Definition
2	Density	A measure of the "compactness" of a substance.
3	Evaporating	When particles at the surface of a liquid spontaneously gain enough energy to turn into gas particles - this happens below the boiling point.
4	Internal energy	The total energy that a system's particles have in their kinetic and potential energy stores
5	Pressure	Force per unit area
6	Specific latent heat	Energy required to change the state of 1 kg of a substance without a change in temperature (SLH fusion is for melting/freezing, SLH vaporisation is for boiling/condensing).
7	Sublimation	Change in state from a solid to a gas (without becoming a liquid)

	Solid	Liquid	Gas
8	Regular arrangement (touching)	Irregular arrangement (touching)	Irregular arrangement (not touching)
9	Vibrate in fixed positions	Free to move	Random speeds and random directions
10	Lowest energy	Medium energy	Highest energy
11	Strongest forces	Medium forces	Weakest forces

N°	Facts
12	Substances change state when they have enough energy to overcome the bonds holding the particles together.
13	The temperature of a gas is related to the average energy in the kinetic energy stores of the gas particles.

N°	Equations to learn
14	density = $\frac{\text{mass}}{\text{volume}}$