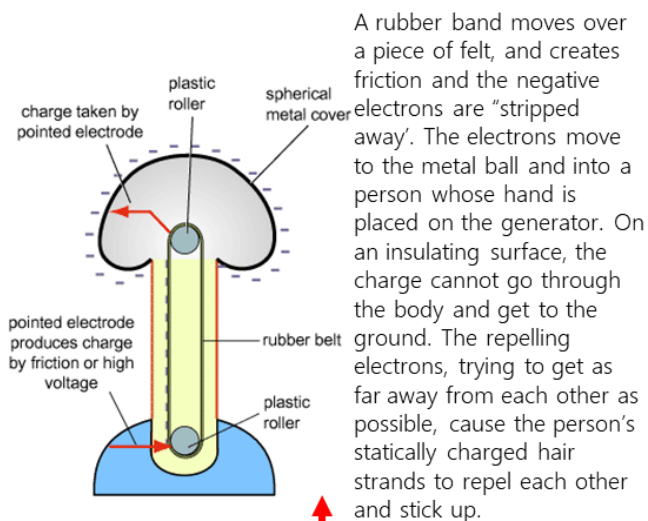
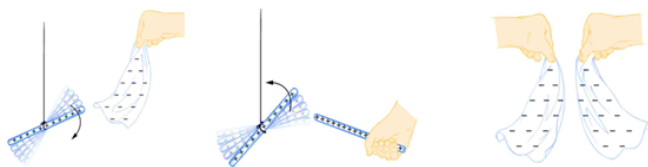


Electrical circuits need a closed circuit with an energy supply and energy user

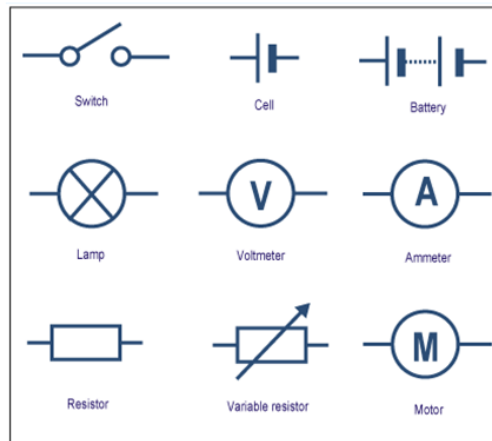


Van der Graaf Generators build up charge

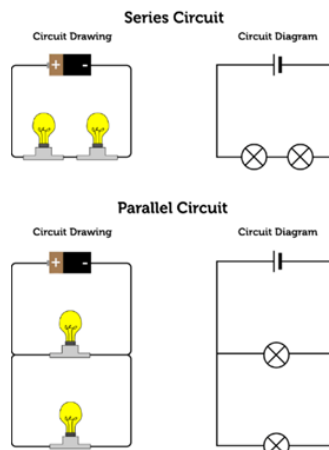
Usually, two materials are involved in static electricity, with one having an excess of electrons or negative (-) charges on its surface and the other material having an excess of positive (+) electrical charges. An object with no charge is neutral



Static Electricity - Like charges repel, unlike charges attract

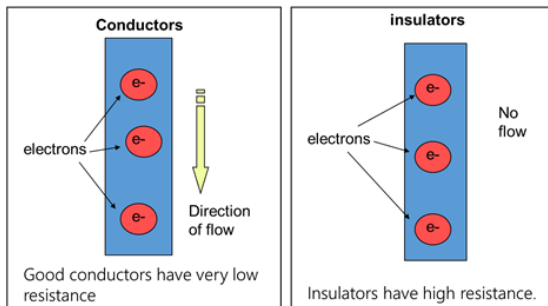


Symbols are used to draw circuits



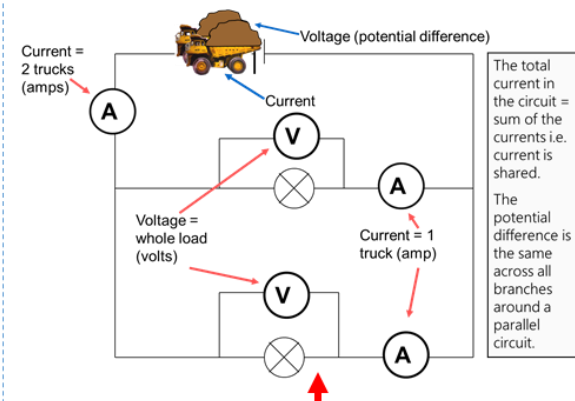
Circuits can be series or parallel

Charge can travel freely in conductors such as metal.
Charge can't travel through insulators such as plastic.



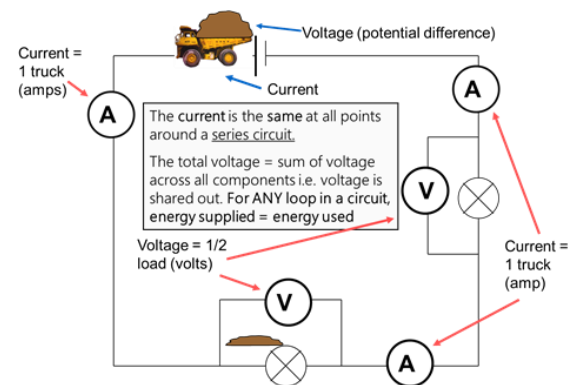
	Current	Potential difference (Voltage)
Series	<ul style="list-style-type: none"> >Same everywhere in the circuit >Doesn't increase as more bulbs added 	<ul style="list-style-type: none"> >total potential difference coming out of battery is all used up by components (i.e. bulb) >total potential difference loss is shared between components
Parallel	<ul style="list-style-type: none"> >total current coming out of battery is shared amongst branches >increases as more bulbs added 	<ul style="list-style-type: none"> >total potential difference loss is the same across all components

Voltage (potential difference) is a measure of how much **energy** the charge uses when going through a component and is measured in **volts**.



In a parallel circuit, the current is shared out to the branches

An electric current is charges moving from place to place, in a circuit the charges are moving in the wires.



In Series circuits, the current is the same at any point on the circuit

Ideas for last minute study sheet

1. **Flash Cards.** Cut up the individual ideas and use as flash cards. Students test each other in pairs.
2. **Concept maps.** Students use the information on the sheet to create a large concept map.
3. **Scaffolded Practice Tests.** Create a short test, either paper or online (i.e. Kahoot, FORMS, Education Perfect), where the students are able to use the sheet to help. Repeat the test (or an alternative) the next day, without the information sheet.
4. **Sticky Notes.** Write summary statements, using information on the sheet, on small post it notes (digital or paper) and find the area of their notes to place it on.
5. **Study notes headers.** Cut up and attach each idea to top of page (paper or digital), and add further notes, practice questions, and diagrams.