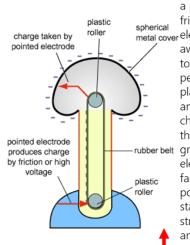


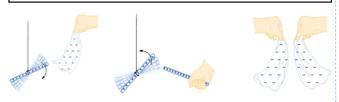
Electrical circuits need a closed circuit with an energy supply and energy user



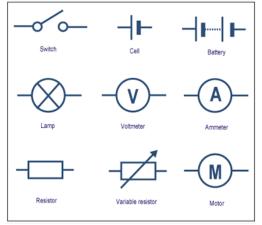
A rubber band moves over a piece of felt, and creates friction and the negative metal cover electrons are "stripped away'. The electrons move to the metal ball and into a person whose hand is placed on the generator. On an insulating surface, the charge cannot go through the body and get to the rubber belt ground. The repelling electrons, trying to get as far away from each other as possible, cause the person's statically charged hair strands to repel each other and stick up.

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



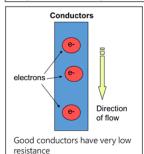
Static Electricity - Like charges repel, unlike charges attract

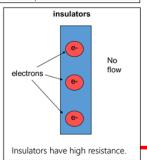


Series Circuit Circuit Drawing Parallel Circuit Circuit Drawing Circuit Drawing Circuit Diagram Circuit Diagram

Circuits can be series or parallel

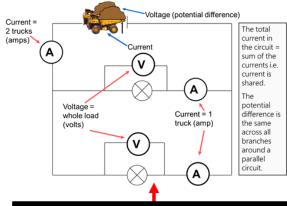
Charge can travel freely in **conductors** such as metal. Charge can't travel through **insulators** such as plastic.





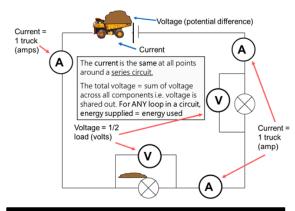
	Current	Potential difference (Voltage)
Series	>Same everywhere in the circuit >Doesn't increase as more bulbs added	>total potential difference coming out of battery is all used up by components (i.e. bulb) >total potential difference loss is shared between components
Parallel	>total current coming out of battery is shared amongst branches >increases as more bulbs added	>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





Electricity last minute study sheet

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.