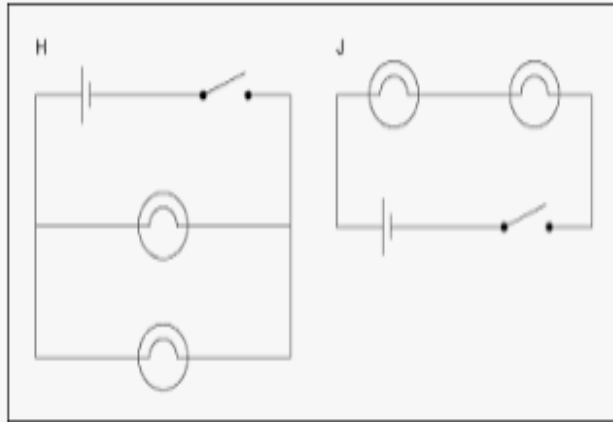

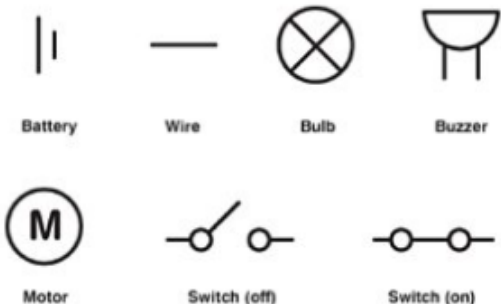


| Colney Heath School ~ Science | | | |
|---|--|--|---|
| Topic: Electricity | | Year: 6 | |
| | | Physics | |
| What should I already know? | | Diagrams | |
| <p>Matter (stuff) is made from tiny building blocks. Electrical energy is a form of energy.</p> <p>Current electricity is the flow of charged particles called electrons around a circuit. Electrical current flows well through some materials, called electrical conductors, and poorly through other materials, called electrical insulators. Conductors have free electrons, and when electrical current flows through a conductor, the electrons move like people in a queue. Electrical conductivity (how well a material conducts electricity) is an example of a property. Metals are good electrical conductors.</p> <p>A chemical reaction inside a cell produces the charged particles that can flow around a circuit.</p> <p>More than one cell lined up to work together is called a battery. Electrical current can flow if there is a complete circuit. Wires – which contain a conductor inside them, usually made of metal – can allow electrical current to flow around a circuit. When electrical current flows through a circuit components within that circuit – such as buzzers which make a noise and bulbs which emit light – begin to work. A switch functions by completing or breaking a complete circuit. A simple circuit can be constructed using components. Exposure to high levels of electrical current can be dangerous.</p> | |   | |
| | |  | |
| | | | |
| | | | |
| | | | |
| | | | |
| | | | |
| | | | |
| | | | |
| | | | |
| | | Vocabulary | |
| | | Voltage | An electrical force that makes electricity move through a wire, measured in volts. |
| | | Electricity | A form of energy resulting from the existence of charged particles. |
| | | Resistor | A part of an electric circuit that provides resistance to some of the current. |
| | | Ammeter | Measures the current in a circuit. |
| | | Power | Power is energy, especially electricity, which is obtained in large quantities from a fuel source and used to operate lights, heating, and machinery. |
| | | Component | The parts that something is made of. |
| | | Motor | A device that uses electricity or fuel to produce movement. |
| | | Resistance | A force which slows down a moving object or vehicle. |
| | | Generate | Cause it to begin and develop. |
| | | Current | A flow of electricity through a wire or circuit. |

| The Big Picture | By the end of our project we will know that |
|--|---|
| <p data-bbox="98 177 197 217"><u>Physics</u></p> <p data-bbox="98 225 1149 264">P1: The universe follows unbreakable rules that are all about forces, matter and energy.</p> <p data-bbox="98 272 1473 352">P2: Forces are different kinds of pushes and pulls that act on all the matter that is in the universe. Matter is all the stuff, or mass, in the universe.</p> <p data-bbox="98 360 1473 440">P3: Energy, which cannot be created or destroyed, comes in many different forms and tends to move away from objects that have lots of it.</p> | <p data-bbox="1473 137 2152 328">Voltage is a measure of the power of a cell to produce electricity; it is a measure of the ‘push’ of electric current, not the size of the electric current. As the number and voltage of cells in a circuit increases, the brightness of a bulb or the volume of a buzzer will increase (though too high a voltage may ‘blow’ the bulb or buzzer).</p> <p data-bbox="1473 336 2152 560">Be able to draw simple circuit diagrams and use the recognized symbols for a battery, bulb, motor, buzzer and wire. Predict whether components will function in a given circuit, depending on whether or not the circuit is complete; whether or not a switch is in an on or off position; and whether or not there is a cell to power the circuit.</p> |