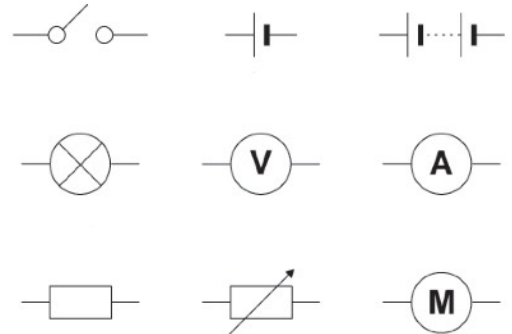


CD Cruiser



This amazing model is based on a simple circuit that contains a battery, switch, motor and small gear box.

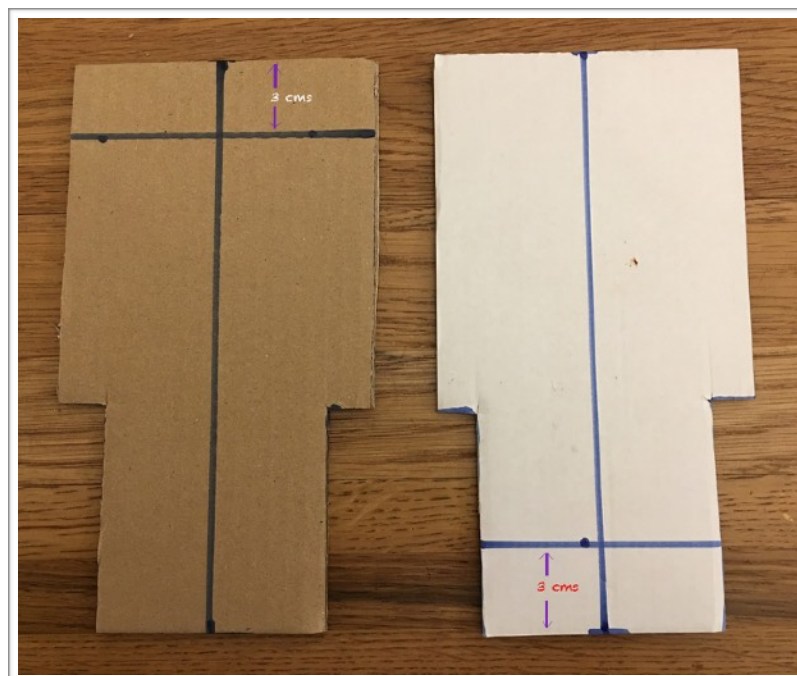


On the sheet provided, use the the correct symbols above to create/draw a diagram of the circuit you will need to construct for your Cruiser. Only include the electrical parts of your circuit in the diagram. Use straight lines to represent any wires you might need to use. Your teacher will need to sign this off as correct before you can collect your box of parts.

Once this has been signed off use the components to make your circuit and check that it works.

Once you have built your circuit and it has been checked by your teacher. Collect your Cruiser Chassis and build your machine using the instructions below.

1. On the white side of the chassis, lightly draw a centre line down the length of the chassis in pencil. Draw another line across the chassis 3 cms from the narrow end. These will help you fix your motor, battery holder and switch in the correct place.
2. On the brown side, lightly draw a centre line down the length of the chassis in pencil. Draw another line across the wide end of the chassis, 3 cms from the end. These will be used to fix your rear axle in the correct place.



3. Press your CDs onto the wheels hubs provided.
4. Glue the black taped cardboard spacer in place, with its front edge on the 3 cm line you have drawn on the white side. Use the glue gun with care.
5. Carefully cut the straw to produce a tube 10 cms long and mark the half way point on the straw. This straw will hold your rear axle in place. Use the glue gun to fix this axle in place on brown side on the 3 cm line you have drawn. Make sure the centre line and mid point of the straw match up. This will ensure your Cruiser drives in a straight line.
6. Carefully fix your motor and gearbox to the front of your chassis on the white side. It should be central on the centre line you have drawn. If you wish you can glue it in place. You can also use the paper clips to secure it in place temporarily if you're not sure your car will travel in a straight line.
7. Glue or stick your switch and battery holder in place. remember you will need to add your batteries at the end so leave enough space for that.
8. Thread your rear axle through the straw and press on the rear wheels. Be careful, the axles are a tight fit.
9. Press the front wheels on the front axle. Be careful, the axles are a tight fit.
10. Use your wires to complete the circuit you made. Make sure the switch is in the off position.
11. Install your batteries and check that your Cruiser works and adjust the front axle if necessary to make sure it goes in a straight line. Once happy carefully glue or stick the motor and gear box in place.
12. Use the cup, pipe cleaners, thin cardboard and accessories to make your driver. Use this driver to cover up your wires.
13. Your Cruiser is now complete.

Pupils should be taught to:

- identify common appliances that run on electricity
- construct a simple series electrical circuit, identifying and naming its basic parts, including cells, wires, bulbs, switches and buzzers
- recognise that a switch opens and closes a circuit and associate this with whether or not a lamp lights in a simple series circuit
- use recognised symbols when representing a simple circuit in a diagram.

