

time you used them? Explain the difference between an ordinary battery and a rechargeable one: an ordinary battery has to be thrown away when it no longer works, but a rechargeable one can be plugged in to a charging unit which in turn is plugged into the mains. It can then be re-used.

OUTCOME

- Can distinguish between appliances that use batteries and ones that have to be plugged into the mains.

Lesson 3 Electricity snakes and ladders

Objective

- To know that electricity can be dangerous and must be treated with extreme care.

Vocabulary

dangers, dangerous, care, shock, pylon, sub-station

RESOURCES

Main activity: A large sheet of white paper, a large felt-tipped pen.

Group activities: **1** Drawing and painting materials, large sheets of art paper. **2** 'Electricity snakes and ladders' gameboards (see Preparation), dice, shakers, counters.

PREPARATION

Make one A3-sized copy of page 169 (also 'Electricity snakes and ladders' (red), available on the CD-ROM) per group. Colour it in, mount it on thick card and laminate it (or cover it with sticky-backed plastic) for durability.

BACKGROUND

Electricity can be fun and exciting, but can also be very dangerous. Working with batteries up to 6V is quite safe, and children can have a great deal of fun experimenting with these in circuits. Rechargeable batteries should not be used where the children have direct access to them, and batteries should never be taken apart. Some children may be curious about what the 'V' on a battery stands for - it is 'volts'. The voltage (or difference in electrical potential between the two terminals) determines the 'push' given to the electricity in the circuit. The higher the voltage, the greater the 'push'.

Electricity pylons may carry 30,000V, and are therefore extremely dangerous. Electricity sub-stations may carry even higher voltages, and should be avoided. Most batteries are between 1.5 and 9V.

Other electrical units that you may encounter (the children do not need to know these at this stage) are ohms and amps. Amps (A) measure the current or flow of electricity. An electrical current will flow very easily through some materials. Other materials are more resistant, and this resistance is measured in ohms (Ω).

STARTER

Talk to the children about the things they have learned from their work on electricity. Discuss some of their ideas about the dangers of electricity.

What dangerous things might some people do?

MAIN ACTIVITY

Working with the whole class, devise a set of rules to keep people safe from the dangers of electricity. Ask the children for suggestions and make a list on the board, flipchart, or whiteboard. Help the children to think of any important aspects they may have missed. Discuss the list and decide on the order of priority. *Is everything on this list sensible? Do you want to make any changes?* Make a new list with the most important rules at the top.

GROUP ACTIVITIES

1 Ask the children to make a poster to illustrate one of the rules, working individually or in pairs. Help them to decide which rule they are going to illustrate, so that there is a variety of posters for a class display.