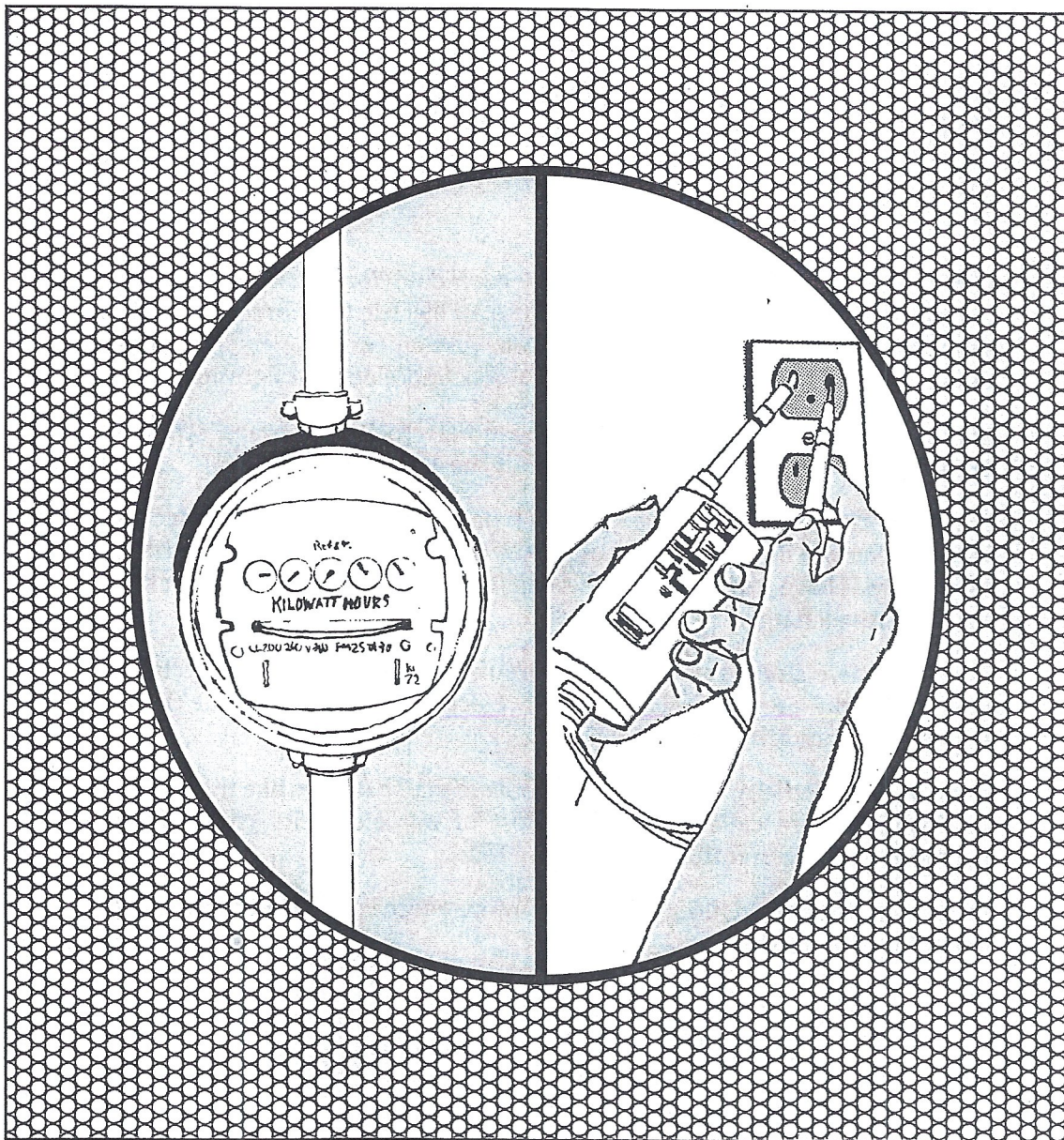


ELECTRICITY

What is electric current?

20



circuit: a path that ends at the same point where it starts
generator: machine that makes electricity
electrons: negatively charged particles in the atom.

LESSON | What is electric current?

20

Think of all the ways you use electricity each day. You awake to an alarm clock or radio, turn on an electric light, use an electric toothbrush, or make toast. You watch television, listen to records, use air conditioners. Just think about lights. Almost every place you go you find electrical lighting.

About one hundred years ago, there was no electricity in homes, schools, factories, and offices. Try to imagine your life without electricity!

The electricity that works all your electrical appliances is called **electric current**. This is a flow of **electrons** [i LECK tronz]. Electrons are the parts of the atom that have a negative charge. There is another part of the atom that has a positive charge.

Electrons move along a path called a **circuit** [SIR cut]. While the electrons are moving, the circuit is complete. If the electrons stop moving, the circuit is incomplete and the electricity stops.

Some of our electricity comes from batteries. Small batteries like those used for flashlights are called dry cells. Most of our electricity comes from machines called **generators** [JEN uh ray terz].

Each year, the world uses more and more electricity. More and more generators are needed.

SOME COMMON ELECTRICAL SYMBOLS

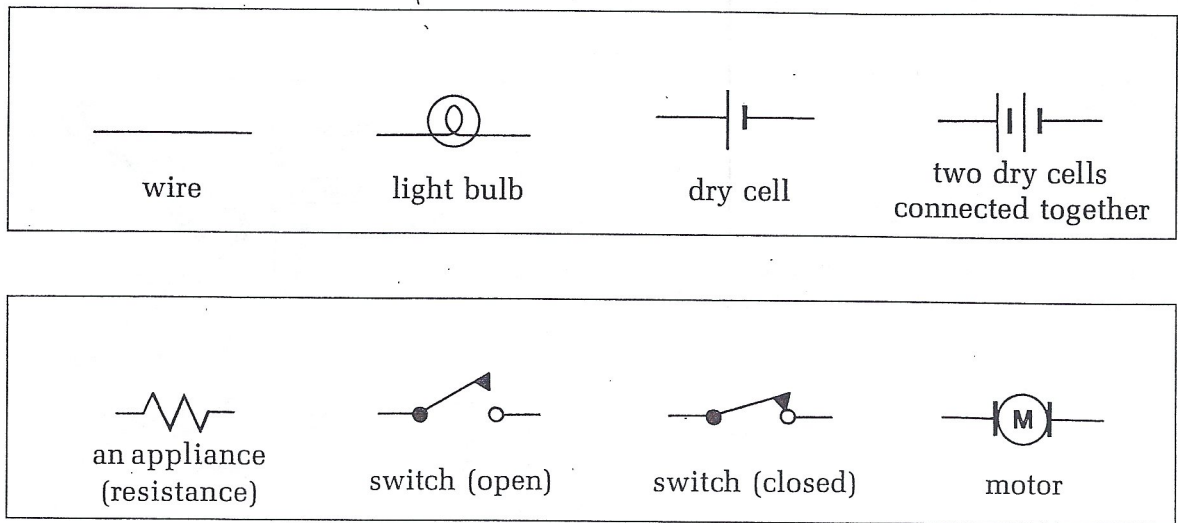


Figure A

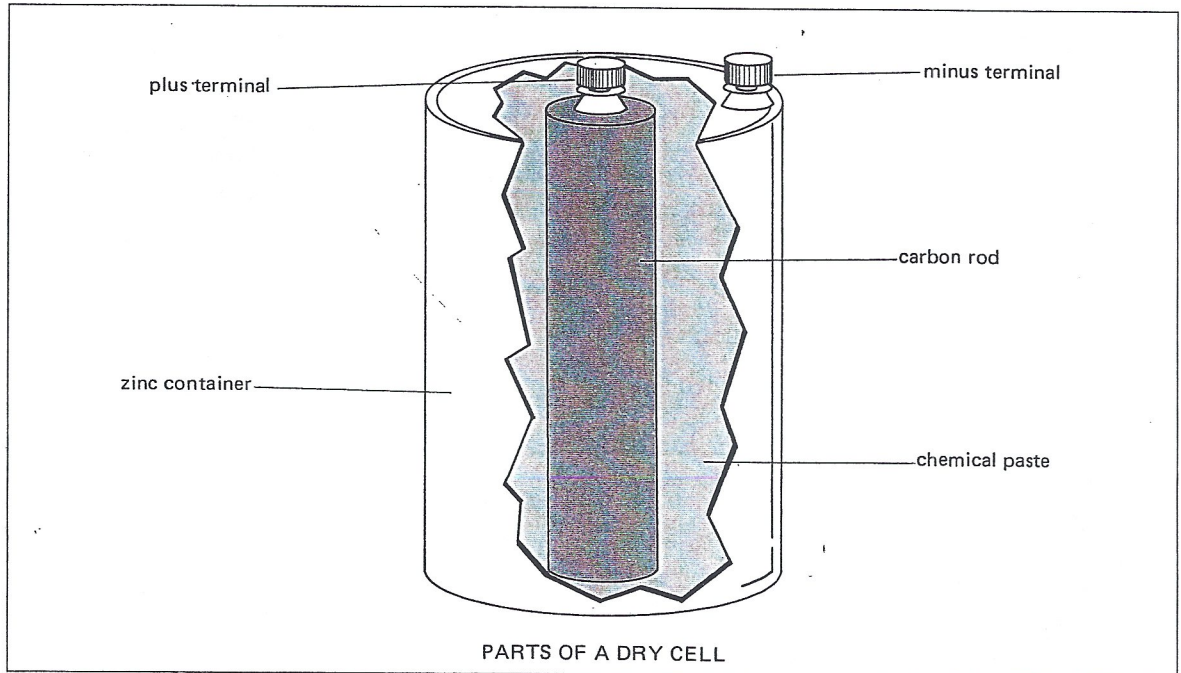


Figure B

PARTS OF A DRY CELL

A dry cell changes chemical energy to electric energy.

Dry cells come in many different sizes and strengths.

UNDERSTANDING ELECTRIC CURRENT

Look at each picture. Then answer the questions.

Anything that works with electricity is called an electrical device.

We call some electrical devices appliances. Electricians call them loads.

1. Figure C shows some electrical devices. How many can you name?

2. How many other electrical devices can you name?

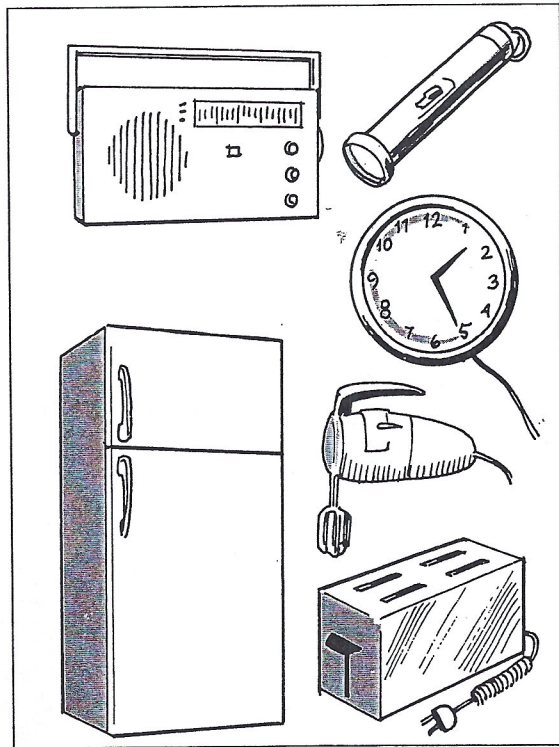


Figure C

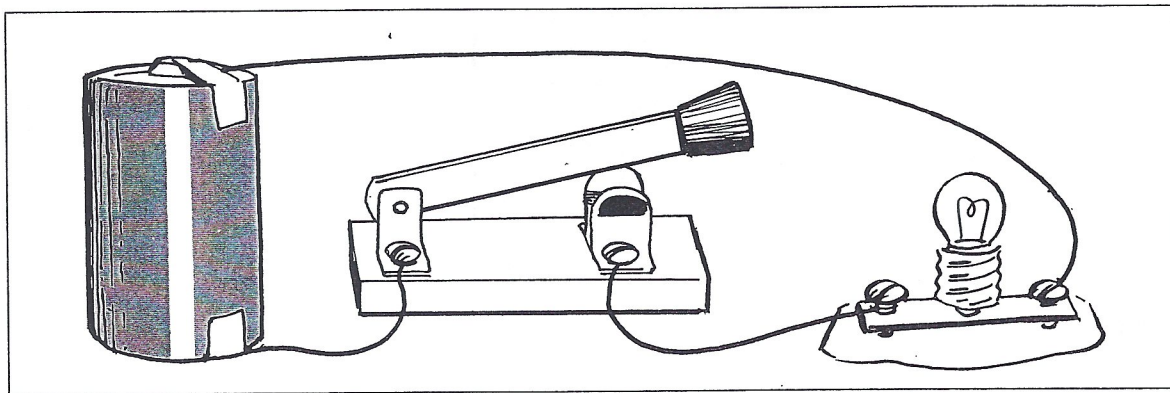


Figure D

3. Is this circuit complete or incomplete? _____
4. Are electrons moving? _____
5. Does the bulb light up? _____

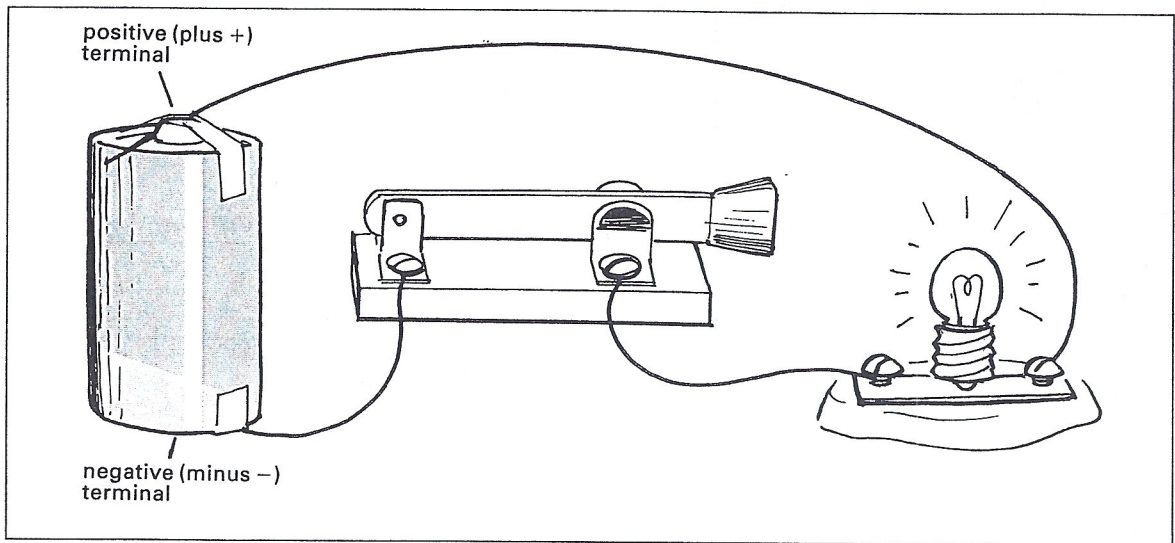


Figure E

6. Is this circuit complete or incomplete? _____
7. Are electrons moving? _____
8. Does the bulb light up? _____
9. Electricity flows from minus to plus. Draw arrows near the wires, the switch, and battery to show this path.

FILL IN THE BLANK

Complete each statement using a term or terms from the list below. Write your answers in the spaces provided.

- | | | |
|------------|-------------------|--------------------------|
| complete | negative | positive |
| generators | move along a path | circuit |
| incomplete | toaster | do not move along a path |

1. In static electricity, electrons _____.
2. In current electricity, electrons _____.
3. The path along which electrons move is called a _____.
4. Electrons do not move in an _____ circuit.
5. Electrons do flow in a _____ circuit.
6. Electrons leave a dry cell through the _____ terminal.
7. Electrons return to a dry cell through the _____ terminal.
8. Large amounts of electricity are made by _____.
9. An example of an electrical appliance is a _____.

IDENTIFY THESE ELECTRICAL SYMBOLS

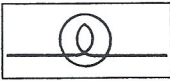
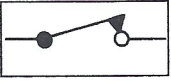
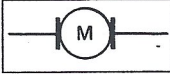
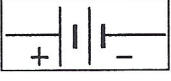
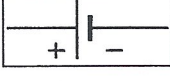
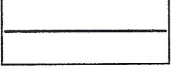


1.		_____	5.		_____
2.		_____	6.		_____
3.		_____	7.		_____
4.		_____	8.		_____

Figure F

NOW LET'S DRAW!

Draw these electrical symbols. [But first cover the top of this page.]

1. one dry cell	
2. two dry cells connected together	
3. wire	
4. light bulb	
5. motor	
6. open switch	
7. closed switch	
8. an appliance (resistance)	

MATCHING

Match each term in Column A with its description in Column B. Write the correct letter in the space provided.

Column A	Column B
_____ 1. flow of electrons	a) where electrons leave
_____ 2. circuit	b) path for moving electron
_____ 3. minus terminal	c) an electrical device
_____ 4. plus terminal	d) electric current
_____ 5. light bulb	e) where electrons return

TRUE OR FALSE

In the space provided, write "true" if the sentence is true. Write "false" if the sentence is false.

- _____ 1. Electric current is the flow of electrons.
- _____ 2. Static electricity lights our homes.
- _____ 3. Most of our electricity comes from generators.
- _____ 4. The path that electric current follows is called a circus.
- _____ 5. Electrons leave a battery from the plus terminal.
- _____ 6. Electrons return to a battery through the plus terminal.
- _____ 7. The inside of a battery is filled with zinc.
- _____ 8. Batteries give static electricity.
- _____ 9. Generators make electric current.
- _____ 10. Electrons stop moving in an incomplete circuit.

WORD SCRAMBLE

Below are several scrambled words you have used in this Lesson. Unscramble the words and write your answers in the spaces provided.

1. NUTRECR _____
2. TIRCCUI _____
3. TARBETY _____
4. REMLATIN _____
5. CELOTERN _____

REACHING OUT

Why don't we get most of our electricity from batteries?

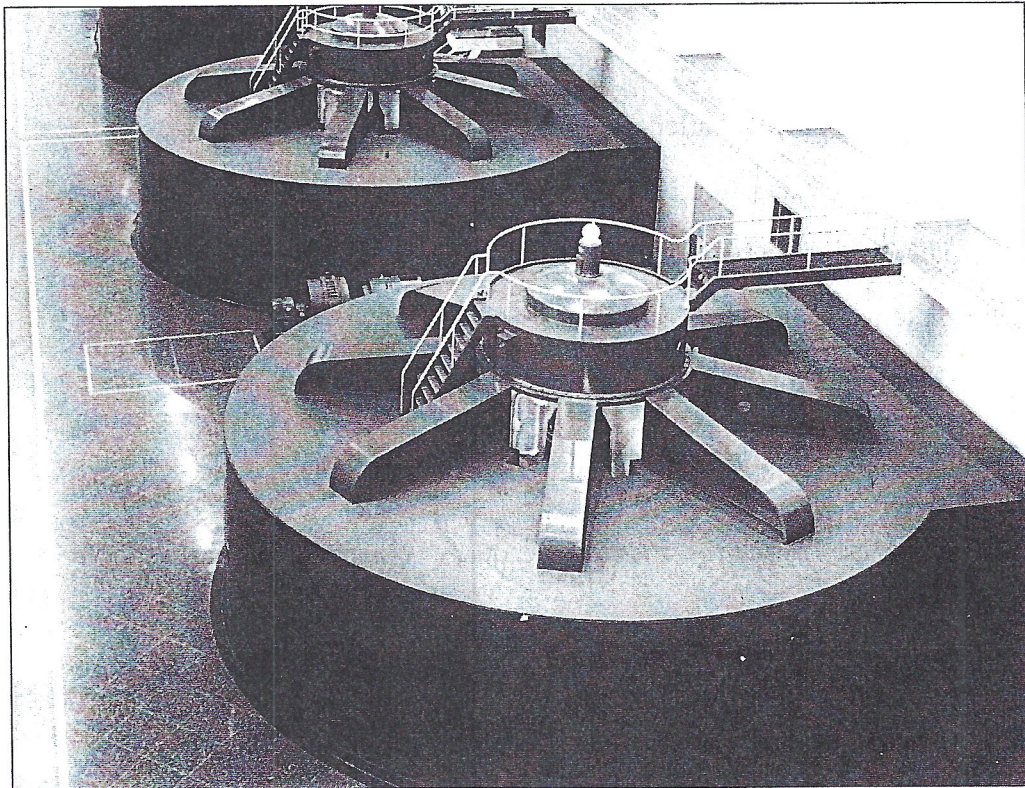


Figure G