

# Energy from Wind and Moving Water



The movement of air (wind) produces energy. I can move because I make use of the energy from wind.

## In this unit, students will:

- use appropriate words to describe wind.
- learn that wind and moving water are renewable energy and can be sources of energy for electricity.
- learn the mechanisms of windmills and hydroelectric dams.
- learn the advantages and disadvantages of hydroelectric power.

5

A. Look at the descriptions. Then use the appropriate words to describe the wind in the pictures.

**Calm:** smoke rises straight upward

**Gentle breeze:** leaves move, flags flap

**Gale:** hard to walk against

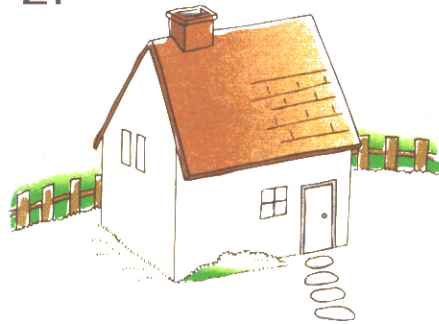
**Strong breeze:** large branches move

**Storm:** trees uprooted

1.



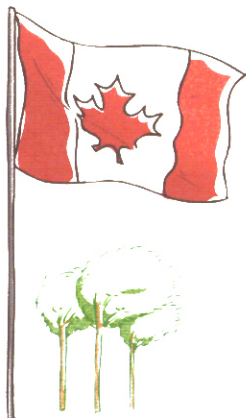
2.



3.



4.



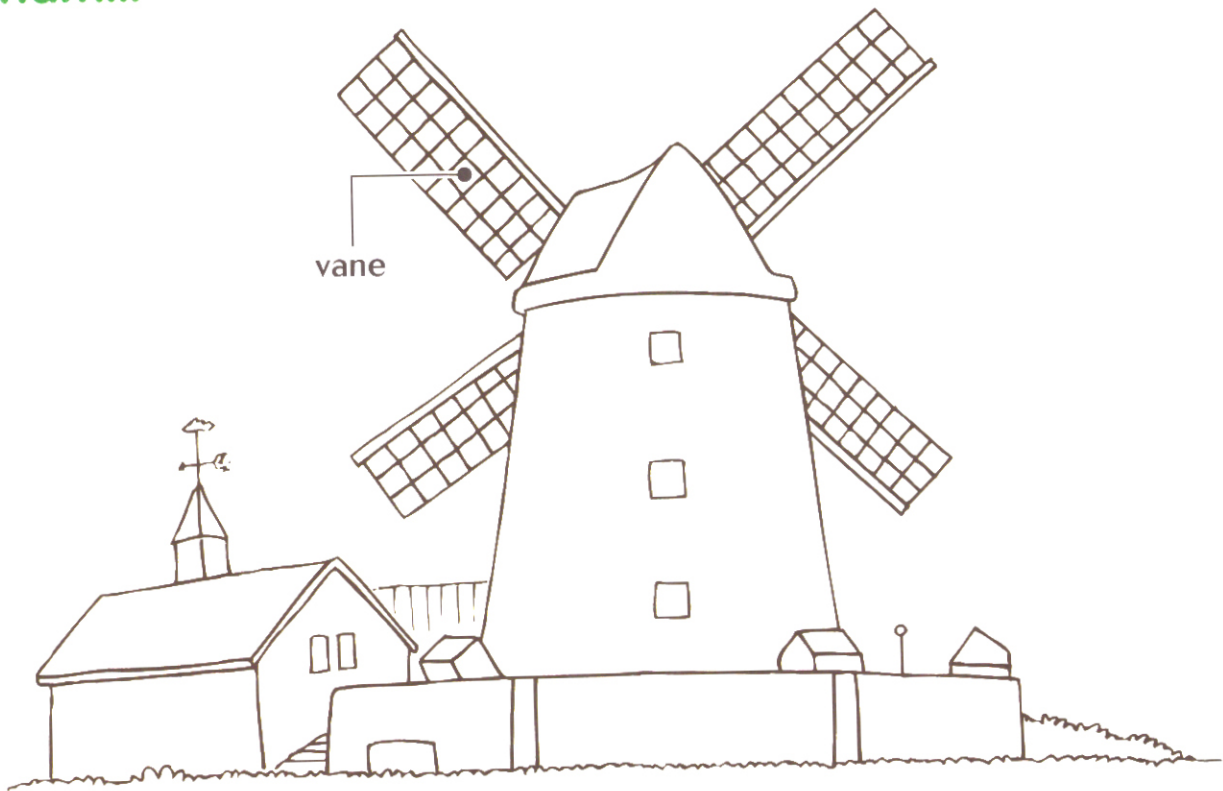
5.



B. Colour the windmill. Then fill in the blanks to complete the sentences.

energy    windmill    shaft    renewable    vanes    electricity

## Windmill



1. We need \_\_\_\_\_ to do many jobs.
2. Wind is a \_\_\_\_\_ source of energy. This means that the supply of it can be replaced.
3. Wind pushes the vanes of a \_\_\_\_\_ .
4. The \_\_\_\_\_ of a windmill turn a shaft.
5. Machines are attached to the \_\_\_\_\_ to do work.
6. Modern windmills are designed to convert the energy of the wind into \_\_\_\_\_ .

C. Match the parts of the hydroelectric dam. Then label the diagram.

### Hydroelectric Dam

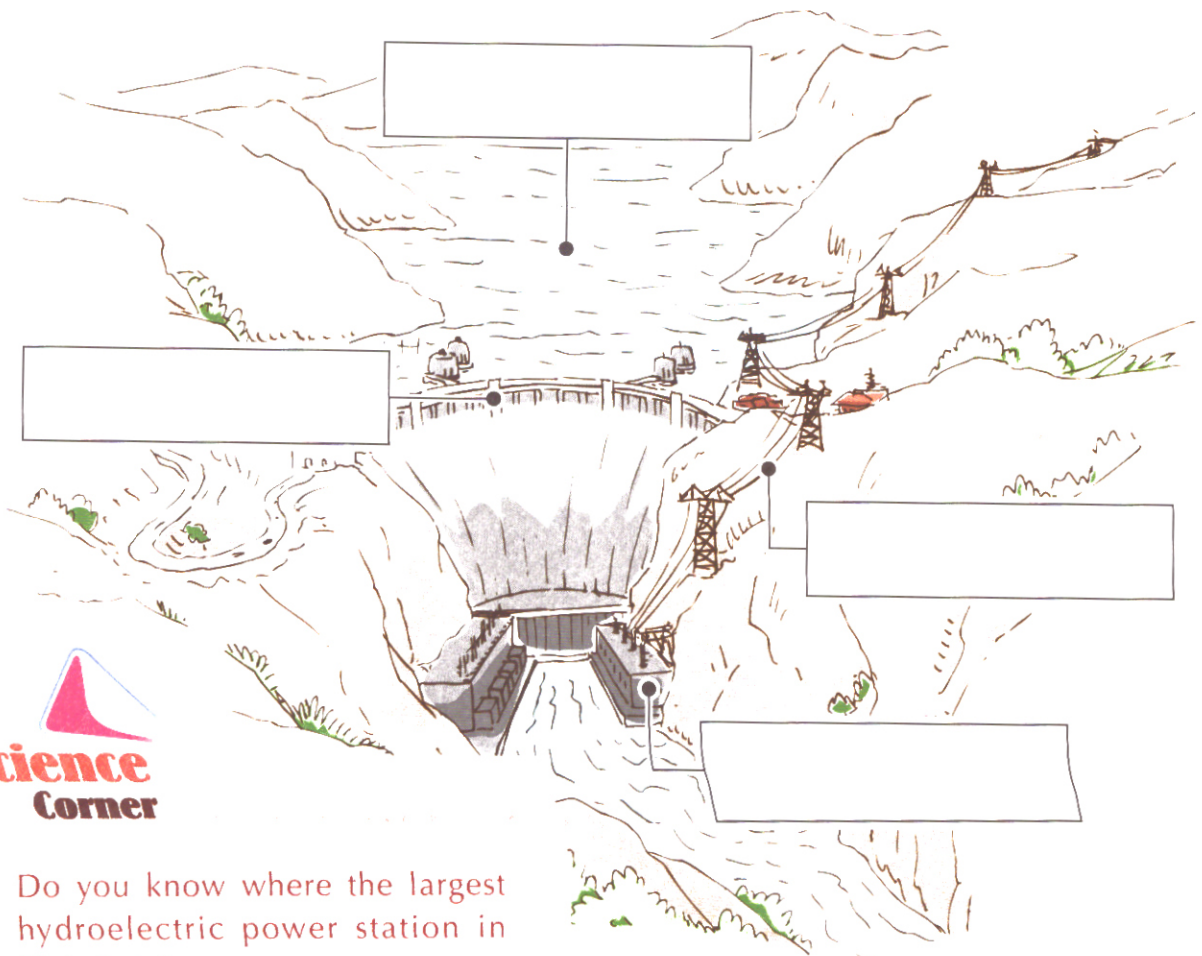
power station

reservoir

dam

power lines

- \_\_\_\_\_ : a barrier built across a river to hold back the water to form a reservoir
- \_\_\_\_\_ : a place where water is stored and can be used later on
- \_\_\_\_\_ : a place where hydroelectric power is generated
- \_\_\_\_\_ : wires that move electricity from one place to another



**Science  
Corner**

Do you know where the largest hydroelectric power station in Ontario is?  
Answer: Niagara Falls

**D. Read what the people say about hydroelectric dams. Write either "good" or "bad" on the lines.**

1. Mr. Green: "It's a clean source of energy – no pollution!"

\_\_\_\_\_

2. Mrs. Bowman: "It's a renewable form of energy...it never runs out."

\_\_\_\_\_

3. Sam: "Don't you know that the dam could cause flooding?"

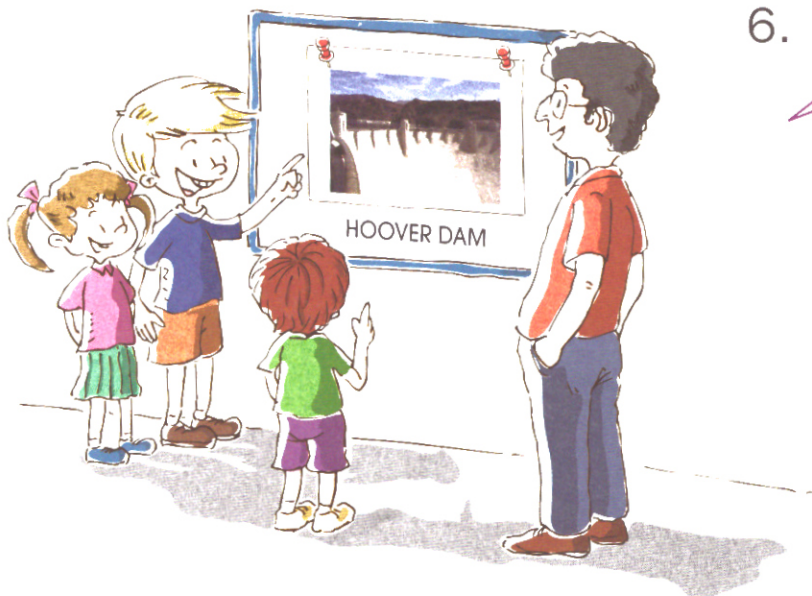
\_\_\_\_\_

4. Kevin: "Some plants and animal homes are destroyed when a dam is being built."

\_\_\_\_\_

5. It's wonderful. The dam attracts fish and birds.

\_\_\_\_\_



6. Dams never produce toxic wastes as well.

\_\_\_\_\_

## Try this!

# The Power of Moving Water

Use a garden hose in your backyard to see the power of moving water.

Hold the garden hose with one hand and have your other hand ready at the water tap.

### Steps:

1. Turn the tap a bit and observe the water out of the hose.

Observation: \_\_\_\_\_

\_\_\_\_\_

2. Turn the tap a bit more to see changes in water flow.

Observation: \_\_\_\_\_

\_\_\_\_\_

3. Turn the tap fully and see.

Observation: \_\_\_\_\_

\_\_\_\_\_



Now, can you see the power of moving water?

## Checklist

### Are you able to...

- use appropriate words to describe wind?
- tell that wind and moving water are renewable energy and can be sources of energy for electricity?
- show the mechanisms of windmills and hydroelectric dams?
- tell the advantages and disadvantages of hydroelectric power?

# Midway Review

A. Complete the crossword puzzle.

Animals use these to fly.

The crossword puzzle grid is composed of the following cells:

- Row 1: 1 empty, 2 empty, 3 empty, 4 empty, 5 empty, 6 empty, 7 empty, 8 empty, 9 empty, 10 empty
- Row 2: 1 empty, 2 empty, 3 empty, 4 empty, 5 empty, 6 empty, 7 empty, 8 empty, 9 empty, 10 empty
- Row 3: 1 empty, 2 empty, 3 empty, 4 empty, 5 empty, 6 empty, 7 empty, 8 empty, 9 empty, 10 empty
- Row 4: 1 empty, 2 empty, 3 empty, 4 empty, 5 empty, 6 empty, 7 empty, 8 empty, 9 empty, 10 empty
- Row 5: 1 empty, 2 empty, 3 empty, 4 empty, 5 empty, 6 empty, 7 empty, 8 empty, 9 empty, 10 empty
- Row 6: 1 empty, 2 empty, 3 empty, 4 empty, 5 empty, 6 empty, 7 empty, 8 empty, 9 empty, 10 empty
- Row 7: 1 empty, 2 empty, 3 empty, 4 empty, 5 empty, 6 empty, 7 empty, 8 empty, 9 empty, 10 empty
- Row 8: 1 empty, 2 empty, 3 empty, 4 empty, 5 empty, 6 empty, 7 empty, 8 empty, 9 empty, 10 empty
- Row 9: 1 empty, 2 empty, 3 empty, 4 empty, 5 empty, 6 empty, 7 empty, 8 empty, 9 empty, 10 empty
- Row 10: 1 empty, 2 empty, 3 empty, 4 empty, 5 empty, 6 empty, 7 empty, 8 empty, 9 empty, 10 empty

eyes

gasoline

wings

grain products

windmill

tongue

vegetables

sun

**B. Check ✓ the correct answers.**

1. The five senses:

smell

taste

hearing

speaking

sight

touch

2. Grain products:

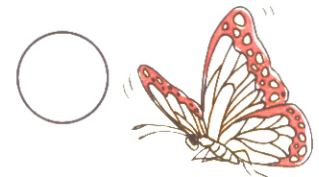
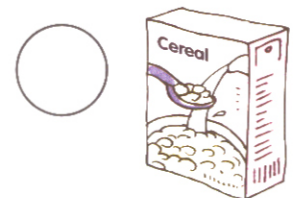
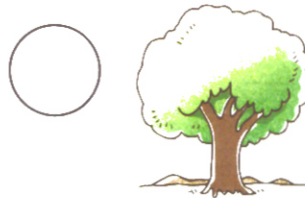
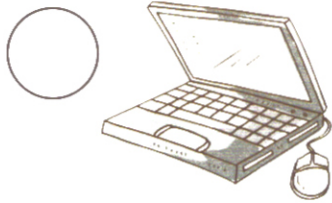
bread

butter

lettuce

rice

3. Living things:



4. Things that living things need:

money

air

water

food



5. The animals that move in the same way as a kangaroo:

a panda

a frog

a grasshopper

a bear



6. The senses that you can use to find out about snow:

sight

touch

smell

hearing



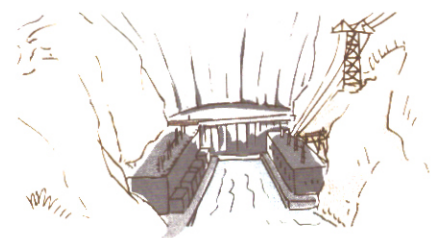
7. A hydroelectric dam needs this to run:

sun

water

wind

gas



8. Energy givers:

wind 

electricity

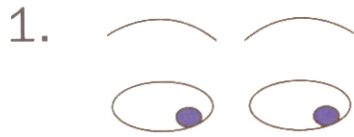
rainbow 

car 

food 

sun 

C. Fill in the missing letters to complete the sense words. Then complete the poems by writing the correct sense words.



s \_ \_ h \_ \_



\_ as \_ \_



s \_ \_ ll



t \_ \_ c \_ \_



h \_ \_ \_ i \_ g

6. Is it mashed potatoes,  
Porridge or paste?

I know it by

My sense of \_\_\_\_\_ .



7. The band is playing,  
Crowds are cheering.

I know it by

My sense of \_\_\_\_\_ .

