

Important Concepts . . .

Preview Review



Science

Grade 7

***W2 - Lesson 4: Role of Plants and
Controlling Plant Growth***

Important Concepts of Grade 7 Science

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Materials Required.

Textbook:
Science in Action 7

Science Grade 7

Version 5

Preview/Review W2 - Lesson 4

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Preview/Review Concepts for Grade Seven Science



***W2 - Lesson 4: Role of Plants
and Controlling Plant
Growth***

OBJECTIVES

By the end of this lesson, you should be able to

- explain the role plants play in the biosphere
- explain the uses of plants by humans
- discuss various methods of controlling plant growth

GLOSSARY

crop rotation - growing a succession of crops in a regular order in a field

fertilizer - a substance used to enhance soil nutrients

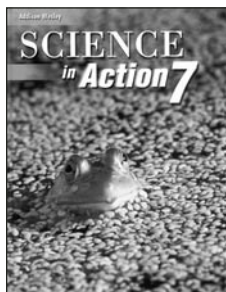
hydroponics - growing plants without soil.

irrigation - human controlled watering of crops

W2 - Lesson 4: Role of Plants and Controlling Plant Growth

Humans and plants interact constantly. What features of plants make them important to us and to other living organisms? And why do we want to be able to control plant growth?

The Role of Plants

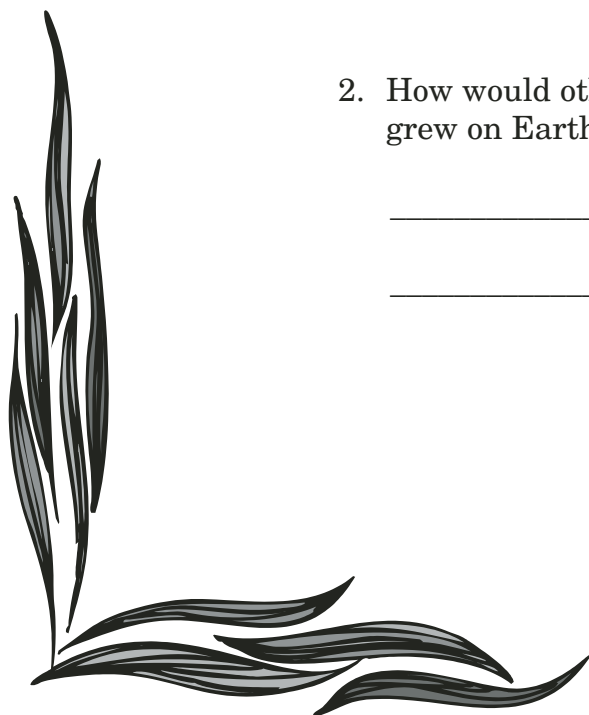


To answer the first question, let's look at the roles of plants. Plants have roles both in the biosphere as a whole and with people specifically. In the biosphere, plants provide oxygen, shelter, and food for consumers. Read page 129 of *Science in Action 7*.

Some of the ways that humans specifically use plants are for fibres, building materials, and medicines. Read pages 130 to 132 of your textbook.

1. How would humans be harmed if no or few plants grew on Earth?

2. How would other living organisms be harmed if no or few plants grew on Earth?



3. Some illnesses can be cured by plant products. Name such an illness and the plant used to treat it.

Controlling Plant Growth

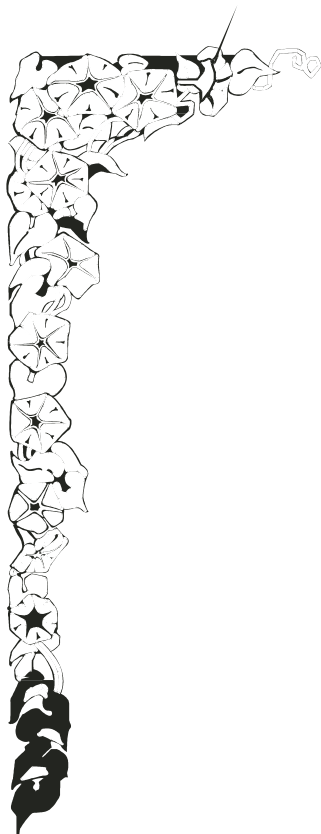
When we grow plants for our use, we want to get the best possible yield. We also want the quality to be high and the product to be available for as much of the year as possible. A great deal of work has gone into developing technology to help us do just that.

By providing nutrients that are lacking or insufficient in the soil we give plants a better chance to grow in the desired way. Adding chemical fertilizers to the soil is a common way to improve plant growth (pages 144, 145, 147, and 148 of *Science in Action 7*). Two low-tech methods of adding nutrients to the soil are rotating crops and mixing in compost.

4. What type of soil improvement is the use of crop rotation to add nutrients to the soil?

5. Although chemical fertilizers provide nutrients to plants, they also can cause some problems if they are used improperly. What are some of the disadvantages of using this type of fertilizer?





Most of the plants we grow do not do well in dry conditions. When people farm in areas where there is little rain, they often resort to irrigation (page 145 of textbook), or watering their crops.

6. What are some things that must be kept in mind when irrigating land? Why?

7. Is there anywhere in Alberta where irrigation is used by farmers?

Pests and weeds of various kinds can seriously harm the productivity of plants. Some plants have natural means of protecting themselves from such things. However, people who harvest the plants will often try to get rid of the weed or pest. Read pages 160-162 of *Science in Action 7*.

8. What are two basic ways to deal with pests?

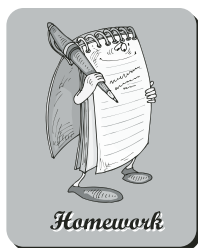
9. What is one way to control pests other than by using a chemical? Why is this not used as much as chemical control?



People also use technologies such as greenhouses and hydroponics to help them grow plants. Read page 155.

10. What are some advantages of growing plants hydroponically?

11. Why would someone choose to grow plants in a greenhouse rather than outdoors?



Homework

12. Talk to someone who gardens or farms. Find out if they use any of the strategies you learned about in this lesson and why. Bring the information you discover to school.

13. List as many ways as possible that you depend on plants.



