

***Dedicated
to Reducing
Pesticides***

Unit 3 Lesson 6: Some Seeds Grow Weeds

Focus Areas: Plant Identification; Science

Focus Skills: observing, comparing/contrasting

Objectives

- To identify the difference between weeds and other plants
- To understand the life cycle of a plant

Essential Questions

- How do plants grow and develop?
- How do weeds survive?

Essential Understandings

- Plants grow from seeds that germinate under the right conditions. The seeds sprout and grow new plants that produce flowers, sometimes fruit, and, always, new seeds.
- Weeds can grow in many places, have many seeds, and crowd out healthy crops or decorative plants. They have very strong roots that resist removal, and their seeds are able to survive for long periods of time in a dormant stage.

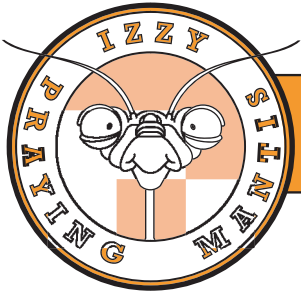
Background

Plants are the only things living on the Earth that can make their own food. Leaves make food from air and sunlight. The leaves grow from the stems of plants that carry water and nutrients from the roots that grow in the soil. Roots also help hold the plants in the ground so that water and wind cannot move them.

Flowers develop on stems. Stems can have one flower or many flowers. It is the flowers that produce the seeds that ensure the plant's survival. Seeds are released from the flowers and fall to the ground, are blown by the wind, carried by water, or are transported to other places by animals. Many seeds become food for birds and other animals like mice.



**University of
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College of Agriculture
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Background (continued)

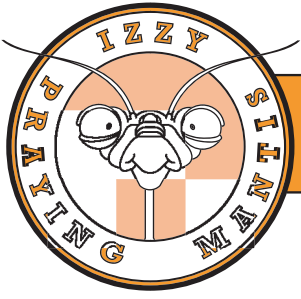
Seeds that find growing spots sprout (germinate) and become plants by sending roots into the earth. The soil provides water and nutrients to make the stems and leaves grow.

Weeds are particularly well suited for survival. Their roots are strong and often intricate or deep. Furthermore, they produce numerous seeds that adapt well to unfriendly conditions. Once their seeds find a suitable environment, they will take over an area using the food, water, and space desired for crops and decorative plants.

Vocabulary



buds	the part of the plant that will develop to produce new plant growth
germinate	to sprout by sending roots into the soil
grow	to develop and expand
leaves	the part of the plant that converts sunlight to energy for plant growth
life cycle	the phases a plant or animal goes through from birth through adult or from seed to seed
pollen	a fine yellow dust that allows plants to make other plants like themselves
rhizome	a creeping, underground stem that can send out new roots to produce new plants
root	the plant part that holds the plant in the ground, collects nutrients, and in some plants stores food
root network	a system of shallow roots that invades an area and takes nutrients and water from the soil
seed	the part of the plant from which new plants come



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Vocabulary (continued)

seed pod	the part of the plant that contains the seeds
stem	the part of the plant that carries food and water to the plant
tap root	a thick tough root that extends deep into the ground
weed	a plant growing where it is not wanted

Logistics

Time: 30 minutes
Group Size: 5 to 30
Space: a classroom

Materials



The Tiny Seed by Eric Carle *
Handout 1 “How Does a Seed Grow?” *
pictures or samples of weeds with roots
picture cards of weeds *

* single copy provided

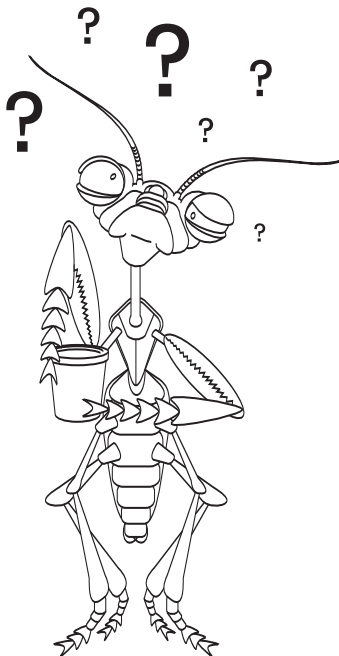
Preparation

Obtain the book *The Tiny Seed* by Eric Carle.
Copy Handout 1, “How Does a Seed Grow?” for each participant.
Collect the weed samples or pictures.

Activity

Introduction

1. Ask the children if they or their parents have ever had a garden. What kinds of plants did they grow in the garden?
2. How did they begin the garden? (seeds or “starter” plants from a nursery or garden center)





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Activity

Introduction (continued)

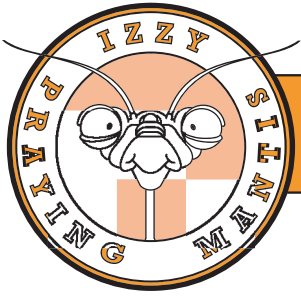
3. What must happen to a seed to make it grow? (It needs water, soil for nutrients, and sunshine.)
4. Invite the children to listen to the story of *The Tiny Seed* to find out how some seeds survive and live to make new plants while others don't.

Involvement

1. Read the story *The Tiny Seed* by Eric Carle.

As you read, pause to ask the following:

- a. If you were a seed, how would you find a new home where you could grow? (be blown by the wind; carried away by animals; float; accept other answers)
 - b. How did this tiny seed manage to grow and find the right conditions to bloom? (The tiny seed was blown by the winds and fell to the ground. It settled down and went to sleep buried in the Earth for the winter. When the snow melted, the sun came out and brought warmth. Soon the rain fell and the seed burst open.)
 - c. What happens to some of the seeds? Why won't they grow? (They land in places too cold, too hot, too dry, or too wet.)
 - d. What do seeds need to grow? (water, soil, and sunshine)
 - e. How did the weed make it hard for the little seed to survive? (The weed was big and strong and took all of the sunlight and rain away.)
2. Distribute Handout 1, "How Does a Seed Grow?" Have the children arrange the plant puzzle picture cards in sequence. The cards may be numbered or cut and pasted.
 3. Explain that weeds are special, tough, bully plants that take over other plants' spaces. Ask the children to identify some common Connecticut weeds, using the weed identification cards. (dandelion, crabgrass)



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Activity

Involvement (continued)

4. Explain that some people spray poisons to kill the weeds on their lawn, but scientists know that these chemicals may be harmful to pets and can get into our drinking water that lies under our lawns. Weeds are tough to control because they have seedpods that contain hundreds of seeds. The best and safest way to get rid of weeds is to dig them out by hand before they go to seed. You have to make sure that you dig out the roots too! This is called physical control.

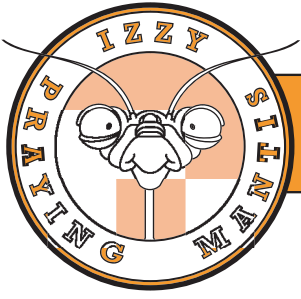
Follow Up

Weeds Don't Wait

1. Obtain two or three window boxes and fill them with dirt. Place the boxes in different areas outside and wait about a week.
2. Take the children on a mini field trip every three days to observe what plants appear first and grow most quickly. (weeds)
Note: You may wish to bring the boxes inside when it is time to observe the progress of the plants.
3. Try just picking the weeds and continue observing for several days. (The weeds will grow back.)
4. Allow the children to practice digging up these weeds, making sure they get the roots.

Remind the children that weeds aren't all bad!

- They provide food for some animals like bees (nectar) and butterflies (milkweed), and some people eat dandelion greens!
- They help hold soil in place and recycle nutrients back to the soil when they decay.
- Some people think they add to the beauty of the landscape.
- However, when they crowd out desired plants in lawns, gardens, and farmers' fields, they have to go!



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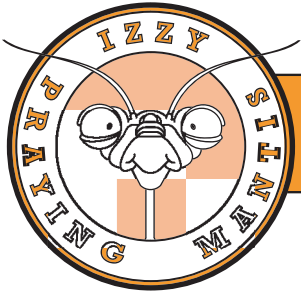
Notes





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