

What's Organic?

Objective

The student will relate dictionary definitions to the context of the reading in order to aid understanding.

Background

The word “organic” has several different meanings. To a chemist it is any compound containing carbon, an element found in all structures of plant and animal life. To the grocer it means foods that are produced using recognized organic methods.

All food is organic, because all living things are made up of organic molecules. But not all food is grown organically, at least not by legal definition. A true organic farmer follows natural growing practices as closely as possible. Instead of spraying crops with synthetic pesticides, the organic farmer uses plant varieties that are resistant to insects and disease, relies on beneficial insects and uses tillage practices that discourage pests. For fertilizer the true organic farmer uses unrefined minerals from natural deposits and organic sources of nitrogen from animal manures or plant products. Organic farmers recycle waste matter into fertilizer, in keeping with another definition of the word “organic”—a whole cyclical, sustainable system.

Because organic farming requires more work than traditional farming, organic foods usually cost more than food not grown organically.

The Oklahoma Department of Agriculture, Food and Forestry has been certifying organic farmers since 1989, when the Oklahoma Legislature passed the Oklahoma Organic Food Act. This Act provides minimum production standards for all food products labeled “Oklahoma Department of Agriculture Certified Organic.” Each organic producer must submit an organic management plan showing how he or she will increase soil fertility through management of organic matter, proper tillage, crop rotation and using manure. The farmer must agree to let officials inspect his or her property, soil and produce to make sure there are no synthetic chemicals present. After the farmer has followed the plan for three years, the food produced on the farm can be certified organic. The three-year period is called a “transitional period.” During the transitional period, the organic farmer may sell his or her food under the label “Organic Certification Pending— Transitional.”

English Language Arts

1. Read and discuss background and vocabulary.
2. Hand out dictionaries
—Write the words “organic” and “synthetic” on the board, and

Oklahoma Academic Standards

GRADE 3

Speaking and Listening:
R.1,2,3; W.1,2. Vocabulary:
R.1,3,5

GRADE 4

Speaking and Listening:
R.1,2,3; W.1,2. Vocabulary:
R.1,3,5
Earth Systems: 3-1

GRADE 5

Speaking and Listening:
R.1,2,3; W.1,2. Vocabulary:
R.1,3,5
Life Science: 2-1,2. Earth
Systems: 3-1

Materials

dictionaries

samples of organically- and conventionally-grown fruits and vegetables

lettuce or radish seeds

commercial fertilizer

organic fertilizer (compost, water from a fish tank, etc.)

Vocabulary

beneficial insects—insects considered helpful to the farmer or gardener because they aid pollination (bees, butterflies) or help control harmful insects (lady beetles, dragonflies)

carbon—a naturally abundant non-metallic element that occurs in many inorganic and in all organic compounds

crop rotation—a method of maintaining and renewing the fertility of the soil by alternating the crops grown on one piece of land from one year to the next.

organic—of, pertaining to, or derived from living organisms

synthetic—produced by the combining of separate elements or substances, especially not of natural origin

tillage practices—practices used for cultivating land.

ask students for definitions.

—Students will look the words up in the dictionaries.

—Students will take turns reading the several definitions they find and discuss each one before going on to the next.

3. Hand out student worksheets for students to complete.

Science

1. Students will grow fast growing plants like lettuce or radish using commercial fertilizer and organic fertilizer (compost, water from a fish tank, etc.) Students will chart growth and compare growth rates.
2. Bring samples of fruits or vegetables grown by organic and conventional methods. Conduct a taste test.
3. Visit an organic farm or invite an organic farmer to class to talk about some of the advantages and disadvantages of growing food this way.
4. Students will research beneficial insects.

Extra Reading

Kalman, Bobbie, and Janine Schaub, *Squirmy Wormy Composters*, Crabtree, 1992.

Lavies, Bianca, *Compost Critters*, Dutton Children's Books, 1993.

Souza, D.M., *Insects in the Garden*, Carolrhoda, 1991.

What's Organic?

All food is organic. Food comes from living things, and living things are made of organic molecules. But not all food is grown organically. Most of the food grown in the US is grown with the help of synthetic chemicals.

In order to legally label a food organic, the farmer must use natural methods. Instead of spraying crops with pesticides, the farmer depends on ladybugs, resistant plant varieties and other growing practices to protect plants. Organic farmers hoe weeds or smother them with ground covers called "mulch." Organic farmers use fertilizers that come from mined mineral deposits or plant and animal waste.

The word "organic" has several different meanings.

Match the sentences at the bottom of the page with one of the following definitions by writing in the correct letter. Look in the dictionary for help with words that you don't understand.

- A. Of, relating to, or affecting organ(s) of the body.
- B. Of, relating to, or derived from living organisms.
- C. Vegetables, fruits and meats grown without using synthetic fertilizers or pesticides.
- D. Simple, healthful, and close to nature.
- E. A whole, cyclical, sustainable system.
- F. Resembling a living organism in organization or development; interconnected.
- G. In chemistry, any compound containing carbon, an element found in all plant and animal life.

1. ___ Hepatitis is an *organic* illness because it affects an organ.
2. ___ My sister moved to the country so she could live a more *organic* lifestyle.
3. ___ Chewing gum is made from an *organic* substance taken from the stomach of a cow.
4. ___ My mother uses only *organic* fertilizers on her tomatoes.
5. ___ These *organic* apples are good, but some of them have worms in them.
6. ___ Farms and cities have an *organic* relationship; each needs the other to survive.
7. ___ Putting plants in the aquarium will create an *organic* system in which the fish waste will feed the plants, and the plants will produce oxygen for the fish.

What's Organic? (Answers)

All food is organic. Food comes from living things, and living things are made of organic molecules. But not all food is grown organically. Most of the food grown in the US is grown with the help of synthetic chemicals.

In order to legally label a food organic, the farmer must use natural methods. Instead of spraying crops with pesticides, the farmer depends on ladybugs, resistant plant varieties and other growing practices to protect plants. Organic farmers hoe weeds or smother them with ground covers called "mulch." Organic farmers use fertilizers that come from mined mineral deposits or plant and animal waste.

The word "organic" has several different meanings.

Match the sentences at the bottom of the page with one of the following definitions by writing in the correct letter. Look in the dictionary for help with words that you don't understand.

- A. Of, relating to, or affecting organ(s) of the body.
- B. Of, relating to, or derived from living organisms.
- C. Vegetables, fruits and meats grown without using synthetic fertilizers or pesticides.
- D. Simple, healthful, and close to nature.
- E. A whole, cyclical, sustainable system.
- F. Resembling a living organism in organization or development; interconnected.
- G. In chemistry, any compound containing carbon, an element found in all plant and animal life.

1. **A** Hepatitis is an *organic* illness because it affects an organ.
2. **D** My sister moved to the country so she could live a more *organic* lifestyle.
3. **B** Chewing gum is made from an *organic* substance taken from the stomach of a cow.
4. **G** My mother uses only *organic* fertilizers on her tomatoes.
5. **C** These *organic* apples are good, but some of them have worms in them.
6. **F** Farms and cities have an *organic* relationship; each needs the other to survive.
7. **E** Putting plants in the aquarium will create an *organic* system in which the fish waste will feed the plants, and the plants will produce oxygen for the fish.