

The Wheat Plant

Objective

The student will sequence stages in the life of a wheat plant and identify the six main parts of the wheat plant.

Background

Most Oklahoma farmers grow a kind of wheat called winter wheat. This type of wheat is planted and starts growing in the fall, rests during the winter and begins to grow again in the spring.

Before planting, the farmer must prepare the soil for the seed. He or she spends many hours on a tractor turning the soil and breaking it into fine particles. At last the soil is ready, the weather is right, and it is time to plant. The farmer puts the seed in the ground, using a machine called a grain drill.

The moisture in the soil is what causes the wheat plant to start growing. A shoot grows up through the soil. As the plant gets bigger, it draws water and nutrients up through the roots and produces carbohydrates (food) in the leaves. A good supply of water, nutrients and food will allow the plants to grow tall and develop green leaves. Wheat planted in the fall will grow about six inches tall before the first freeze. After that the plants stop growing, or become dormant, until spring. While the plant is dormant, the farmer may turn cattle into the fields to eat the tender first leaves. This does not harm the plants. In the spring they will produce new leaves.

The warmth of spring encourages the plants to grow again. Soon people driving along country roads can see lush green carpets, between two and four feet tall. Slowing, as the weather turns warmer, the wheat will mature and turn the green from tan to yellow and finally to a golden color that tells the farmer harvest is just ahead.

Procedures

1. In April acquire wheat in various stages of its life cycle—kernels, ground wheat flour, wheat plant with the head and roots still attached. (Contact your county's OSU Cooperative Extension Service educator for help.)
 - Discuss the uses of wheat.
 - Allow students to examine the wheat plant.
 - Point out the various parts of the wheat plant.
2. Hand out the Reading Page and read it together as a class.
 - Students will complete worksheet A.
3. Hand out student worksheets B.
 - Review the directions as a class.
 - Students will complete the worksheet.

Oklahoma Academic Standards

GRADE 2

Speaking and Listening: R.1,2,3,4.
Reading and Writing Process: R.3;
W.1
Life Science: 2-1

GRADE 3

Speaking and Listening: R.1,2,3,4.
Reading and Writing Process: R.3
Life Science: 1-1

GRADE 4

Speaking and Listening: R.1,2,3,4.
Reading and Writing Process: R.3
Life Science: 1-1

Materials

wheat kernels

wheat plant with head and roots still attached

wheat flour

string

paper straws

tissue paper

paint

pipe cleaners or craft fur

Ag in My Community

Invite a wheat farmer into the classroom to answer questions about wheat production.

Vocabulary

awn—a slender, bristlelike terminal process such as those found at the tips of the spikelets in many grasses.

grain drill—equipment used for planting wheat and other grain.

kernel—the inner softer part of a seed, fruit stone, or nut

leaves—green usually flat parts that grow from a stem or twig of a plant and that function mainly in making food by photosynthesis

root—the leafless usually underground part of a plant that absorbs water and minerals, stores food, and holds the plant in place

stem—the main stalk of a plant that develops buds and shoots and usually grows above the ground

winter wheat—a cereal grain that can be made into a fine white flour used mostly in breads, baked goods (as cakes and crackers), and pasta (as macaroni or spaghetti) and that is used in animal feeds

4. Plant some kernels of wheat in the classroom so students can watch the growth and development.
 - Students will record the plant's progress on a calendar posted near the growing plant.
5. Create a three-dimensional wheat plant on a door or board display.
 - Use string to represent the root system (green for a young wheat plant, yellow for a ripe plant).
 - Make the stem of painted paper straws.
 - Make the leaves of matching tissue paper.
 - The head can be made of fuzzy pipe cleaners or craft fur rolled into a tube shape.
 - Label the six parts of the plant.

Extra Reading

Fowler, Allan, and Allen Fowler, *The Wheat We Eat*, Scholastic, 2000.

Lackey, Jennifer D.B., *The Biography of Wheat (How Did That Get Here?)*, Crabtree, 2007.

Landau, Elaine, *Wheat*, Scholastic, 2000.

Levensen, George, *Wheat Comes to Life: A Garden of Wheat and a Loaf to Eat*, Tenspeed, 2004.

Yolen, Jane, and Greg Shed, *Harvest Home*, Harcourt, 2002.

The Wheat Plant

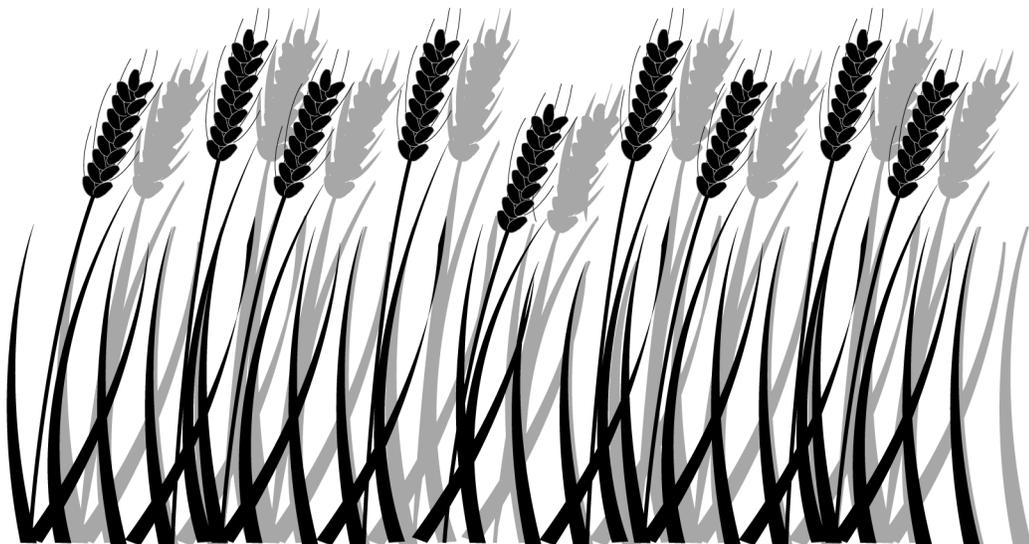
Oklahoma farmers grow a kind of wheat called hard red winter wheat. This wheat is planted in the fall and starts growing in the fall. During the winter it rests. Sometimes the farmer puts cattle in the wheat field to graze in the winter. During the spring it begins to grow again.

First, the farmer prepares the soil. He or she spends many hours on a tractor turning the soil and breaking it into fine particles. At last the soil is ready, the weather is right, and it is time to plant. The farmer puts the seed in the ground, using a machine called a grain drill.

A shoot grows up through the soil. The moisture in the soil is what causes the wheat plant to start growing. The plant gets bigger. It draws water and nutrients up through its roots and produces carbohydrates (food) in its leaves.

The plants grows tall and develop green leaves. Wheat planted in the fall will grow about six inches tall before the first freeze. After the first freeze the plants stop growing, or become dormant, until spring. While the plant is dormant, the farmer may turn cattle into the fields to eat the tender first leaves. This does not harm the plants. In the spring the plants will produce new leaves.

In the spring, the plants grows quickly. The warmth of spring encourages the plants to grow again. As the weather turns warmer, the wheat turns from green to tan to yellow and finally to a golden color that tells the farmer it is time for harvest.



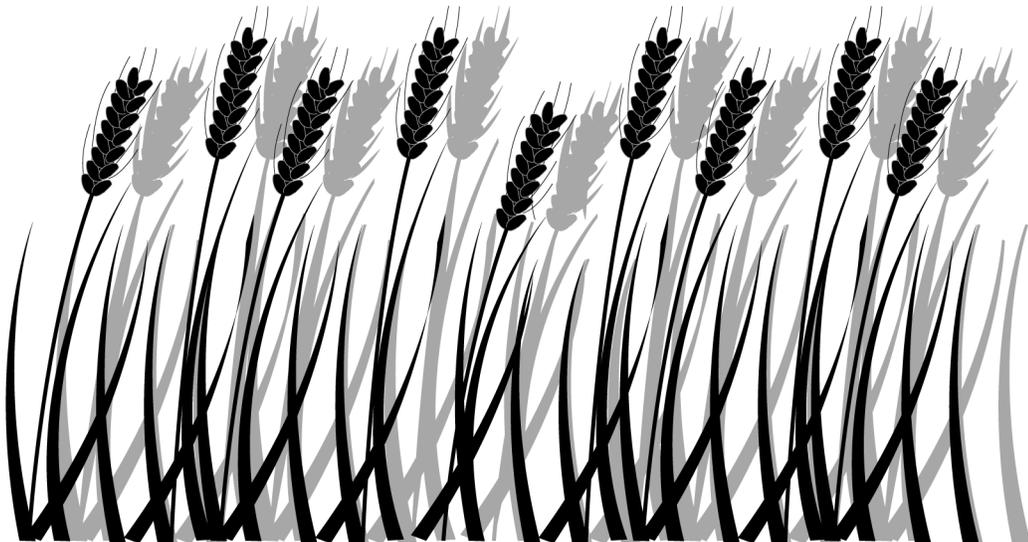
Name _____

The Wheat Plant

A

Read the sentences below. Number the steps in order from one to nine to retell what happens to wheat, from seed to harvest.

- _____ The plant rests through the winter months.
- _____ The wheat is harvested.
- _____ A shoot grows up through the soil.
- _____ The full-grown plant turns from green to tan to yellow to a golden color.
- _____ The plant grows tall and develops green leaves.
- _____ Before planting, the farmer prepares the soil.
- _____ The plant continues to grow until there is a hard freeze.
- _____ In the spring, the plant grows quickly.
- _____ The farmer puts the seed in the ground, using a machine called a grain drill.



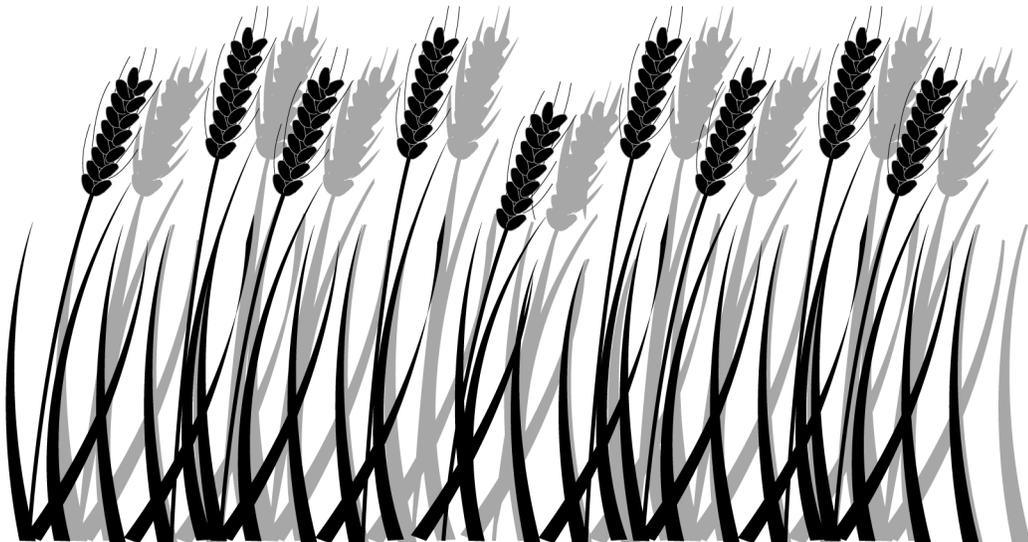
Name _____

The Wheat Plant (answers)

A

Read the sentences below. Number the steps in order from one to nine to retell what happens to wheat, from seed to harvest.

- 6 The plant rests through the winter months.
- 9 The wheat is harvested.
- 3 A shoot grows up through the soil.
- 8 The full-grown plant turns from green to tan to yellow to a golden color.
- 4 The plant grows tall and develops green leaves.
- 1 Before planting, the farmer prepares the soil.
- 5 The plant continues to grow until there is a hard freeze.
- 7 In the spring, the plant grows quickly.
- 2 The farmer puts the seed in the ground, using a machine called a grain drill.



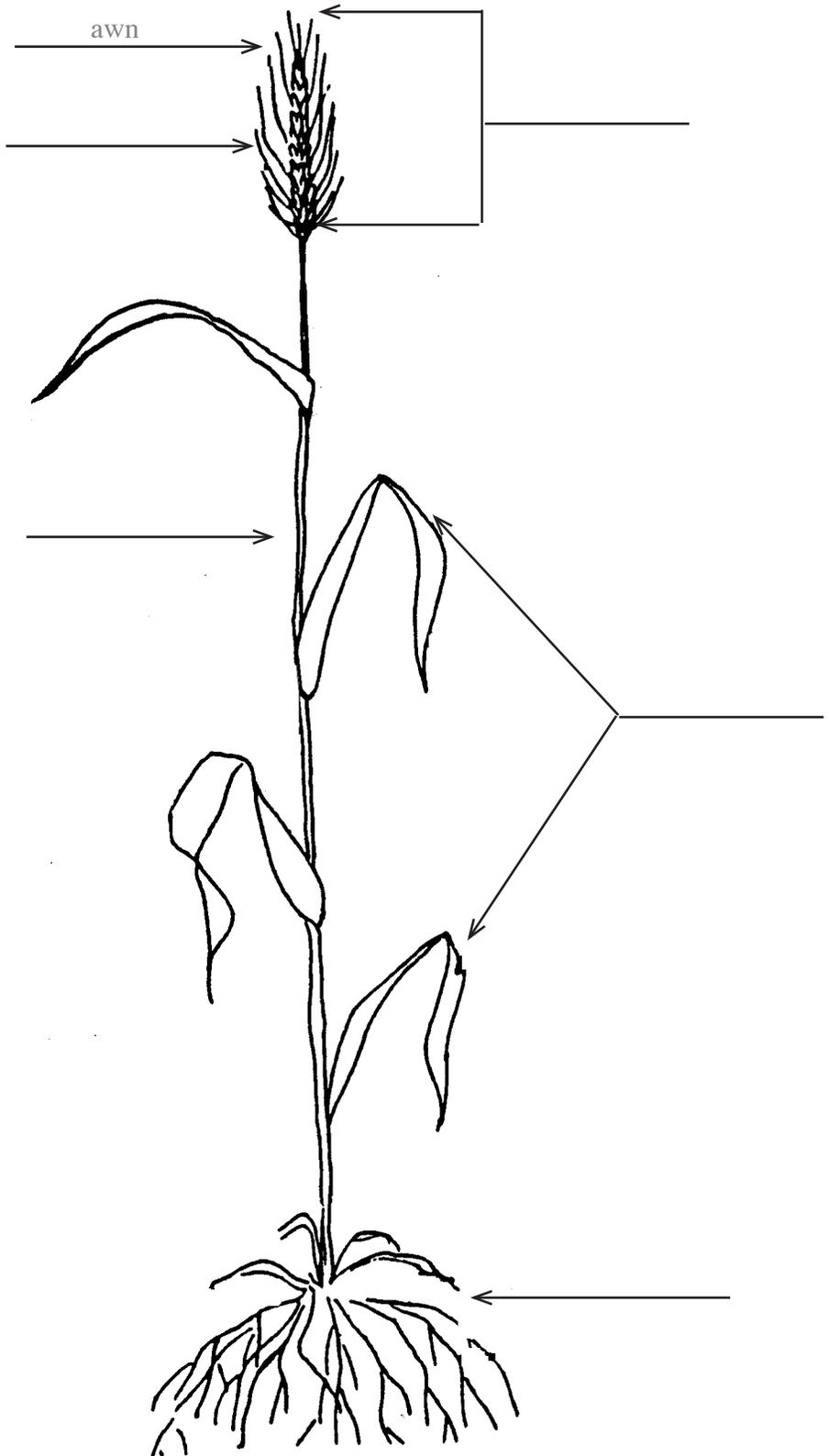
Name _____

The Wheat Plant

B

Fill in the parts of the wheat plant.

- leaves
- head
- roots
- awn
- stem
- kernel



Name _____

The Wheat Plant (answers)

A

Fill in the parts of the wheat plant.

- leaves
- head
- roots
- awn
- stem
- kernel

