

# Wheat Lesson Plans

## Grades K-2

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# THRESHING WHEAT BY HAND

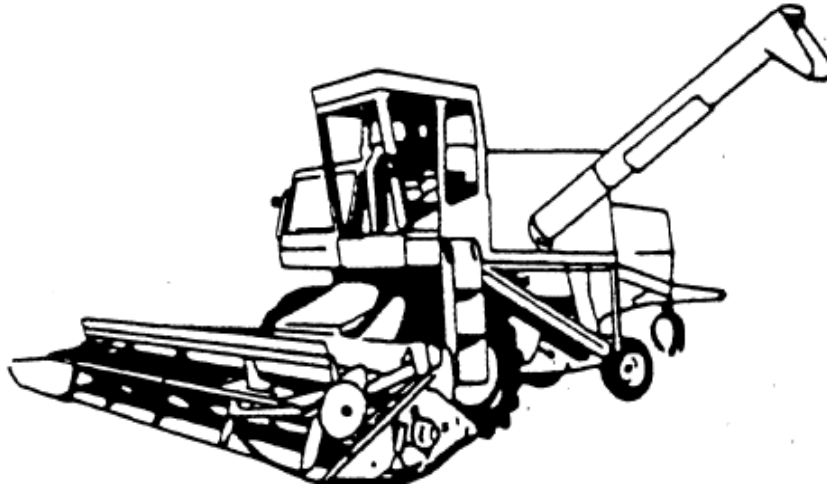
Directions:

1. Place the head between both hands with the palms in a horizontal position and move the hands backwards and forwards repeatedly while applying pressure. This is similar to the threshing action in a combine.
2. After the grain has been “threshed” out of the head, the student can shake the parts in the palm of one hand letting the bigger and lighter parts of the head float to the top and the heavier grain kernels settle to the bottom. The students can now skim the empty spike and some of the hulls off to the side and discard. This is similar to the separating action of the combine by the straw walkers and sieves.
3. The students can now clean the chaff from the grain that remains in their hands. A combine completes this job by blowing air through the grain and chaff, removing the lighter chaff, and blowing it out of the rear of the combine. Have the students stand near a waste paper basket and pour the grain from one hand to the other while blowing lightly on the material as it drops through the air from one hand to the other.
4. Discuss these activities as they are occurring. Remember that the trip through the combine for the seed head only takes about 15 seconds, and that there are thousands of heads going through the combine at the same time.
5. As an additional discussion topic you may want to compare this to the way wheat was threshed before modern machinery. At that point in history, farmers would have livestock walk on the wheat heads on a hard surface to thresh the grain out of the heads, separate the straw and spikes by hand, and then throw the grain and chaff up into the air for the wind to blow the chaff away.

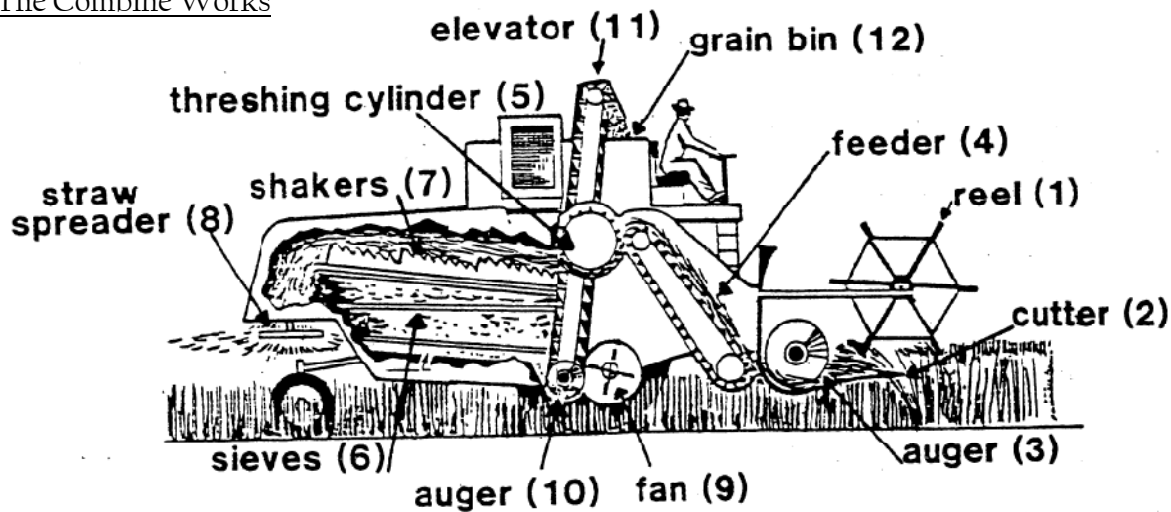


## THE COMBINE

### As You Would See It In The Field



### How The Combine Works



The path that grain takes through the combine involves many steps. It begins when the reel (1) pushes the wheat stalks against the cutter bar (2) which cuts the stalks off. The cut wheat is moved through the auger (3), up the feeder (4), to the threshing cylinder (5) where the kernels are separated from the straw and chaff. This is called threshing.

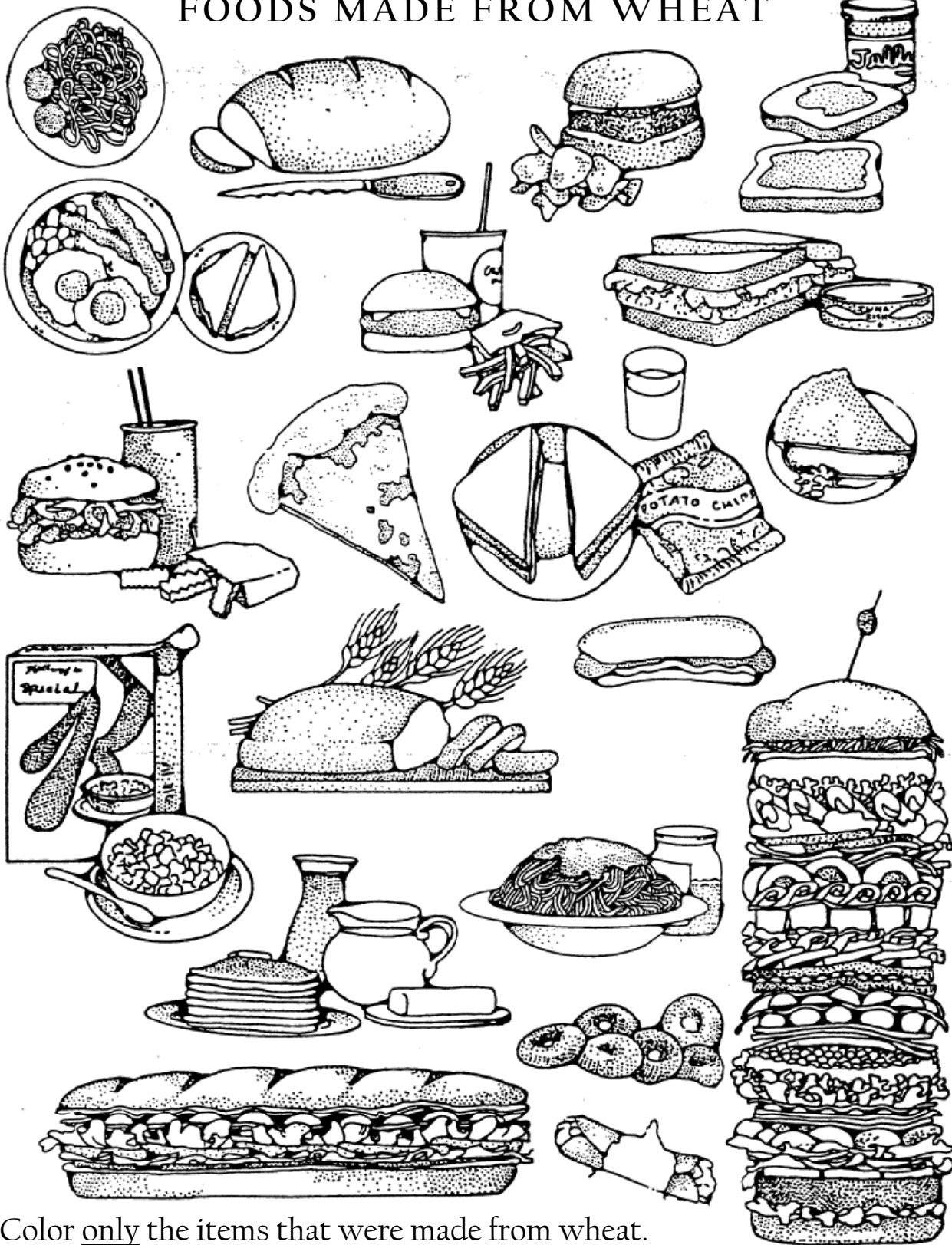
The kernels and chaff fall onto the sieves (6) and the straw goes onto the shakers (7). Any kernels mixed in with the straw are shaken out onto the sieves (6) as the straw moves along the shaker. Then the straw is removed from the combine by the straw spreader (8).

Meanwhile, the kernels and chaff move to the rear of the combine along the vibrating sieves (6). The fan (9) blows the chaff from the grain and out of the combine.

The clean kernels fall through the sieves (6). From there, the kernels are taken through the auger (10), up the elevator (11), and into the grain bin (12).

Name \_\_\_\_\_

## FOODS MADE FROM WHEAT

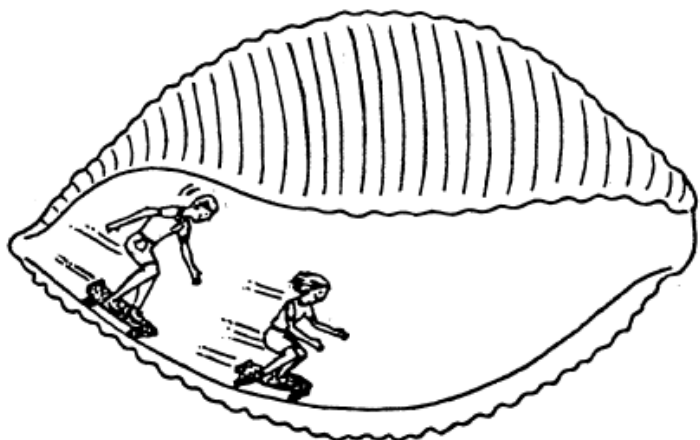
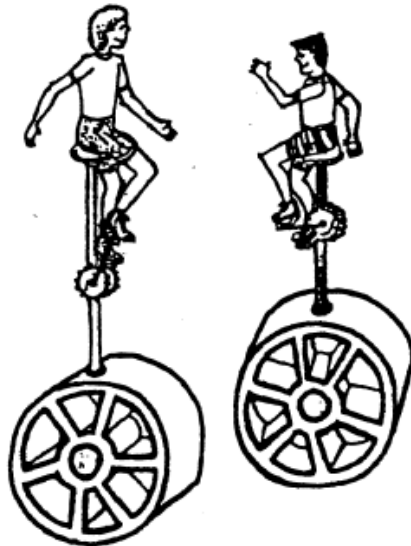


Color only the items that were made from wheat.  
(Example: You would only color the crust on a slice of pizza).

(R)

Wheat foods supply your body with energy to play.

Pasta is made from wheat. Can you match the name of the pasta with the play?



### Background

Ready-to-eat cereal is eaten by millions of people worldwide. People in Ireland eat the most – an average 17 pounds of dry cereal per person per year. Americans eat an average 10 pounds per person. Brazilians eat only one ounce per person.

Cold cereal as we know it was invented in the early 1900s by the Kellogg brothers of Battle Creek, Michigan. John Kellogg believed heavy breakfasts were bad for people and that they should eat only vegetables and grains. In those days a kind of cold cereal was made by making thin biscuits, baking them, crushing them, and then baking the crumbs again. The crumbs were so tough they had to be soaked overnight in order to be chewable the next day.

In most homes at that time, porridge of oats or wheat was cooked all night and served warm for breakfast. Kellogg wanted a cereal that was ready to eat and could be kept in a box. His younger brother, Keith, worked with him to invent this new food. In 1894, the brothers made a mistake and left a batch of soaked wheat kernels out overnight. The next day, they discovered that when the damp wheat berries were pushed through rollers, each made a flake. They called it “Granose” and sold it as a health food.

Grains supply your body with carbohydrates, protein, iron, thiamine and niacin. The U.S. Department of Agriculture recommends six to 11 servings of grain a day per person, depending on the age of the person. Cereals are a great way to get some of the servings you need from the grain group. Bread, pasta, muffins, tortillas and hamburger buns are also made from grains. Rice, oats and barley are whole grains that can be eaten as hot breakfast cereals or added to soups and other dishes. The grain most widely grown in California is hard winter wheat. Hard wheats are best for making breads that keep for a long time. Soft wheats are used more often in pastries. Other grains grown in California are oats, barley, corn, sorghum, and triticale.

### Math: Sorting, Number Operations

1. Read and discuss background.
  - a. Show students each kind of cereal and name the California grain from which each cereal was made.
  - b. Divide students into groups. Provide each group with a bowl of mixed cereal.
  - c. Students will sort the cereal according to the California grain from which it is made.

## Food and Fun

Make whole grain muffins in class, and eat them as a morning snack. Make butter to spread on the muffins.

## Vocabulary

**barley**— a cereal grass with flowers in dense spikes; also: its seed used especially in malt beverages, in foods (as soups and cereals), or as feed for livestock

**corn**— the seeds of maize, a cereal plant

**grain**— the edible seed or seedlike fruit of grasses that are cereals (as wheat, Indian corn, or oats)

**iron**— a heavy magnetic silver-white metallic element that quickly rusts in moist air, occurs in meteorites and rocks, and is widely used

**niacin**— an acid of the vitamin B complex that is found widely in plants and animals and is used especially against pellagra – called also nicotinic acid

**oats**— a grain that is widely grown for its long loose clusters of seeds which are used for human food and for livestock feed

**rye**— a hardy annual cereal grass widely grown for grain and as a cover crop; also: it's seeds

**sorghum**— any of a genus of Old World tropical grasses that look like Indian corn

**thiamine**— a vitamin of the B complex that is necessary for normal metabolism and nerve function and is found in many plants and animals – called also vitamin B1

**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

- d. Students will create real object graphs by placing the cereal pieces in columns labeled oats, corn, and wheat.
2. Four to six students can play this game at one time.
  - a. Fill the bowl with the breakfast cereal.
  - b. The object of the game is for each student to accumulate 25 (10 for younger students) cereal pieces.
  - c. The players take turns rolling a die and taking the number of cereal pieces indicated on the number cube from the bowl.
  - d. When a player gets close to accumulating 25 cereal pieces, he or she must decide whether or not to take the number of pieces indicated on the number cube.
  - e. If the player decides not to take the number indicated on the number cube, he or she must wait a turn to roll again.
  - f. The player will then try to roll the number needed or a number as close as possible to the winning number, 25.
  - g. The person who is closest to 25 is the winner and may eat the cereal pieces.

## Health

1. Students name their favorite breakfast cereals.
  - a. Students guess which grains are in their favorite cereals.
  - b. Bring in cereal boxes.
  - c. Students find the grains in the ingredient lists.

\* *Use of brand names does not imply endorsement by the California Wheat Commission, The California State Department of Education or the California Department of Agriculture.*

## Extra Reading

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

Landau, Elaine, *Corn*, Children's, 2000.

Landau, Elaine, *Wheat*, Children's, 2000.

Mayo, Gretchen Will, and Susan Nations, *Cereals*, Weekly Reader, 2004.

Nelson, Robin, *From Kernel to Corn*, Lerner, 2003.

Snyder, Inez, *Wheat*, Children's, 2004.

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

**Skills:** Language Arts, Social Studies, Math

**Objective:** Students will read the story, "The Little Red Hen," discuss all the different careers involved in providing our food and act out a play based on the story.

## Background

Farmers have many different jobs to do. At different times, a farmer may have to be a veterinarian, a machine operator, a mechanic, a salesman, a businessman, a banker, a bookkeeper or a manager. Some farmers do all these jobs by themselves!

What if every farmer had the same problem as the Little Red Hen? Many farmers plant, water and cut their own wheat. But after that they are ready for some help. First the farmer takes his wheat to the mill. There the miller grinds it into flour. Then it is ready for the baker to make it into bread. When everyone helps out, no one is left, like the Little Red Hen, to do the work alone. And we all get to enjoy the finished product.

Most of the wheat grown in California is hard winter wheat. In the fall the farmer plants the wheat seeds. Rain will water the tiny plants so they can stay alive during the winter. In the spring the warm sun shines and the plants really start to shoot upwards. The plant is working to produce a tall plant with a head that will contain new seeds. When summer arrives the wheat turns a yellow gold color. Then it is ready to harvest. The harvested wheat is taken to the miller, who grinds it into flour. Then the wheat is ready to be baked into bread.

## Language Arts

1. Read the story, "The Little Red Hen," to students
  - a. Discuss the concept of cooperation. How do you feel after you have helped with a family project like yard work or preparing a meal?
2. Students will number the pictures on the student worksheet to correspond with the story they just heard.
  - a. Read and discuss background while students color the pictures on the student worksheet.
3. Assign parts for the play included with this lesson.
  - a. Hand out the pictures included with this lesson.
  - b. Students will color and cut out the pictures.
  - c. Hand out art sticks.
  - d. Students will make stick puppets.
  - e. Hand out copies of the play.



- f. Students will read their parts and act out the play.
4. Discuss what the moral of the story is.
  - a. Students will each write a moral to fit the story.
5. Let students use the puppets as characters for plays they write themselves. Divide the class into groups, and have the groups take turns acting out the plays.
6. Students will act out the different jobs a farmer has to do, using information from the background.

## Science

1. Obtain seed wheat from a local farmer, health food or feed store.
  - a. Sprout an even number of seed on a moist paper towel.
  - b. Fold the towel in half, placing the seeds inside the fold.
  - c. Put the towel on a paper plate.
  - d. Mist the paper towel daily to keep the seeds moist.
  - e. Place in a sunny window and watch the wheat grow.

## Extra Reading

Barton, Bryan (illustrator), *Little Red Hen*, HarperCollins Juvenile, 1997.  
Sturges, Philemon, and Amy Walrod, *The Little Red Hen: (Makes a Pizza)*, Dutton, 1999.

## Vocabulary

**bread** – a baked food made of flour or meal

**farmer** -- a person who cultivates land or crops or raises animals

**mill** – a person who operates a mill, especially a person who grinds grain into flour

**flour** – finely ground powdery meal of wheat or of any cereal grain or edible seed

**harvest** – the gathering of a crop

**tractor** – a vehicle that has large rear wheels or moves on tracks and is used especially for pulling farm implements

**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 (as macaroni or spaghetti) and that is used in animal feeds

## Ag in Your Community

Arrange for your class to visit a grain elevator in your area

Name \_\_\_\_\_

# The Little Red Hen

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One Morning the Little Red Hen was pecking in the barnyard when she came across some grains of wheat. "I think I'll plant these grains and grow some wheat," she said.

"Then I can bake some bread!"

So the Little Red Hen gathered up the grains of wheat. "Who will help me plant this wheat?" she asked her friends.

"Not I!" mooed the cow.

"Not I!" grunted the pig.

"Not I!" bleated the lamb.

So the Little Red Hen planted the grains of wheat *all by herself*.

With the help of the sun and rain, the wheat grew and grew until it was tall and golden. "Who will help me cut the wheat?" asked the Little Red Hen.

"Not I!" mooed the cow.

"Not I!" grunted the pig.

"Not I!" bleated the lamb.

So the Little Red Hen cut the wheat *all by herself*.

"Who will help me take the wheat to the mill so the miller can grind it into flour?" asked the Little Red Hen.

"Not I!" mooed the cow.

"Not I!" grunted the pig.

"Not I!" bleated the lamb.

So the Little Red Hen carried the wheat to the mill *all by herself*.

When the Little Red Hen returned from the mill with the sack of flour, she asked, "Who will help me bake some bread?"

"Not I!" mooed the cow.

"Not I!" grunted the pig.

"Not I!" bleated the lamb.

So the Little Red Hen kneaded the flour into dough *all by herself*.

Before long she had baked a warm and tasty loaf of bread. "Now who will help me eat the bread?" called the Little Red Hen.

"I will!" mooed the cow.

"I will!" grunted the pig.

"I will!" bleated the lamb.

"Oh, no, you won't," said the Little Red Hen. "I planted the wheat. I cut the wheat. I took it to the mill to be ground into flour. And I baked this bread without any help from the three of you!"

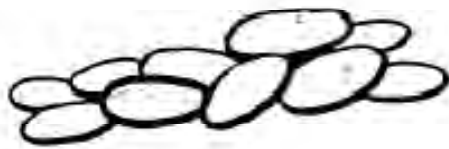
Then the Little Red Hen took a bit of fresh butter, sat down under a shady tree, and ate the loaf of bread – *all by herself!*

Name \_\_\_\_\_

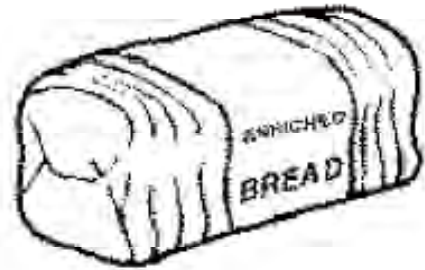
# The Little Red Hen

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Number the pictures in the same order as in the story. Color the pictures.



\_\_\_\_\_ seeds



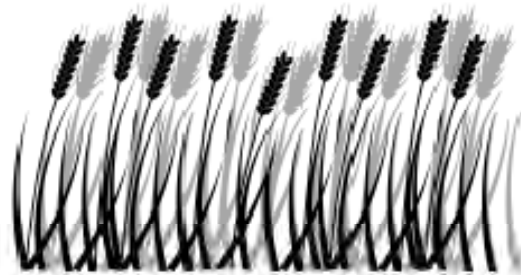
\_\_\_\_\_ bread



\_\_\_\_\_ flour



\_\_\_\_\_ rain



\_\_\_\_\_ plant

# The Little Red Hen

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(Characters: Farmer, Little Red Hen, Cow, Pig, Lamb)

## ACT ONE

Farmer: It is fall in California. The animals are in the barnyard, talking among themselves. In the corner of the barnyard, Little Red Hen discovers some golden grains of wheat.

Little Red Hen: My, my. Look what I have found. Barnyard friends, who will help me plant these wheat seeds?

Cow: Not I. I am too busy.

Pig: Not I. I have to hurry off.

Lamb: Not I. I have just too many things to do.

Little Red Hen: Then I will do it by myself.

## ACT TWO

Farmer: It is summer now. The seeds have grown into wheat. The wheat is ripe and golden.

Little Red Hen: Barnyard friends, the wheat is ready to cut. Who will help me cut the wheat?

Cow: Not I. I need a nap.

Pig: Not I. I am lying in the mud.

Lamb: Not I. I am going for a run in the meadow.

Little Red Hen: Then I will do it myself.

### ACT THREE

Farmer: The wheat kernels are ready to go to the mill to be ground into flour.

Little Red Hen: Who will help me take the grain to the mill?

Cow: Not I. I am eating some grass.

Pig: Not I. I am too tired.

Lamb: Not I. I am playing with my friends.

Little Red Hen: Then I will do it myself.

### ACT FOUR

Farmer: Little Red hen comes back to the farm with the flour. She quickly begins to make some bread. The smell of fresh bread fills the barnyard. All the animals gather around the Little Red Hen.

Little Red Hen: How good my bread smells. Who will help me eat the fresh bread?

Cow: I will! It smells great!

Pig: I will! I am always hungry.

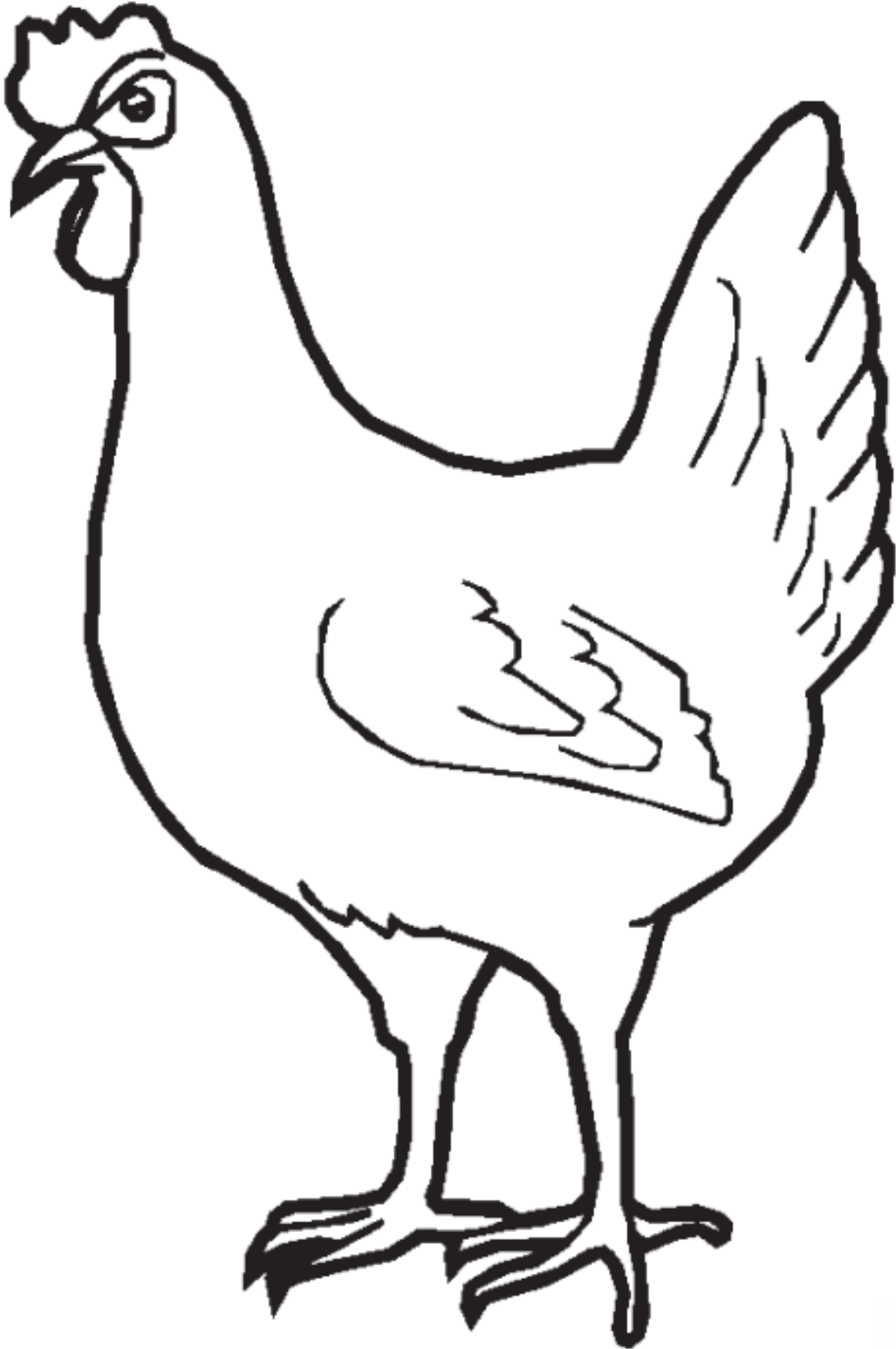
Lamb: I will! What a great snack!

Little Red Hen: Oh, no! You cannot help me eat this bread. I had to plant the wheat and take it to the mill. Then I made the bread all by myself. I did all of the work. Now I will eat the bread – ALL BY MYSELF!

Farmer: And she did.

# The Little Red Hen

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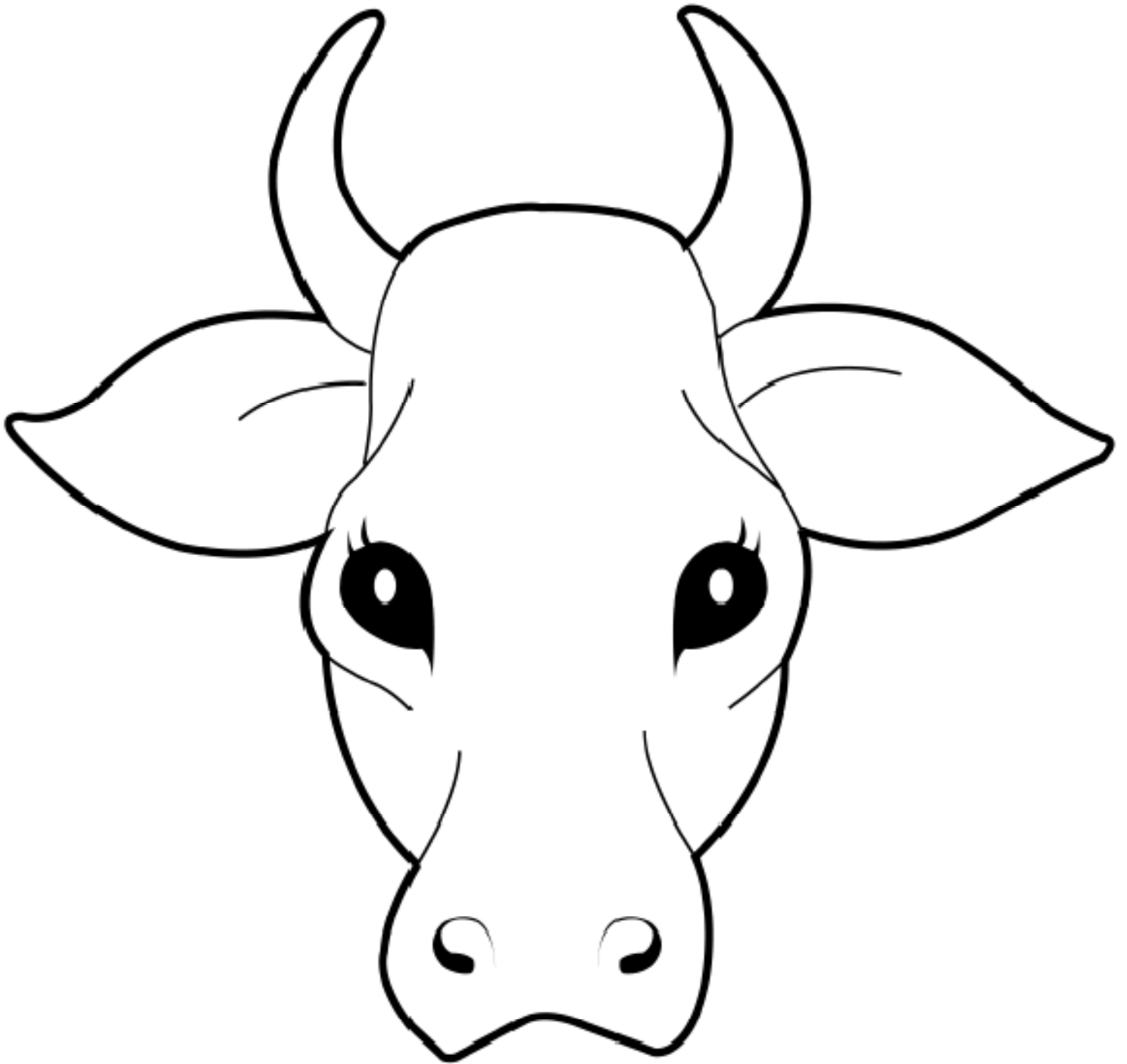
# Farmer

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# Cow

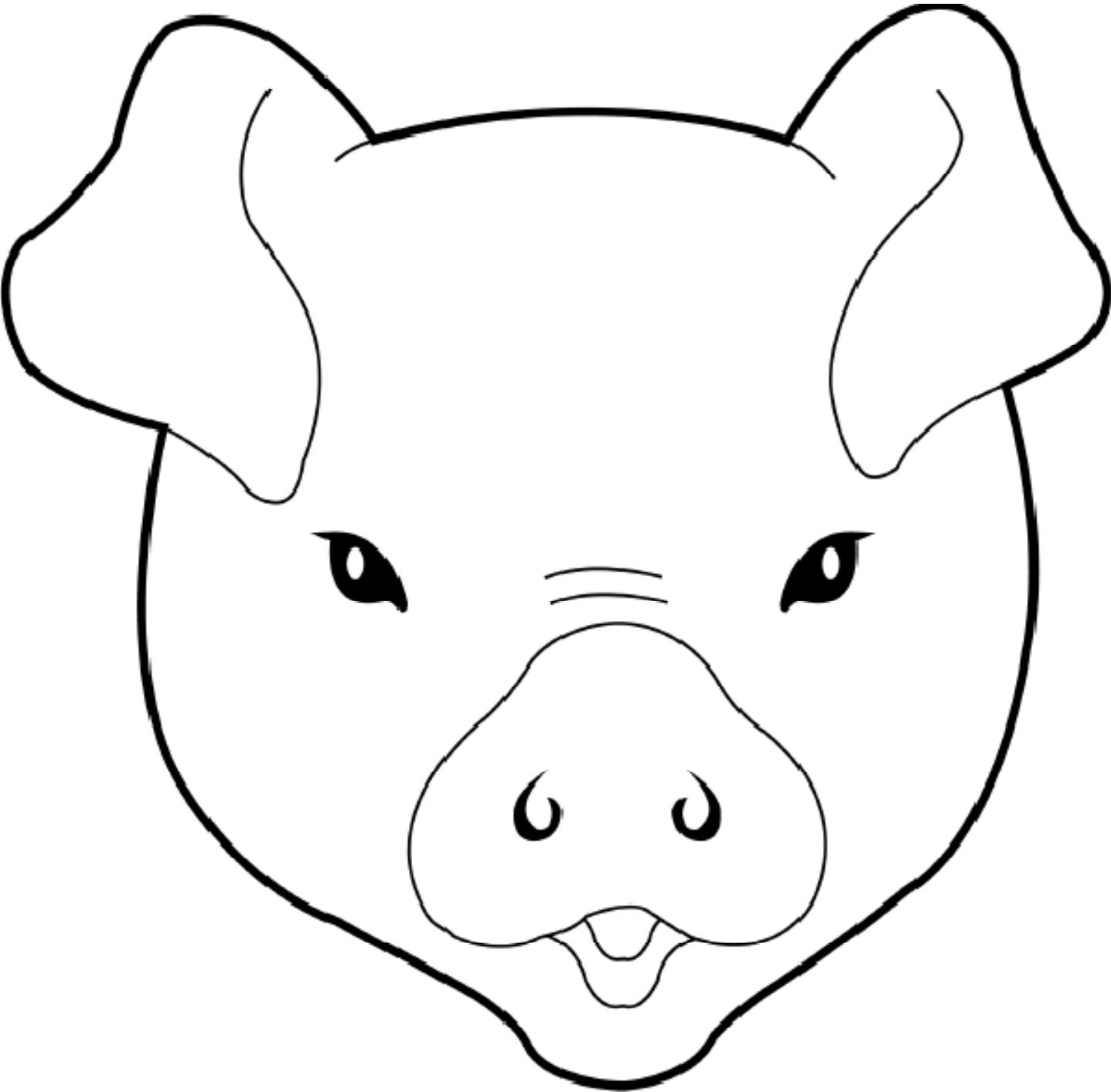
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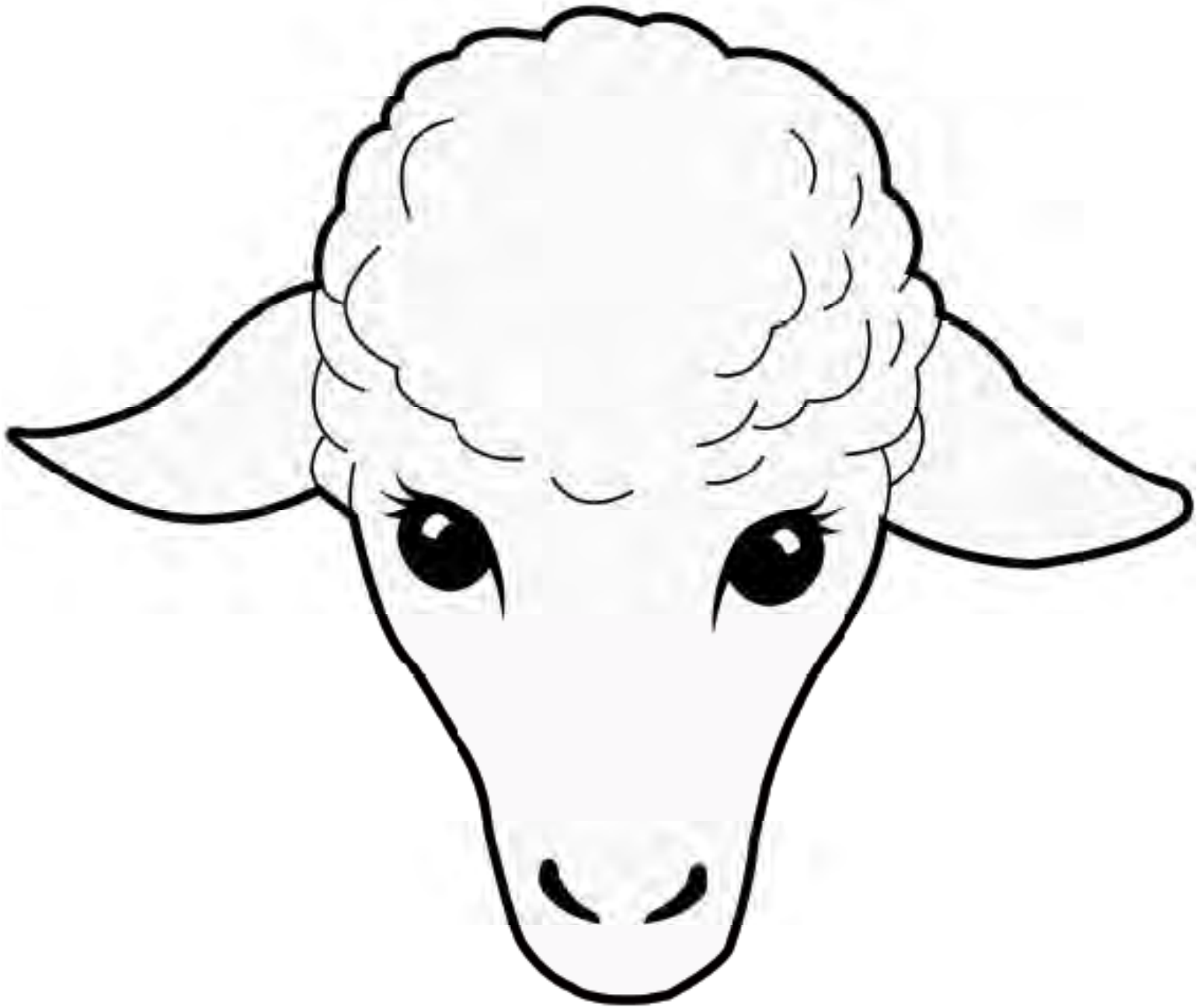
# Pig

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# Lamb

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**Skills:** Science

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

## Background

Wheat is classified as having either a spring or a winter growth habit. Most California farmers grow winter wheat, which is planted in the fall or winter and harvested in the spring or summer.

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.

In the spring people driving along county roads can see lush green carpets, between two and four feet tall. As the weather turns warmer, the wheat will mature and turn the green to tan and finally to a golden color that tells the farmer harvest is just ahead.

## Science

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 University of California Cooperative Extension Service educator for help.)
  - a. Discuss the uses of wheat.
  - b. Allow students to examine the wheat plant.
  - c. Point out the various parts of the wheat plant.
2. Hand out student worksheet A, and read it together, as a class, before having students complete it.
3. Pass out student worksheets B and C, and go over the directions before having students complete them.
4. Plant some kernels of wheat in the classroom so students can watch the growth and development. Have students record the plant's progress on a calendar posted near the growing plant.

## Materials

wheat kernels  
wheat plant with head and roots still attached  
wheat flour  
string  
paper straws  
tissue paper  
paint  
pipe cleaners or craft fur

## Vocabulary

**awn**— a slender, bristle-like 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

5. Invite a wheat farmer into the classroom to answer questions about wheat production.
6. Create a three-dimensional wheat plant on a door or board display.
  - a. Use string to represent the root system (green for a young wheat plant, yellow for a ripe plant)
  - b. Make the stem of painted paper straws.
  - c. Make the leaves of matching tissue paper.
  - d. The head can be made of fuzzy pipe cleaners or craft fur rolled into a tube shape.
  - e. Label the six parts of the plant.

## Extra Reading

Johnson, Sylvia, *Wheat*, Lerner, 1990.

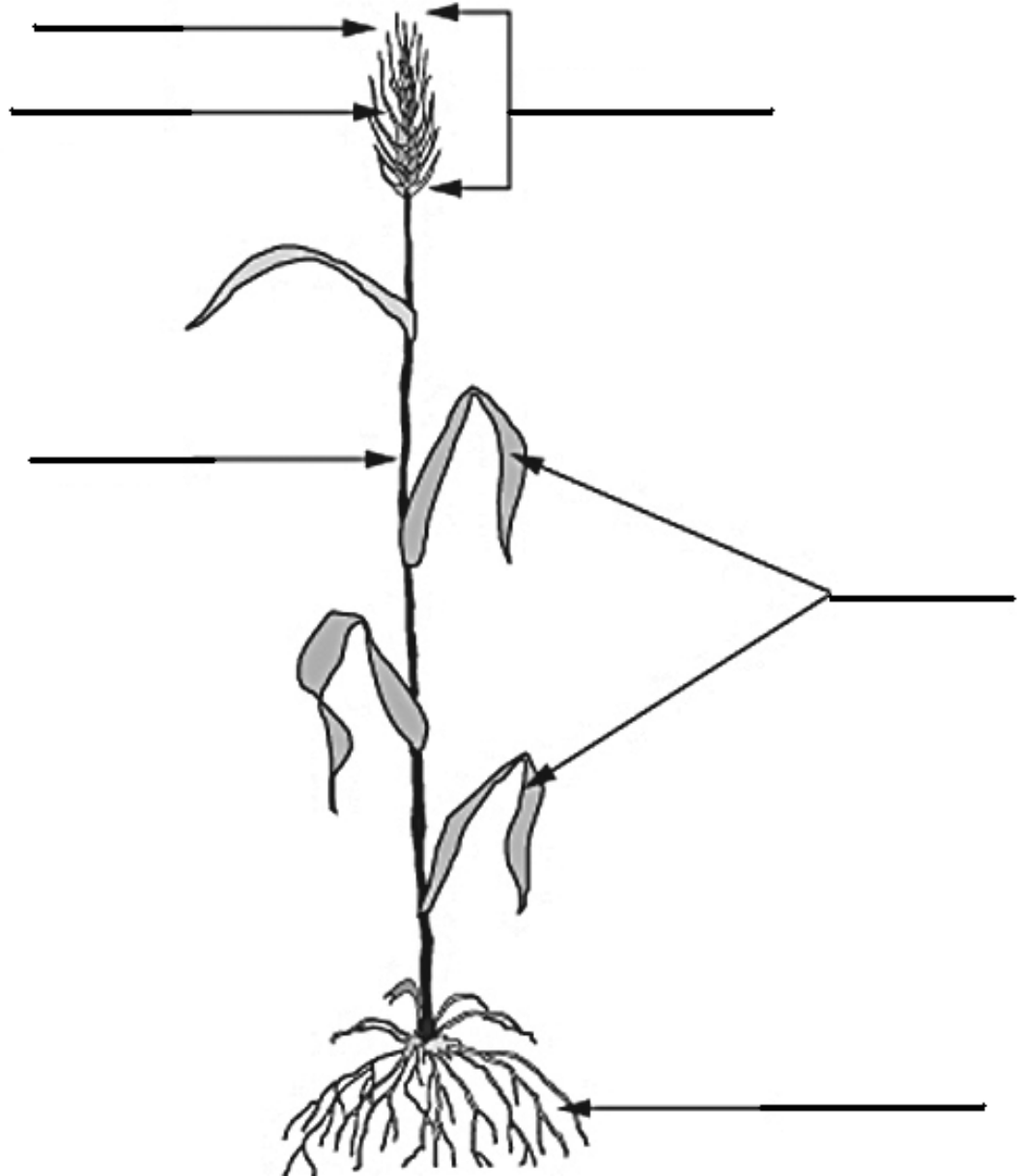
Name \_\_\_\_\_

# The Wheat Plant

A

Fill in the parts of the wheat plant.

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



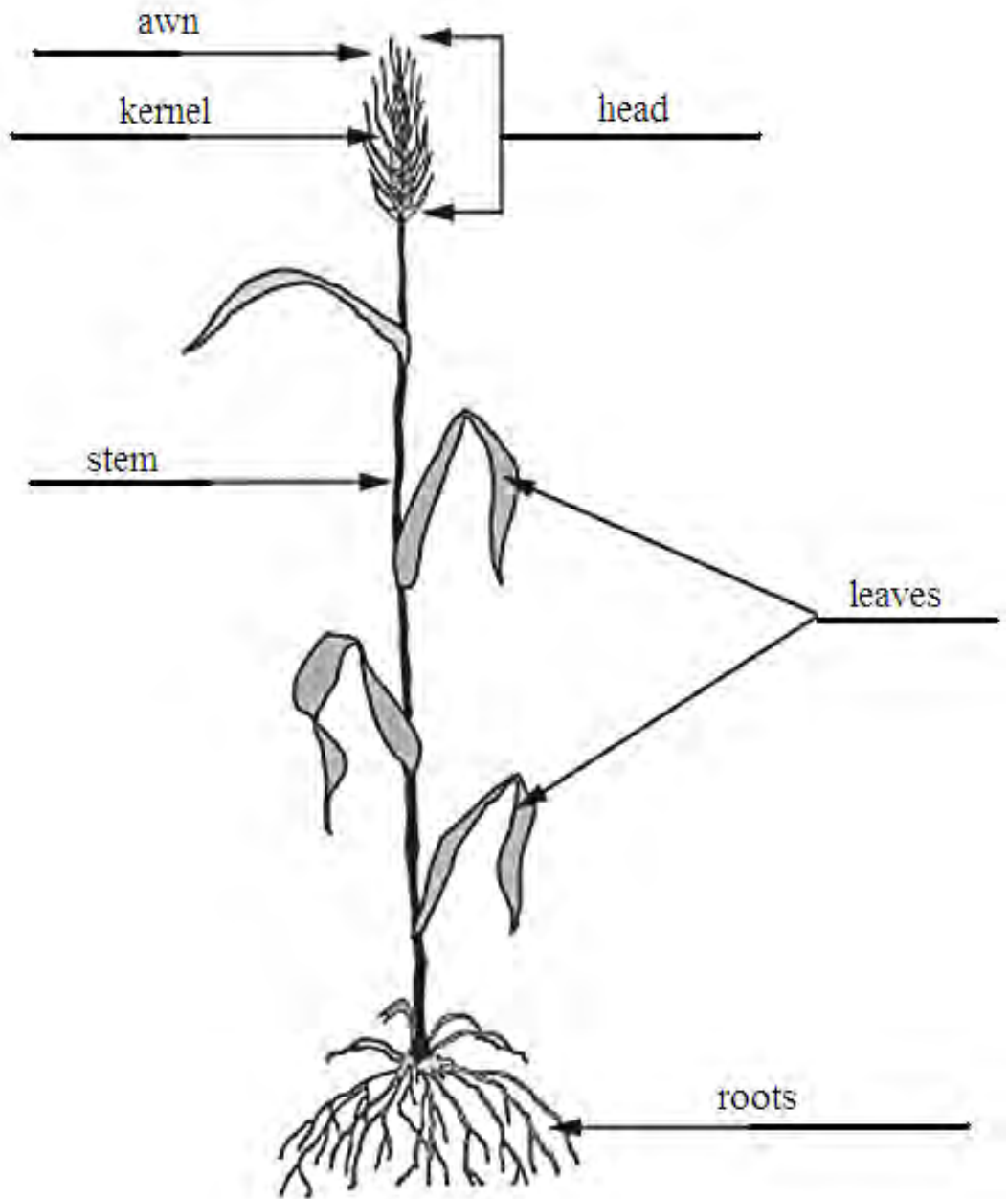
Name \_\_\_\_\_

# The Wheat Plant (Answers)

A

Fill in the parts of the wheat plant.

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



Name \_\_\_\_\_

# The Wheat Plant

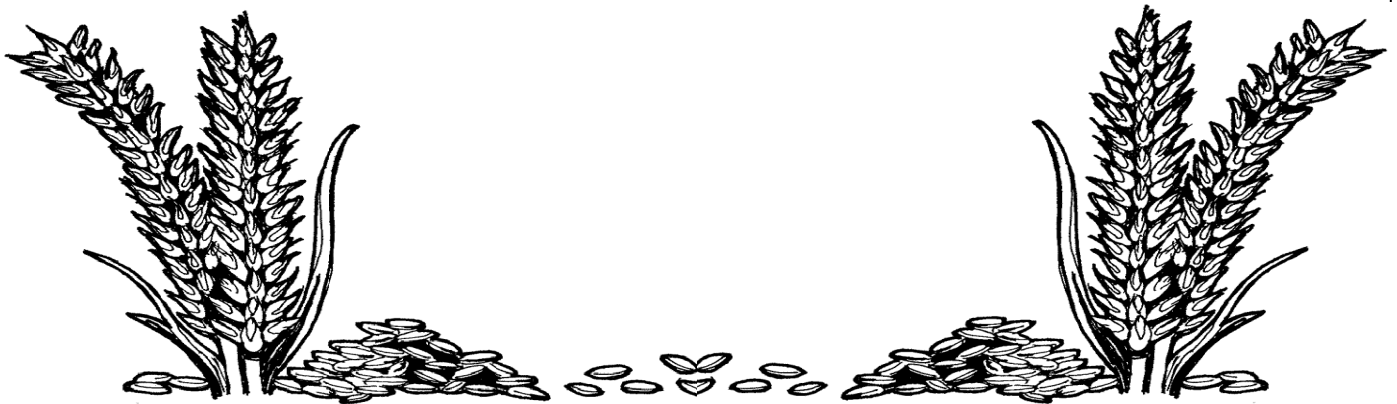
B

Most California farmers grow a kind of wheat called winter wheat. This wheat is planted in the fall or winter and harvested in the spring or summer.

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 grow tall and develop green leaves.

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



Name \_\_\_\_\_

# The Wheat Plant

C

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



- \_\_\_ The wheat is harvested.
- \_\_\_ A shoot grows up through the soil.
- \_\_\_ The full-grown plant turns from green to tan to a golden color.
- \_\_\_ The plant grown tall and develops green leaves.
- \_\_\_ Before planting, the farmer prepares the soil.
- \_\_\_ 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)

C

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



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



**Skills:** Language Arts, Science

**Objective:** The student will read some paragraphs about wheat production and identify the main idea and supporting statements for each one.

## Background

Most California wheat producers grow winter wheat. Late in the summer, they prepare the soil for planting. They drive a tractor that pulls the plow through the fields. The plow turns the soil over and kills all the weeds. Then the farmer connects the tractor to a disk harrow and drives it over the field. The disk harrow breaks the soil down into smaller pieces. When the soil is ready for planting, the farmer uses a grain drill to plant the seed.

Each plant grows by producing more leaves and new stalks from the base of the plant. The new stalks are called “tillers.” In the spring, the warm moist days make the wheat plants grow quickly. Each tiller can form another head of wheat.

Most varieties of wheat grow between two and four feet tall. During the early summer, the plants begin to fade from dark green to tan and then to a golden brown. Then the wheat is ripe and nearly ready for harvest.

Now the wheat producer must determine the best time to harvest. Many farmers take a sample of wheat to the local elevator for testing. There the wheat is checked to see if it’s dry enough. Some farmers may check their wheat the “old-fashioned” way. They rub a wheat head between their hands, blowing the chaff away and then chewing some of the grain. If the kernels crack easily and get soft as they are chewed, the wheat is ready to harvest.

The farmer drives a combine across the fields to harvest the grain. When the storage bin of the combine is full, he empties it into a truck. Someone else drives the truck to the nearby grain elevator. Workers at the grain elevator help empty the wheat into a very deep pit or pile on the ground. Machinery in the grain elevator raises, or elevates, the wheat into a tall bin.

The wheat stays in the grain elevator until the farmer is ready to sell it. Workers keep an eye on the wheat kernels to make sure they stay cool and dry. If the wheat kernels get wet or too hot they will spoil. Some of the wheat is sold to people who use it to make food for people and animals. The rest is cleaned and saved until it is time to plant again. One kernel of wheat can grow several hundred new kernels next harvest. The wheat that is sold for food is taken to a mill. At the mill, huge machines grind the wheat kernels into flour. First the wheat must be cleaned several times. A series of disks separate the wheat kernels from other weed seeds, dirt and small stones. A giant magnet removes any metal pieces, like nuts or rivets that might have shaken loose from the farm machinery and fallen in with the wheat.

## Materials

paper towel  
wheat kernels

## Ag in My Community

1. Invite a wheat producer to class to talk about the daily routine on a wheat farm.
2. Visit a bakery and watch the end process of the wheat cycle.

Finally the kernels fall into a giant water bath where any remaining stones or other heavy materials drop to the bottom. Light materials float to the top and are washed away. Now the wheat is cleaned and ready to be milled.

Rollers crack the kernels into smaller pieces. Huge machines shake the wheat pieces through several screens to make the pieces even smaller. If the wheat is to be made into white flour, air currents blow the bran – the outer layer of the kernel – away from the rest of the wheat. The wheat bran and germ that have been removed are used in animal feeds. The pieces are now ready for grinding. Smooth rollers grind the wheat finer and finer. After grinding, the wheat is sifted through more screens, sometimes as many as 25 times. Each screen has smaller openings than the one before. Special ingredients are added to age the flour and whiten it. Vitamins and iron are also added to replace those that have been removed with the wheat germ and bran. Now the flour is ready for baking.

## Language Arts

1. Read and discuss background.
2. Hand out the student worksheets.
  - a. Review with students the method used to identify the main idea and supporting details of a paragraph.
  - b. Read the worksheet directions with your class.
  - c. Students will complete the worksheets.
  - d. Students will cut out the worksheet pages and staple them together to make a booklet.
3. Students will summarize or write the main idea of each paragraph in their own words.
4. Students will set up a display in the library or media room showing the different stages of wheat.
  - a. Students will draw pictures of the different stages or acquire samples of wheat in the different stages of growth (clean wheat, sprouting wheat, stalks with wheat heads still attached, wheat with the “thresh” still in it).
  - b. Students will record messages for each stage to make the exhibit a self-guided display
5. Bring white flour, whole wheat flour, wheat germ and wheat bran to class.
  - a. Students will examine and write compare/contrast paragraphs.
6. Bring samples of white, part whole wheat and 100 percent whole wheat bread to class.
  - a. Students will taste and write descriptions of the differences in texture.

## Extra Reading

Barton, Bryan (illustrator), *Little Red Hen*, HarperCollins Juvenile, 1997.

Ada, Alma Flor, Zubizarreta, Rosa, and Simon Silva, *Gathering the Sun: An Alphabet in Spanish and English*, Lothrop, 1997.

## Vocabulary

**bin** – a box, frame, crib, or enclosed place for storage

**blade** -- the cutting part of a tool

**bran** – the edible broden coat of the seed of a cereal grain left after the grain has been ground and the flour or meal sifted out

**dormant** – having growth or other biological activity much reduced or suspended

**combine** – a machine that harvests, threshes, and cleans grain while moving over a field

**disc** – a tilling implement (as a plow) with sharp-edged circular cutting

**elevator** – a building for elevating, storing, unloading, and sometimes grinding grain

**germ** – the embryo in the seed of a cereal (as corn or wheat) together with its cotyledon that is usually separated from the starchy part of the seed during miling

**grain** – the edible seed or seedlike fruit of grasses that are cereals

**kernel** – the immer softer part of a seed, fruit stone, or nut b  
: a whole grain or seed of a cereal (as wheat or corn)

**mill** – a building with machinery for grinding grain into flour

**tiller** – a stalk or sprout from the base of a plant or from the axils of its lower leaves


Name \_\_\_\_\_

# Wheat: From Field to Oven

A

Read the paragraphs below, and find the sentence with the main idea. Write the sentence on the lines below each paragraph.

1. Clarence and Susie Brown grow winter wheat. They plant their wheat in the fall. In the summer, the Coldwaters harvest their wheat.



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2. Before they plant their wheat, Clarence and Susie must till the fields to get rid of all the weeds. Then they work the soil to break the large clumps into smaller pieces. Getting ready to grow wheat is not an easy job.



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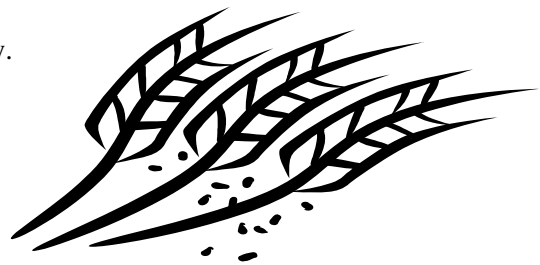
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# Wheat: From Field to Oven

Read the paragraphs below, and find the sentence with the main idea. Write the sentence on the lines below each paragraph.

3. In the spring the warm, moist days make the wheat plants grow quickly. More stalks of wheat sprout from the root. This is called "tillering." Each tiller can form a head of wheat.



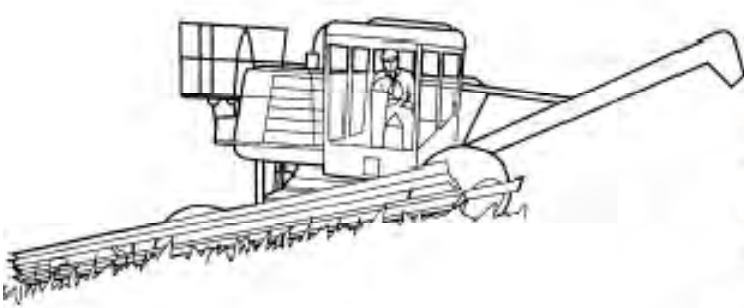
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4. The Browns couldn't grow wheat if they didn't have the right kind of machinery. They use a plow and harrow to prepare the field. A grain drill helps them plant the wheat, and they harvest it with a combine. After the wheat is harvested, Clarence and Susie load the wheat on a truck and haul it to the grain elevator.

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Name \_\_\_\_\_

# Wheat: From Field to Oven

C

Read the paragraphs below, and find the sentence with the main idea. Write the sentence on the lines below each paragraph.

5. After wheat is harvested, the farmer must get it to the mill. Wheat can be transported in many different ways. It can be shipped by barges over water. It can be loaded onto rail cars and moved by train, or it can be hauled by trucks along interstate highways.

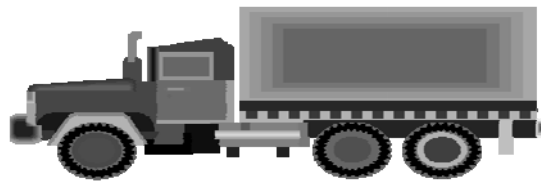
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6. At the mill, workers test the wheat to decide what kind of flour they can make from it. If the wheat is soft they use it to make flour that can be used in making cakes and pastries. If it is hard they make flour that keeps well and can be used for making bread. Durum wheat is the hardest kind of wheat. It can be used for making macaroni, spaghetti and noodles.



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Name \_\_\_\_\_

# Wheat: From Field to Oven

D

Read the paragraphs below, and find the sentence with the main idea. Write the sentence on the lines below each paragraph.

7. The wheat must be cleaned several times before it is ground into flour. Several disks separate the wheat kernels from other weed seeds, dirt and small stones. A giant magnet removes any metal pieces that have fallen in with the wheat. Finally the kernels go into a giant water bath. Heavy materials sink to the bottom. Light materials float to the top and are washed away.

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8. Now it is time to grind the kernels into flour. First rollers crack them into smaller pieces. Then the huge machinery shakes them through several screens to make the pieces even smaller. If the wheat is to be made into white flour, air currents blow the bran away from the rest of the wheat. The bran is the outer layer of the wheat kernel. Smooth rollers grind the wheat finer and finer. Then the wheat is sifted through more screens, sometimes as many as 25 times. Each screen has smaller openings than the one before.

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# Wheat: From Field to Oven

Read the paragraphs below, and find the sentence with the main idea. Write the sentence on the lines below each paragraph.

9. After the flour has been ground, workers add the extra ingredients. Some ingredients age the flour. Others whiten it. Vitamins and iron are also added to replace those that have been removed with the wheat germ and bran. Now the flour is ready for baking.




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10. People buy the flour from the grocery store and take it home. Sometimes they use it to make birthday cake or cookies for classroom parties. Sometimes they make biscuits or pancakes for breakfast. Sometimes they use it to make bread. Wheat can be prepared in many different ways to make nutritious, delicious food.



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