



# AgMag Jr.

## Teacher Guide Issue 1, 2014/15

Initiated in 1986, MAITC is a unique public/private partnership between the Minnesota Department of Agriculture and the MAITC Foundation. The overall program goal is to advance agricultural literacy to all learners, especially K-12 students and educators. MAITC's mission is "to promote understanding and awareness of the importance of agriculture."

We are pleased to offer the unique and free AgMag Jr. series. The AgMag Jr. is written and targeted at FIRST GRADE. The magazine is sent early in the school year for beginning readers. Teachers have flexibility to use the magazine when the reading level of their students matches the reading level of the magazine. Other primary grade educators may also use as appropriate. However, it is important to note there is NOT different content written for each grade, so using at multiple grades can be duplicative. We publish two issues each school year, coming to you in October and January. Enjoy!

The AgMag Jr. series is made possible due to the generous financial support of AgStar Financial Services, a long-time supporter of the MAITC education program.

### Why Ag in the Classroom?

In times past, people were very aware of the role agriculture played in their lives. It meant survival! Nearly everyone—men, women and children—worked the land.

Agriculture still means survival. That will never change. But as time goes on, fewer and fewer people have close contact

with farming. They're not aware of their own—and the nation's—total dependence on agriculture. Think about it.

- Less than 2 out of 100 Americans work directly in production agriculture (farming). This small group meets the food and fiber needs of the nation as well as many people abroad.
- Agriculture, along with its related occupations, is the nation's largest industry. It generates billions of dollars each year; one out of every five jobs depends on it in some way.

Agriculture is constantly changing. But one thing is constant: it is a vital part of your day! Even as early as the primary grades, it is important for students to gain an understanding and appreciation for the ways agriculture touches their lives, each and every day. Food does not magically appear in the grocery store or on the kitchen table. It all starts with agriculture.

#### MINNESOTA AGRICULTURE IN THE CLASSROOM

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**Minnesota School Gardens: A Guide to Gardening and Plant Science**  
Featuring 31 K-12 lessons linked to the Minnesota Academic Standards

For your FREE copy go to [www.mda.state.mn.us/maitc](http://www.mda.state.mn.us/maitc) and click on School Garden Guide.

### Minnesota Academic Standards Connection

Subject	Standard Code	Benchmark
Social Studies	0.2.1.1.2	Identify goods and services that could satisfy a specific need or want.
Social Studies	1.1.1.1.1	Demonstrate ways good citizens participate in the civic life of their community; explain why participation is important.
Science	0.4.2.1.1	Observe a natural system or its model and identify living and non-living components in that system. For example: A wetland, prairie, farm, garden or aquarium.
Science	1.4.3.1.1	Demonstrate an understanding that animals pass through life cycles that include a beginning, development into adults, reproduction and eventually death.
Math	1.1.1.7	Use counting and comparison skills to create and analyze bar graphs and tally charts.
English Language Arts	1.2.7.7	Use the illustrations and details in a text to describe key ideas.



Enhance and extend your AgMag Jr with interactive activities.  
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# Glossary

**ACRE:** A way to measure land. An acre is about the size of a football field (43,560 sq. ft.).

**AGRICULTURE:** Growing plants and raising animals that people use for food, clothing and many other things every day. It's also harvesting those farm products and getting them to us so we can use them.

*(Adult notes: Agriculture is the industry that grows, harvests, processes and brings us food, fiber, fish, forests, sod, landscaping materials and more. Agriculture uses soil, water, sun and air to produce its products. Agriculture starts on farms, orchards, gardens and ranches with the growing and the harvesting of crops and livestock. It continues as farm products move to processing plants and finally travel as finished products to stores, farm markets, lumberyards, greenhouses and more where consumers buy the products. Agriculture is connected in some way with almost everything we eat, wear and use.)*

**Quote from an Unknown Source:** "Agriculture is not simply farming. It's the supermarket, the equipment factory, the trucking system, the overseas shipping industry, the scientist's laboratory, the houses we live in, and much more. It has an affect on the air we breathe, the ground we walk on, the water we drink, and the food we eat."

**BY-PRODUCTS:** A part of a plant or animal used for something other than its main purpose. (Examples: Hogs are mainly raised for meat, but by-products include fats for soaps, leather for pigskin products, hair for brushes, etc. Soybeans are mainly raised for animal and human food, but soy is also found in candles, lotions, ink, paint, fuels and more.) By-products are sometimes called co-products.

**CROPS:** Plants that are grown and harvested to feed people and animals or to make other things people need.

**FARM:** Areas of land where plants and animals are grown or raised for food, clothing and more.

**FARMER:** A person who lives and works on a farm. He or she provides us with products we need and use every day. Farming is a career; farmers make money by selling their farm products. Farmers are also called producers.

**FARM (Agriculture) PRODUCTS:** Animals or plants raised on farms, or products made from them. Raw materials often must be changed (processed) to be of use. Example: Sheep are sheared to produce wool, but a hunk of raw wool has no practical purpose to someone who needs clothes. The wool is cleaned and processed into yarn, fabric and eventually clothing, which are woolen products people can use.

**FIBER:** The raw product for fabric such as cotton and wool.

**FORESTRY:** Growing and managing forests. In the sense of farming, it is the growing of trees to provide paper and wood products.

**LIVESTOCK:** Farm animals raised for food, clothing and other products or uses.

**ORCHARD:** Land that is used to grow fruit or nut trees.

**POULTRY:** "Bird" types of farm animals raised for meat and eggs. Chickens, turkeys, ducks and geese are kinds of poultry.

**RENEWABLE RESOURCE:** A resource that can be regrown and replenished in a short period of time. Ethanol (from corn) and biodiesel (from soybeans) are examples of renewable fuels. When we need more of these fuels, we grow more crops.

# Discussion Prompters

## AgMag Jr. Cover—What is Agriculture?

(See Agriculture in the Glossary. The goal of the first three pages of your AgMag Jr. is to define agriculture and guide students to think about how many things in their everyday worlds are connected to agriculture.)

1. What is agriculture? *(Invite students to offer their own definitions. Some may say "farming" or "milking cows." Agriculture starts on the farm, but includes all the people and places who harvest the farm crops, change them into forms we can use and get them to stores where we can buy them. It is all the businesses and workers who get food, clothing, furniture, landscaping trees, lumber and more from the farms to our homes, schools and communities.)*
2. Who were the first farmers? *(Many years ago, American Indians lived on the land where we live today. The Indians hunted deer, buffalo and small animals in the forest. They raised crops (corn, squash and beans) and harvested nature's crops (berries, nuts, maple syrup, wild rice). All their food, homes, clothing, weapons and toys came from the land and water. Many of the foods we eat at Thanksgiving and year around are thanks to American Indians.)*
3. How has the job of the farmer become easier today than it was long ago? *(Modern machinery has replaced horse or oxen power and old-fashioned tools. Scientists have developed plants that can grow in many different weather and soil conditions. Animal nutritionists and veterinarians help keep farm animals healthy.)*
4. Do you know someone whose job is connected to agriculture? How?
5. Some students may need help connecting items at the bottom of the page back to their plant and animal sources. Discuss as a class, then invite them to write "a" for items originating as animals, "p" for items originating as plants.

**Answers:** woolen mittens (a); football (a); cereal (p); chicken (a); apple (p) and hockey stick (p).

## Page 2—Agriculture is in your home and school.

Discuss how each of the items on this page is connected to agriculture and invite students to circle the home items and box the school items they have.

1. Food comes from agriculture. What products of agriculture do you think were used to make these home items?  
**Answers:** food, paint (animal fats, soy and vegetable oil); blue jeans (cotton); newspaper (tree pulp, soy ink); bed and bedding (cotton sheets, perhaps wool blanket, some pillows have feathers, wood from trees); shoes (cotton canvas, rubber, cotton shoelaces); soap (may have many different ingredients including soy and other vegetable oils, fats from cattle, scent oils like almond, coconut or mint, honey, beeswax, wheat germ, oatmeal and lanolin from sheep); chair (wood from trees).
2. School meals come from agriculture. What products of agriculture do you think were used to make the things you use at school?  
**Answers:** pencil, paper in books, paper bags, school furniture, (wood from trees); crayons (soy oil, animal fats); glue (many today are made of non-toxic synthetic polymers, but some have tapioca or proteins from milk); ink in books (soy); backpack (may be cotton materials).

### Page 3—Agriculture is everywhere in your community

Discuss each of the photos and invite students to tell how each activity connects to agriculture. (*Sports clothing and equipment: hockey sticks from wood and pads from leather, etc. Eating, grocery shopping, animals and visiting an orchard have obvious agricultural connections. Library books and papers are from trees.*)

1. What other things do you like to do at play and in the community? What are the agriculture connections?
2. Did you go to a county or state fair? What signs of agriculture did you see?
3. There are many different kinds of apples. What is your favorite?
4. Like you, what do plants and animals need in order to grow? (*Plants need air, water, soil and sunlight. Animals need all the same things plus their own kinds of food. Foods that animals eat depend on plants, too.*)

### Page 4—Pizza and Agriculture

1. What's in your favorite pizza?  
Fun Fact: As a nation, we eat 100 acres (100 football fields) of pizza per day. That's 350 slices every second! Most Americans prefer pepperoni on their pizza.
2. Pizza Picks: This activity represents an easy logic exercise. Depending on your children's experience with similar activities, you may want to vary the directions to match your group. For example:

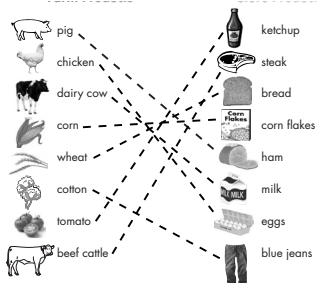
1. Joe does not like pizza with meat. Put a smiling face under the pizza he likes.
2. Ann likes pizza with toppings that begin with the same letter as "pizza." Put a smiling face under the pizza Ann likes.
3. Juan likes meat, but not pepperoni. Put a smiling face under Juan's choice.

**Note:** As an added activity, some teachers have students put an X under the pizzas each child does **not** choose.

**Answers:** Ann likes pepperoni. Juan likes hamburger. Joe likes veggie.

### Answers: Reproducible Activities

#### Where does it come from?



#### What happens first?

In order: Growing, Harvesting, Changing, Selling, Eating

#### Farm Animal Babies

Chick's mother is hen.  
Father sheep is ram.  
Ewes might have 1 to 3 babies.  
Who am I? sheep

### Moov...ve Over and Read! Literature Connections

- *Allison's Zinnia* by Anita Lobel
- *Beekeepers* by Linda Oatman High
- *Beef – An A to Z Book* by Susan Anderson & JoAnne Buggiey
- *Corn – An A to Z Book* by Susan Anderson & JoAnne Buggiey
- *Corn* by Gail Gibbons
- *Corn Is Maize* by Alike
- *Cotton – Now & Then* by Karen Bates Willing & Julie Bates Dack
- *Dirt – The Scoop on Soil* by Natalie M. Rosinsky
- *Extra Cheese, Please! Mozzarella's Journey From Cow to Pizza* by Cris Peterson
- *From Seed to Maple Tree* by Laura Purdie Salas
- *From Wheat to Bread* by Kristin Thoennes Keller
- *Growing Vegetable Soup* by Lois Ehlert
- *Harvest Year* by Cris Peterson
- *How Groundhog's Garden Grew* by Lynne Cherry
- *Living on Farms by Allan Fowler*
- *Pigs – An A to Z Book* by Susan Anderson & JoAnne Buggiey
- *Plant Plumbing* by Susan Blackaby
- *Pumpkin Pumpkin* by Jeanne Titherington
- *Red Leaf, Yellow Leaf* by Lois Ehlert
- *Soybeans – An A to Z Book* by Susan Anderson & JoAnne Buggiey
- *Sugarbush Spring* by Marsha Wilson Chall
- *The Long Way to a New Land* by Joan Sandin
- *The Long Way Westward* by Joan Sandin
- *The Milk Makers* by Gail Gibbons
- *The Seasons of Arnold's Apple Tree* by Gail Gibbons
- *The Tree Farmer* by Chuck Leavell & Nicholas Cravotta
- *The Vegetables We Eat* by Gail Gibbons
- *Too Many Pumpkins* by Linda White & Megan Lloyd
- *Tops and Bottoms* by Janet Stevens

### Teacher's Grab Bag

#### Recipe for Corn Putty

Play with it like clay, and then watch it become liquid again.

- 1 cup cornstarch
- ¼ cup + 1 tablespoon water
- food coloring

Blend mixture with fork. It should flow when the bowl is tipped but feel solid when you touch it. If it's too thick, add a little water. If it's too runny, add a little cornstarch.

# Where does it come from?

Match up the farmer's product to the store product.

## Farm Products



pig



chicken



dairy cow



corn



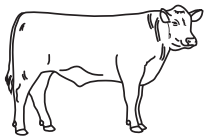
wheat



cotton



tomato



beef cattle

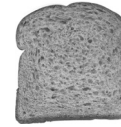
## Store Products



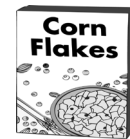
ketchup



steak



bread



corn flakes



ham



milk



eggs



blue jeans

## Did *YOU* know?

Sheep's wool is used in the toes of ballet shoes to cushion the toe when standing on it.



Have a ball with agriculture!  
The hide from one steer can make 20 footballs!

# What happens first?

Cut the pictures apart.  
Paste them on another  
piece of paper in the right  
order. Then tell the story of  
how the apples get from  
the orchard to your table.



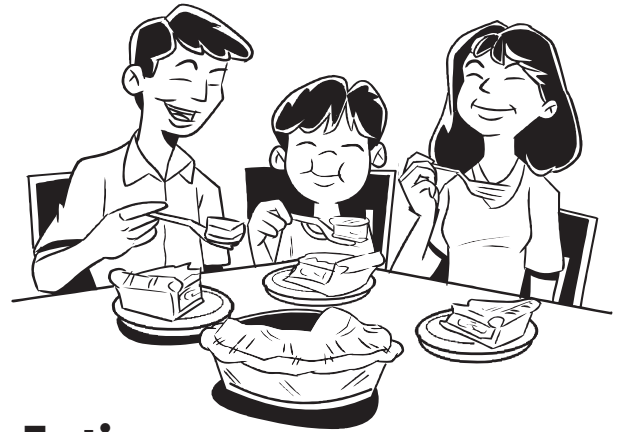
## Harvesting

Apples are picked from the trees.



## Changing

Apples are washed and sorted.  
Some are made into pies.



## Eating

Families eat fresh apple pies.



## Growing

Apples grow on special farms  
called **orchards**.

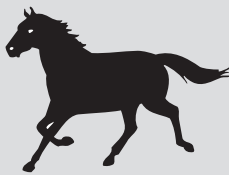
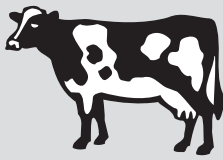
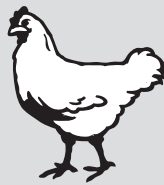



## Selling

The pies travel by truck to the store.  
Your family buys the pies.

# Farm Animal Babies

Farmers raise farm animals.

	 horse	 cattle	 chicken	 sheep
Mother's name	mare	cow	hen	ewe
Father's name	stallion	bull	rooster	ram
Baby's name	foal	calf	chick	lamb
Number of babies	1	1	12 to 15	1 to 3

What is the chick's mother's name?

\_\_\_\_\_

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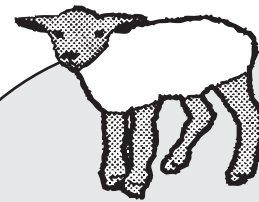
\_\_\_\_\_

What is the father sheep called?

\_\_\_\_\_

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\_\_\_\_\_



How many babies might a ewe have?

\_\_\_\_\_

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\_\_\_\_\_

## Who am I?

Use a word from the gray picture row in the graph.

My coat can be shaved to make wool. Like your hair, it always grows back.

\_\_\_\_\_

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\_\_\_\_\_