



4-6 Ag-tivity Book

Minnesota Agriculture in the Classroom
www.mda.state.us/maitc

AG-TIVITIES GRADES 4-6

Table of Contents

About this Book	2
Farming is Everybody's Bread and Butter (Word Game).....	3
Wild About Ag (Vocabulary Development).....	4
Animal Care (Animal Welfare)	5
Trash to Treasure (By-products)	6
Can This Bee Math? (Bees).....	7
Wheat Whiz (Wheat Products).....	8
First Farmers (Indian History).....	9
Aggie's Antiques (Historical Tools).....	10
Minnesota Ag Trivia	11
Earth-Friendly Agriculture (Sustainable Farming)	12
Help Wanted! (Careers).....	13
Grow in Agriculture (Careers)	14
The Ripple Effect (Ag Economics).....	15
What Am I? (Vocabulary Game).....	16
Where in Minnesota (Livestock Production).....	17
Where in Minnesota (Cropland Distribution)	18
Minnesota Connection (Imports/Exports).....	19
Ag from A to Z (Products/By-products).....	20
Plant Power (Corn)	21
Country Scramble (Spelling, Handwriting)	22

Resources

Ag Related Words.....	23
Activity Ideas	
Language Arts.....	24
History, Social Studies	25
Science, Environmental Education	26
Health, Nutrition	27
Math	29
Creative Arts.....	30
Top Ten Rankings.....	31
Take a Trip to the Minnesota Farm - map	32
Minnesota's Physical Resources	33
Minnesota Map.....	34
Answers.....	35

ABOUT THIS BOOK

This book includes a handy collection of ready-to-use activity sheets that integrate agriculture into basic school subject areas. The activities are ideal for use in classrooms, community organizations or anywhere young people could benefit from learning more about agriculture.

Check out the collection of fast-paced “Five-Minute Ideas” when there are only a few minutes to spare. “For More Fun and Learning” activities offer more extended learning experiences in agriculture. Enjoy!

Why Agricultural Awareness Education for Young People?

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:

- Only about two out of one hundred Americans work in production agriculture (farming). This small group meets the food and fiber needs of the entire nation as well as many people abroad.
- As time goes on, fewer and fewer people have any first-hand contact with farms and farming. And for many people, farms and farming are their main or only view of agriculture. They're simply not aware of the vast range and impact of the agricultural system or society's dependence upon it.
- Agriculture (with its related occupations) is the nation's — and the world's — largest industry. It generates billions of dollars each year and one out of every five American jobs depends on it in some way. Agriculture has a huge impact on the American economy and on the prices Americans pay for their basic needs — food, clothing and shelter. Agriculture influences the country's international balance of trade and directly affects the number — as well as kinds — of jobs throughout the world.

- Fewer students today pursue agricultural careers. Along with a very limited knowledge of agriculture itself, there seems to be a widespread and false belief that agricultural careers are largely production farming and low-income jobs. In reality, there are growing demands and excellent career opportunities for well-educated, qualified people in many of the thousands of occupations associated with agriculture. Agriculture needs good people.
- Agriculture is at the heart of global dependence and interdependence. For developed countries, agriculture is at the core of international trade and economics. For less-developed countries, agriculture often means the difference between life and death.
- World population is now over 6.8 billion. If the current growth rate continues, the number of humans on the planet could double again to 13 billion by 2050. Most of these people will live in less-developed, lower-income countries with limited natural resources. Most of the population will live in cities. Urban dwellers are consumers — rather than producers — of food, energy and materials.

Agriculture will continue to face huge challenges to meet the needs of a growing world population. And tomorrow's citizens must be agriculturally literate in order to make responsible and moral decisions — personally and collectively — about this giant global lifeline. Building that literacy and awareness in future leaders is the goal of agricultural awareness education.

Comments, questions and feedback about agricultural education for youth are always welcome. Contact Al Withers, Program Director, Minnesota Agriculture in the Classroom, 625 Robert Street North, St. Paul, MN 55155; (651) 201-6688; alan.wither@state.mn.us

Name _____

HAVE YOU SEEN THIS BUMPER STICKER?

**FARMING
IS EVERYBODY'S
BREAD and BUTTER**

The American farm is our food source. It provides us with the meats, grains, dairy and other products we need. Minnesota farmers are some of the most productive crop and livestock producers in the United States. You, too, may be a farmer if you garden and grow some of your own food at home.

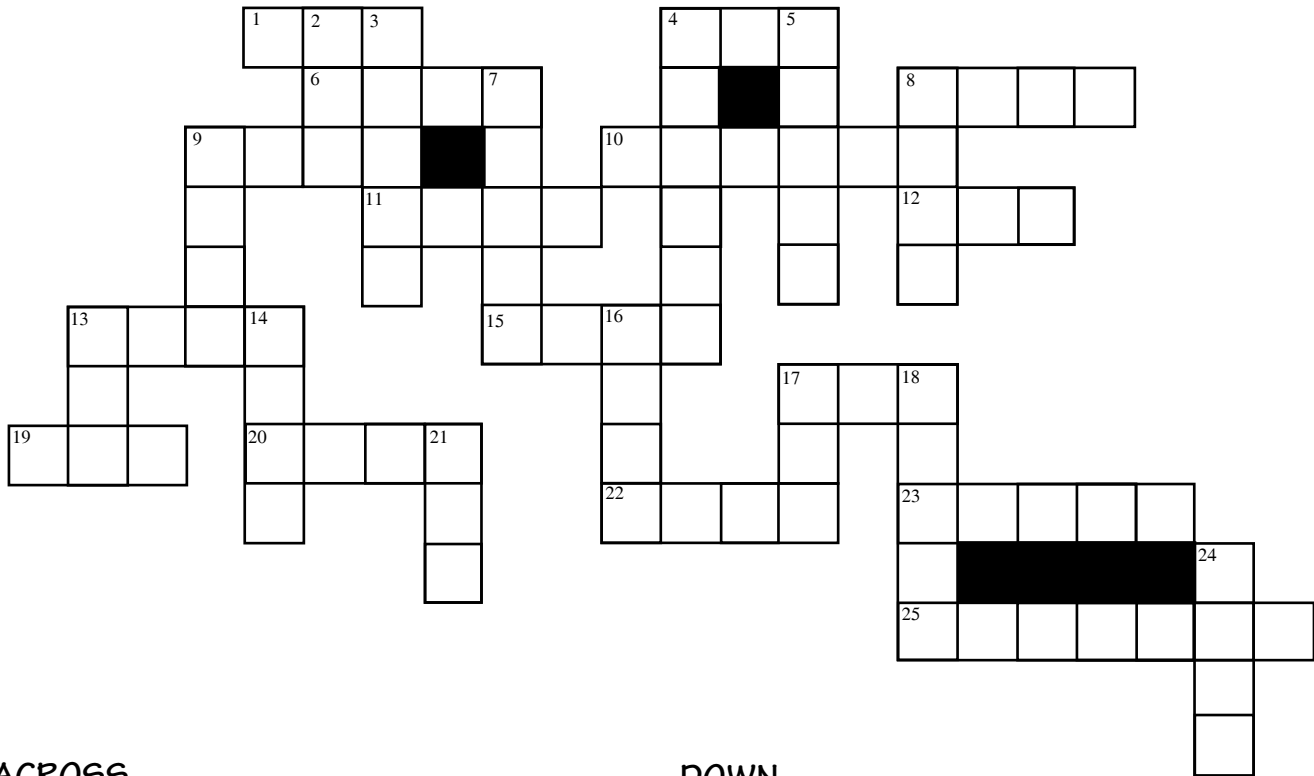
Just for fun, find and write words of three or more letters from the words in this bumper sticker. Plurals are allowed. You may not repeat a letter in a word unless there are two or more of that letter in the phrase. There are over 750 words. **How many can you find?**

_____	_____	_____
_____	_____	_____
_____	_____	_____
_____	_____	_____
_____	_____	_____
_____	_____	_____
_____	_____	_____
_____	_____	_____
_____	_____	_____
_____	_____	_____
_____	_____	_____
_____	_____	_____
_____	_____	_____
_____	_____	_____
_____	_____	_____
_____	_____	_____
_____	_____	_____
_____	_____	_____
_____	_____	_____

Turn your paper over if you need more space!

Name _____

WILD ABOUT AG



ACROSS

1. Another name for pig.
4. Another name for hog.
6. Sheep give us this.
8. Offspring of a cow.
9. They say if you wave something red in front of him, he'll charge you.
10. It's red and is good in a salad.
11. Like a lemon, only it's green.
12. Adult male sheep.
13. They sit on their eggs.
15. It's tiny when it's planted in the ground.
17. A green vegetable.
19. Grain flour in a type of bread. Rhymes with pie.
20. This drink comes from cows.
22. Another word for dirt.
23. Baby turkey.
25. Loss of soil due to wind or water.

DOWN

2. It gives a hoot.
3. Gee!
4. The farmer _____ the field.
5. "For amber waves of _____."
7. Baby sheep (plural).
8. We eat this "on the cob" in the summertime.
9. Home to a cow.
13. Farmers bale this.
14. If it doesn't change, it's the _____.
16. A hen product. You can eat them scrambled, boiled, fried.
17. A friend.
18. Most widely grown fruit in the world.
21. Baby goat.
24. Product from trees.

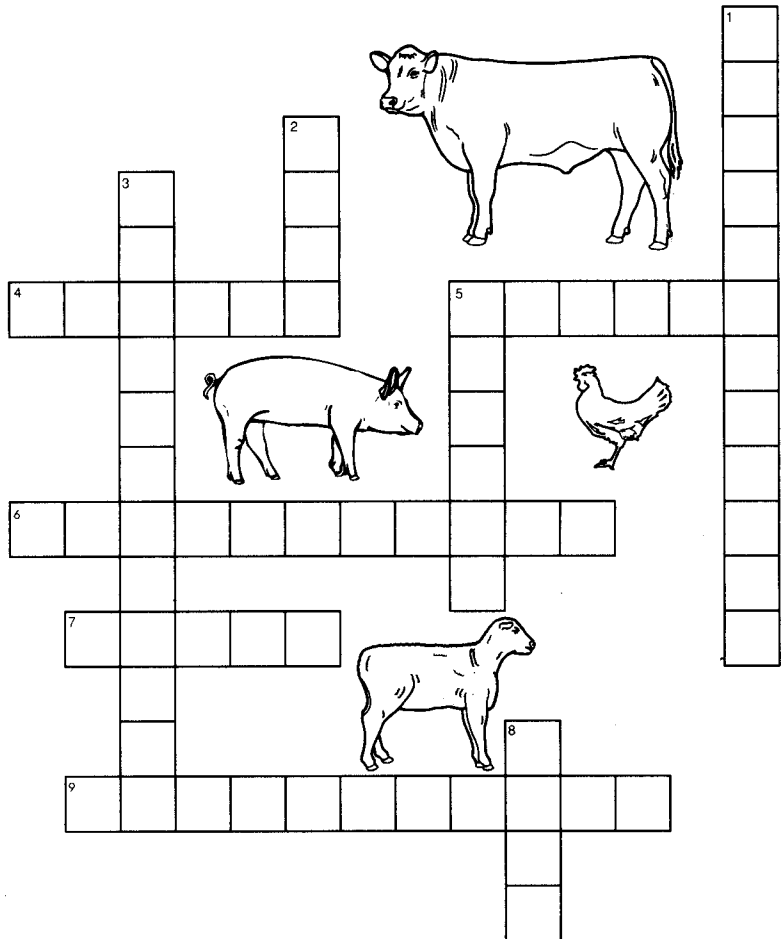
Name _____

ANIMAL CARE

Complete this crossword puzzle to learn just some of the ways farmers care for their animals.

ACROSS

- Livestock are fed a balanced _____ for proper nutrition.
- _____ means to remove the horns of cattle to prevent them from hurting people and each other.
- A word that describes keeping livestock inside buildings or fences for their safety and for protection against weather.
- A sow (a mother pig) is usually housed in a large farrowing _____ so she can't accidentally lay down on the baby pigs.
- Animals are provided with a clean, dry _____ to be most comfortable and productive.



DOWN

- Just like people, animals are given _____ to immunize them against infectious diseases.
- Shortly after birth, baby pigs are given a shot of _____ to help prevent anemia.
- If an animal is sick, a farmer might call the _____ to treat the animal.
- The tails of sheep and pigs are _____ (removed) shortly after birth so the other sheep and pigs won't bite them later and cause infection.
- Beef calves being raised for _____ are fed a nutrient-rich milk solution for about four months.

WORD BANK (new or unfamiliar words only): confinement, crate, docked, ration, dehorn

TRASH TO TREASURE

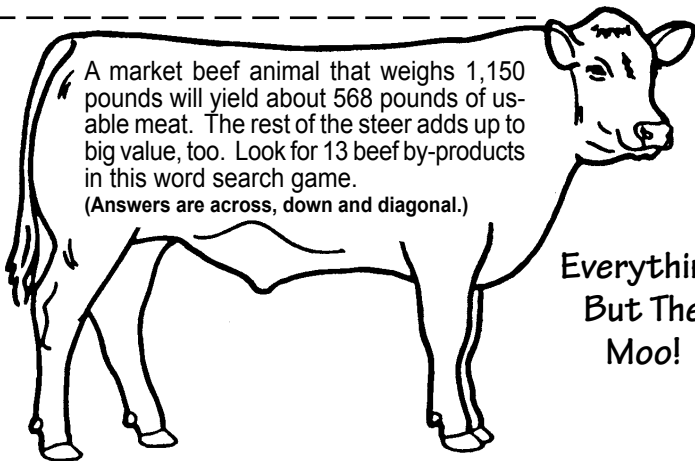
What happens to all the parts of an agricultural product that can't be used as food? They go from trash to treasure as by-products — something of value produced besides the main product. Check it out!

Makin' bacon...and more!

A hog is more than chops, ham and bacon. Nearly every part but the squeal goes into something useful! The parts of the hog not sold at the meat counter are important in our lives. You may enjoy hog by-products each time you brush your hair, pass a football, beat a drum or speed along on your skateboard. Place correct number (1-7) next to the letter indicating by-product use.

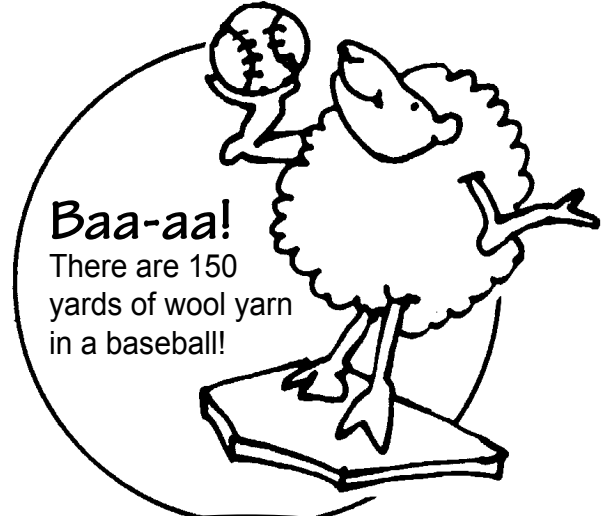
FROM THIS COMES THIS!

- | | | |
|-------------------------|----------|--|
| 1. Blood | a. _____ | Ball bearings, chewing gum, lard, paints, candles, cellophane, weedkillers, crayons, putty |
| 2. Bones, Horns, Hoofs | b. _____ | Animal feed, adhesives, plastics, fabric inks and dyes, leather finishes |
| 3. Hair | c. _____ | Gelatin, combs, umbrella handles, bone china, glue |
| 4. Pancreas | d. _____ | Valves to replace damaged human heart valves |
| 5. Heart | e. _____ | Insulin for treating diabetes in humans |
| 6. Hide | f. _____ | Air filters, bristle brushes, felt padding, upholstery |
| 7. Fats, Oils, Glycerol | g. _____ | Drum heads, footballs, wallets, harnesses, shoes, luggage, gloves, fertilizer |



A market beef animal that weighs 1,150 pounds will yield about 568 pounds of usable meat. The rest of the steer adds up to big value, too. Look for 13 beef by-products in this word search game.
(Answers are across, down and diagonal.)

Everything
But The
Moo!



Baa-aa!

There are 150 yards of wool yarn in a baseball!

Something to Quack About!

Ducks come to our tables and to other parts of the house. They provide us with luxury, comfort and warmth to stuff in our pillows, comforters, sleeping bags and winter jackets and vests.

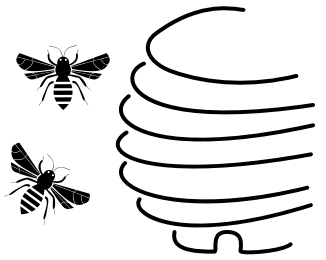
What's the name of this duck stuff?

A C L U K C N R P S V L A T
 R F E R T H F X G J N M K O
 P L A N T I F R E E Z E A L
 M A T W S N R T S V Q O C D
 S W H S A A E E B A Z U O Y
 U D E T B L N E S O A P S X
 G O R M U R X A L R D H M T
 N I L O N Y G A W T V O E L
 O P T F F I L M A E F L T Y
 E R A U W B U T T O N S I Z
 R S F Z R E E P L D N T C Q
 K B E Q A N B R U S H E S T
 J A F E R T I L I Z E R T A
 E X P L O S I V E S A Y U K

Q: How do you get down off an elephant? A: You don't. You get it from a duck!

Name _____

CAN THIS BEE MATH?



1. To gather one pound of honey a bee must travel a distance equal to at least three times around the world. How many miles will it travel? Equator = 24,900 miles

_____ miles

2. It takes 160,000 bee hours to produce one pound of pure ripened honey. How many hours would it take to make 1/2 pound of honey?

_____ hours

3. Using the information from problem one, figure out how many miles a bee must travel to make five pounds of honey.

_____ miles

4. Using the information in problem two, figure out how many hours it would take to make six pounds of honey.

_____ hours

5. A honey bee must make approximately 154 trips to and from its hive to produce a teaspoon of honey. How many trips would it take to make a tablespoon of honey? Three teaspoons = one tablespoon.

_____ trips

6. Using the information given in problem five, figure out how many trips a honey bee would make to and from its hive to make one cup of honey. Sixteen tablespoons = one cup.

_____ trips



Name _____

WHEAT WHIZ

Solve these math problems to discover the wheat products spelled by the right answers!

1.

$$\begin{array}{r} \underline{\quad} \\ 5 \overline{)60} \\ \underline{21} \\ 9 \overline{)81} \\ \underline{11} \\ 9 \overline{)18} \\ \underline{4} \\ 26 \\ \underline{-17} \\ 4 \\ \underline{\times 6} \end{array}$$

2.

$$\begin{array}{r} \underline{\quad} \\ 7 \\ \underline{\times 3} \end{array} \quad \begin{array}{r} \underline{\quad} \\ 5 \overline{)50} \\ \underline{17} \\ 36 \\ \underline{-12} \\ 5 \\ \underline{\times 5} \end{array} \quad \begin{array}{r} \underline{\quad} \\ 17 \\ \underline{+9} \end{array} \quad \begin{array}{r} \underline{\quad} \\ 36 \\ \underline{-12} \end{array} \quad \begin{array}{r} \underline{\quad} \\ 5 \\ \underline{\times 5} \end{array} \quad \begin{array}{r} \underline{\quad} \\ 39 \\ \underline{-13} \end{array} \quad \begin{array}{r} \underline{\quad} \\ 2 \overline{)28} \end{array}$$

3.

$$\begin{array}{r} \underline{\quad} \\ 21 \\ \underline{-5} \end{array} \quad \begin{array}{r} \underline{\quad} \\ 6 \overline{)36} \\ \underline{4} \overline{)56} \\ 59 \\ \underline{-45} \end{array} \quad \begin{array}{r} \underline{\quad} \\ 4 \overline{)84} \\ 7 \overline{)42} \\ 60 \\ \underline{-39} \end{array} \quad \begin{array}{r} \underline{\quad} \\ 75 \\ \underline{-49} \end{array} \quad \begin{array}{r} \underline{\quad} \\ 6 \overline{)60} \end{array}$$

$$\begin{array}{r} \underline{\quad} \\ 7 \overline{)147} \\ \underline{19} \\ 4 \overline{)16} \\ 8 \\ \underline{\times 3} \end{array} \quad \begin{array}{r} \underline{\quad} \\ 3 \overline{)78} \end{array}$$

4.

$$\begin{array}{r} \underline{\quad} \\ 3 \\ \underline{\times 5} \end{array} \quad \begin{array}{r} \underline{\quad} \\ 18 \\ \underline{-12} \end{array} \quad \begin{array}{r} \underline{\quad} \\ 2 \overline{)28} \\ 11 \\ \underline{+13} \end{array} \quad \begin{array}{r} \underline{\quad} \\ 3 \\ \underline{\times 7} \end{array} \quad \begin{array}{r} \underline{\quad} \\ 2 \overline{)38} \\ 59 \\ \underline{-43} \end{array} \quad \begin{array}{r} \underline{\quad} \\ 12 \overline{)144} \\ 12 \\ \underline{+14} \end{array} \quad \begin{array}{r} \underline{\quad} \\ 6 \overline{)60} \end{array}$$

5.

$$\begin{array}{r} \underline{\quad} \\ 7 \overline{)28} \\ 13 \\ \underline{+8} \end{array} \quad \begin{array}{r} \underline{\quad} \\ 8 \overline{)48} \\ 33 \\ \underline{-11} \end{array} \quad \begin{array}{r} \underline{\quad} \\ 22 \overline{)44} \\ 4 \overline{)104} \\ 68 \\ \underline{-44} \end{array} \quad \begin{array}{r} \underline{\quad} \\ 44 \\ \underline{-20} \end{array} \quad \begin{array}{r} \underline{\quad} \\ 6 \overline{)42} \end{array}$$

6.

$$\begin{array}{r} \underline{\quad} \\ 9 \overline{)36} \\ 38 \\ \underline{-19} \end{array} \quad \begin{array}{r} \underline{\quad} \\ 4 \overline{)36} \\ 87 \\ \underline{-66} \end{array}$$

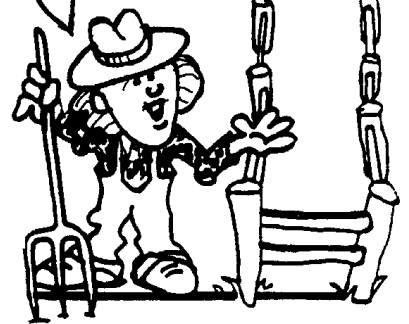
7.

$$\begin{array}{r} \underline{\quad} \\ 6 \overline{)78} \\ 8 \overline{)48} \\ 79 \\ \underline{-62} \end{array} \quad \begin{array}{r} \underline{\quad} \\ 3 \overline{)78} \\ 30 \\ \underline{-15} \end{array} \quad \begin{array}{r} \underline{\quad} \\ 7 \overline{)49} \\ 3 \overline{)15} \end{array}$$

8.

$$\begin{array}{r} \underline{\quad} \\ 57 \\ \underline{-44} \end{array} \quad \begin{array}{r} \underline{\quad} \\ 27 \\ \underline{-8} \end{array} \quad \begin{array}{r} \underline{\quad} \\ 6 \overline{)114} \\ 85 \\ \underline{-68} \end{array} \quad \begin{array}{r} \underline{\quad} \\ 8 \overline{)56} \\ 18 \\ \underline{+8} \end{array} \quad \begin{array}{r} \underline{\quad} \\ 11 \overline{)44} \end{array}$$

MY FARM IS
TEN MILES LONG
AND HALF AN INCH
WIDE. WHAT DO
I RAISE
ON IT?



You solved this riddle with which answers above? _____

CODE: (ex: 4 - 2 = 2 which means H)

1 2 3 4 5 6 7 8 9 10 11 12 13 14 15 16 17 18 19 20 21 22 23 24 25 26
Y H F S X A I J U R B D C L M W K V O N P G Q T Z E

FIRST FARMERS

Long before white settlers arrived and long before statehood, the Ojibwe (sometimes called Anishinabe) and the Dakota Indians were farming in the area.

The Ojibwe lived in the northern lakes and forest regions of what is now Minnesota. They hunted, fished, and harvested wild berries, fruits and wild rice. They planted corn, pumpkins and squash, and tapped maple trees for tasty maple treats.

The Dakota lived in the southern and southwestern plains of what is now the state. Their villages dotted the banks of the Mississippi, Minnesota, St. Croix and Cannon Rivers. Dakota men hunted for food; Dakota women were the farmers. Their most important crops were “the three sisters,”—corn, beans and squash. Using simple tools of bone or wood, they planted them together in mounds and hills, knowing that the three would help each other grow.



Think and Wonder:

1. Why was it important for midwest Indian villages to be near rivers or lakes?
2. It is said that without the Indians and their crops, new settlement in North America might have been delayed a hundred years. Why?
3. Starting with the first letter, cross out every other one in each word. The letters left will answer the clues and spell Indian words we use every day.

An underground vegetable lpvoxtmaetjo _____

A vegetable the Indians called tomatl rtmohmwastpo _____

Boat built by the Indians bczapnyoge _____

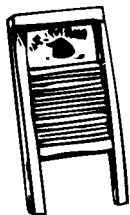
Indian shoe; the word means “puckered” tmqobctcwardsaizn _____

A great place to live; means “sky-tinted waters” yMjirnunaepsbowtfa _____

Name _____

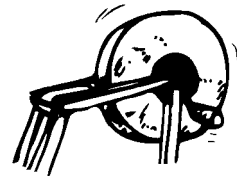
AGGIE'S ANTIQUES

When Aggie's nephews and nieces visited one summer they found a barn full of antique farm objects. The children couldn't imagine what some of the items were once used for. Can you match the old farm items with the correct name and use?



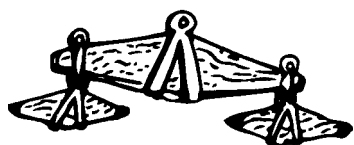
GRINDING WHEEL

Used to sharpen axes and knives



HAND PUMP

Used to draw water into the house



MILK CAN

Used to wash clothes



WASH BOARD

Used to wash clothes
Used to wash clothes



KEROSENE LANTERN

Used for light



BUTTER CHURN

Used to make butter



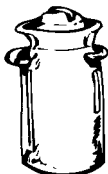
DOUBLE TREE

Used to hitch horses to a wagon



MILKING STOOL

Used to sit on when milking a cow



SCYTHE

Used to cut wheat, rye, hay and grass

GRAPPLE FORK & PULLEY

Used to wash clothes



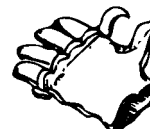
CURRY COMB

Used to groom horses



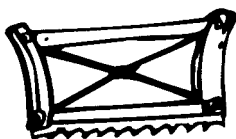
BUCK SAW

Used to cut firewood



HORSE COLLAR

Used to fasten harnesses to horses



HUSKING PEG

Used to husk corn from stalk



Name _____

MINNESOTA AG TRIVIA

Work the math problem; write your answer in the blank under the problem. Then use the letter code to find the letter that goes with your answer and write it in the box. When you're finished, you'll have your trivia answers.

This Minnesota county's name is the Ojibwe word for "wild rice."

$22 - 2$ 3×3 $17 - 4$ $16 + 1$ $6 - 2$ $18 + 2$ $16 \div 8$ $27 - 10$

Wild rice isn't really rice at all. It's a form of _____.

4×3 9×2 $81 \div 9$ $44 - 22$ 11×2

What does a Minnesota farmer plow but never plant?

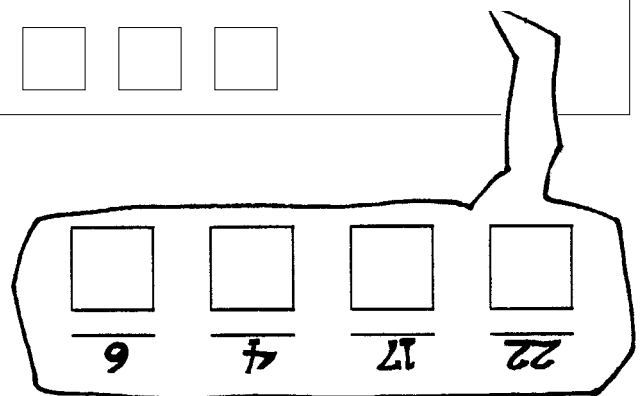
Minnesota is a world leader in production of this crop.

$44 - 22$ $25 \div 5$ 6×2 $27 \div 3$ 6×3 4×2 $10 \div 5$ $10 - 8$ 3×8 $33 - 11$



SECRET LETTER CODE:

1	2	3	4	5	6	7	8	9	10	11	12	13
C	E	I	O	U	W	Y	B	A	D	F	G	H
14	15	16	17	18	19	20	21	22	23	24	25	26
Q	J	K	N	R	L	M	P	S	V	T	Z	X

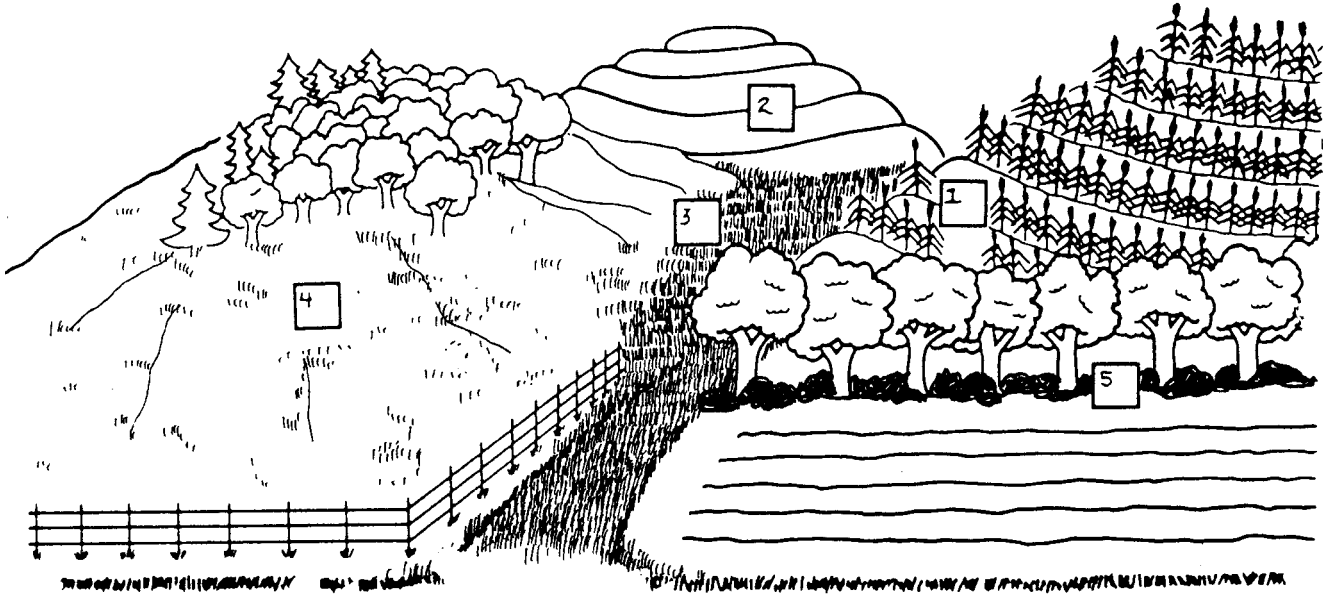


Name _____

EARTH-FRIENDLY AGRICULTURE

Minnesota has good soil, air and water, and everyone wants it to stay that way! We've got:

- 20,000 lakes, ponds and marshes of five acres or more;
- 17,000,000 acres of forest;
- Cropland that would cover all of Rhode Island, Massachusetts, Connecticut and Vermont combined;
- Enough rivers to reach completely around the world.



How farmers use their land has a big effect on natural resources. They do many things to protect natural resources now so future generations have land that grows food, water that's fresh and air that's clean. Match the number of the practice to the correct box in the picture.

- Forest and grassy areas.** Keep steep hillside in trees or grass rather than clear for cropland. Holds soil, purifies air, provides oxygen.
- Terraces.** Make wide ridges that go around a hill to prevent water from rushing downhill. Helps keep topsoil in place and water clean.
- Grassed waterways.** Plant grass in low areas in a field where water usually runs down the hill. Helps keep soil in place and water clean.
- Contour planting.** Plant crops around the curve of a hill rather than up and down. Cross rows slow water runoff.
- Windbreak.** Plant rows of trees to slow down the wind. Prevents soil loss, provides energy savings and animal habitat.

Adapted from Food for America, a program of the National FFA Organization.

Name _____

HELP WANTED

Ag is much more than farming. Take a look at the ag-related careers below. Write the answers in the blank... and think about these careers for your future!

1. Specializes in crop production and soil management: _____
2. Provides a service by transporting products and materials: _____
3. Raises livestock including horses, cattle, sheep: _____
4. Tends hive of insects that produce honey: _____
5. Studies the production and distribution of goods and services: _____
6. Studies insects: _____
7. Predicts weather conditions that help farmers plan: _____
8. Maintains financial records: _____
9. Specializes in the medical care of animals: _____
10. Repairs farm machinery and equipment: _____
11. Writes newspaper and magazine articles about agriculture: _____
12. Manages forests to benefit wildlife, people and the environment: _____
13. Uses plants and other natural resources to create beauty, sound barriers, energy savings and more: _____



Many of the jobs in agriculture are going unfilled... GO FOR IT!

Name _____

GROW IN AGRICULTURE: JOBS

Many occupations are related to or depend on agriculture. Can you find the names of 24 of these jobs or areas of work. Some will surprise you. You'll have to explain the agriculture connection. The words go up, down and across.

S C I E N T I S T R U C K E R L B
T H N L A W Y E R E P I L O T N O
A E S R E F L O G C D B A K E R O
R M U C H E F D S O M C R D E K K
C I R E P O R T E R C L M N O S K
U S A J R K T H L G M B E H K L E
A T N A M L E U F O Q S U V Y Z E
E C C M A N U F A C T U R E R L P
R S E N R E K L I M E D I C I N E
U N R A I M S O L T T E A C H E R
B U T C H E R O T R M D A L V K B
A T X E L S T M E C H A N I C L D
N L B G J R L V R T N A H C R E M
K N U R S E R Y M A N A G E R U L
E Q U I P M E N T D E A L E R Q P
R O S S E C O R P T A X A G E N T

ANSWERS: Baker, Banker, Bookkeeper, Bureaucrats, Butcher, Chef, Chemist, Equipment Dealer, Grocer, Insurance, Lawyer, Manufacturer, Medicine, Merchant, Mechanic, Milker, Nursery Manager, Pilot, Processor, Reporter, Scientist, Tax Agent, Teacher, Truckster

Name _____

THE “RIPPLE EFFECT”

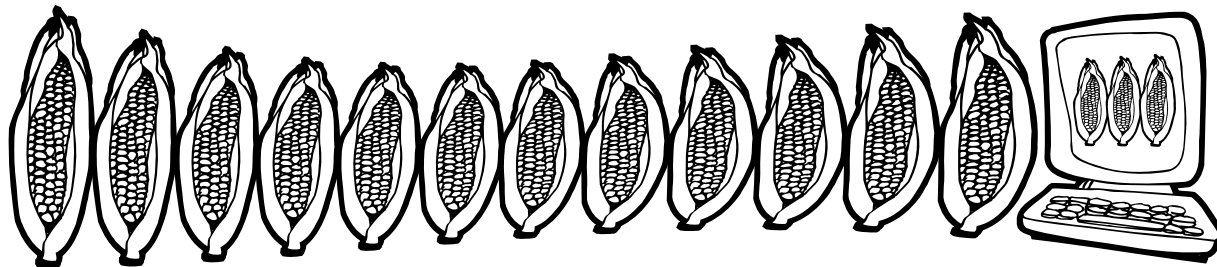
When Minnesota farmers grow crops and livestock, they do more than just produce food. Other things happen as a result of agriculture. That’s called a “ripple effect.” Agriculture creates food that must be transported, processed and sold. And many things are necessary to raise food.

It’s a good estimate that one Minnesota farmer creates two to three jobs OFF the farm. (Maybe you have a friend who works in a fast-food restaurant. How’s that a “ripple effect” of agriculture?) _____

Look at the items on the left. Then try to guess the “ripple effect” (something that happened because of what the farmer did). Write the letter of the ripple effect by its matching statement.

RIPPLE EFFECT

- | | |
|--|---|
| _____ 1. Mary Duncanson grows corn on her farm in Mapleton and needs to buy seed. | A. A computer company develops software programs especially for the farm. |
| _____ 2. Dan Hunter has a dairy farm and needs someone to pick up his milk every day. | B. A city bank has a special department for handling agricultural loans. |
| _____ 3. American farmers produce more food than what Americans need. | C. A truck driver picks up farm products from the farm. |
| _____ 4. Jeff Wilson has a hog farm and needs a new software program for his computer to help market hogs. | D. A new store opened in town so farmers can buy seed, feed and other supplies. |
| _____ 5. To plant her soybean crop, Nancy Kelly needs to get a loan to buy seed. | E. Lawmakers work with farm groups to pass special laws for agriculture. |
| _____ 6. Minnesota farmers ask the State of Minnesota for better laws on soil conservation. | F. The U.S. ships food to other countries in the world. |



What “ripple effect” does agriculture create in your town?

Name _____

WHAT AM I?

1. My first letter is in water, mower and plow.
2. My second letter is in rain, soil and grain.
3. My third letter is the third letter in milk.
4. My fourth letter is in field, duck and windbreak.
5. My fifth letter is in tractor twice.
6. My sixth letter is in pig, till and silo.
7. My seventh letter is first in crops.
8. My eighth letter is in erosion, environment and wetlands.



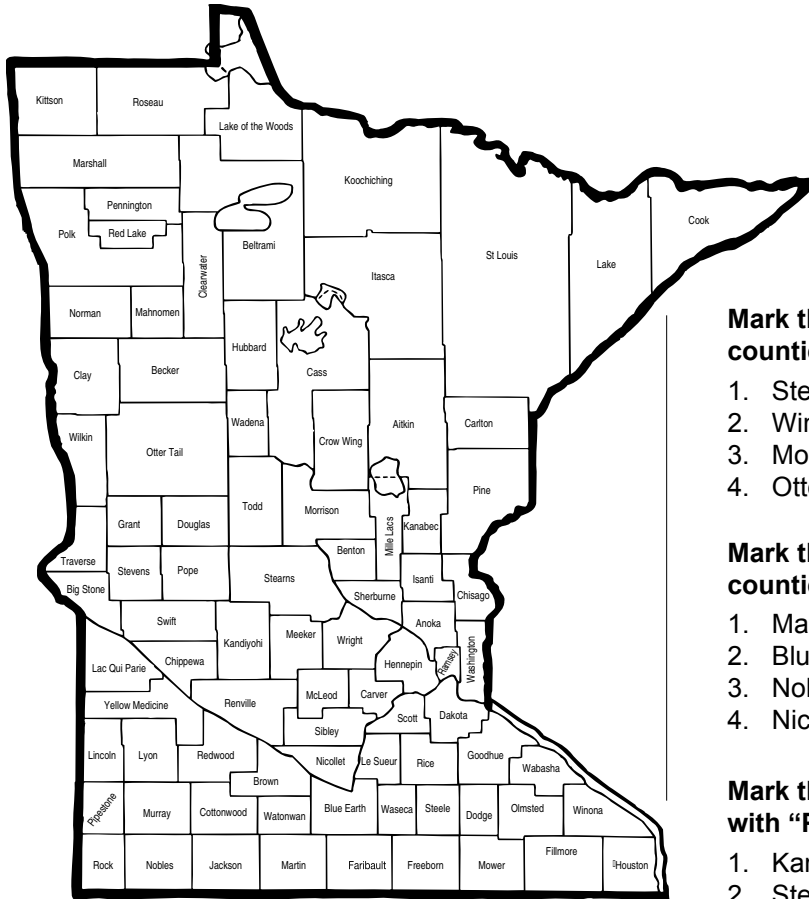
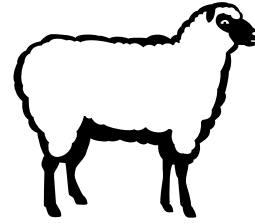
*I'm Minnesota's official state grain.
Our state is second in the nation in producing me.*

Answer: _____

Name _____

WHERE IN MINNESOTA?

Minnesota has 81,000 farms covering some 26.9 million acres of land.



(2009 RANKINGS)

Mark the following top 10 milk cow-producing counties with "C".

- | | | |
|---------------|------------|-------------|
| 1. Stearns | 5. Wabasha | 8. Benton |
| 2. Winona | 6. Goodhue | 9. Fillmore |
| 3. Morrison | 7. Todd | 10. Wright |
| 4. Otter Tail | | |

Mark the following top 10 hog-producing counties with "H".

- | | | |
|---------------|-----------|--------------|
| 1. Martin | 5. Mower | 8. Jackson |
| 2. Blue Earth | 6. Rock | 9. Fairbault |
| 3. Nobles | 7. Waseca | 10. Freeborn |
| 4. Nicollet | | |

Mark the following top counties for poultry sales with "P". (2006 data)

- | | | |
|---------------|-----------|-------------|
| 1. Kandiyohi | 5. Swift | 8. Renville |
| 2. Stearns | 6. Meeker | 9. Becker |
| 3. Morrison | 7. Benton | 10. Todd |
| 4. Otter Tail | | |

Mark the following top 10 sheep and lamb-producing counties with "S".

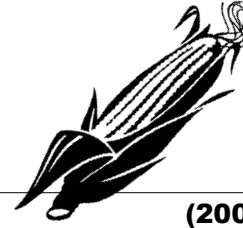
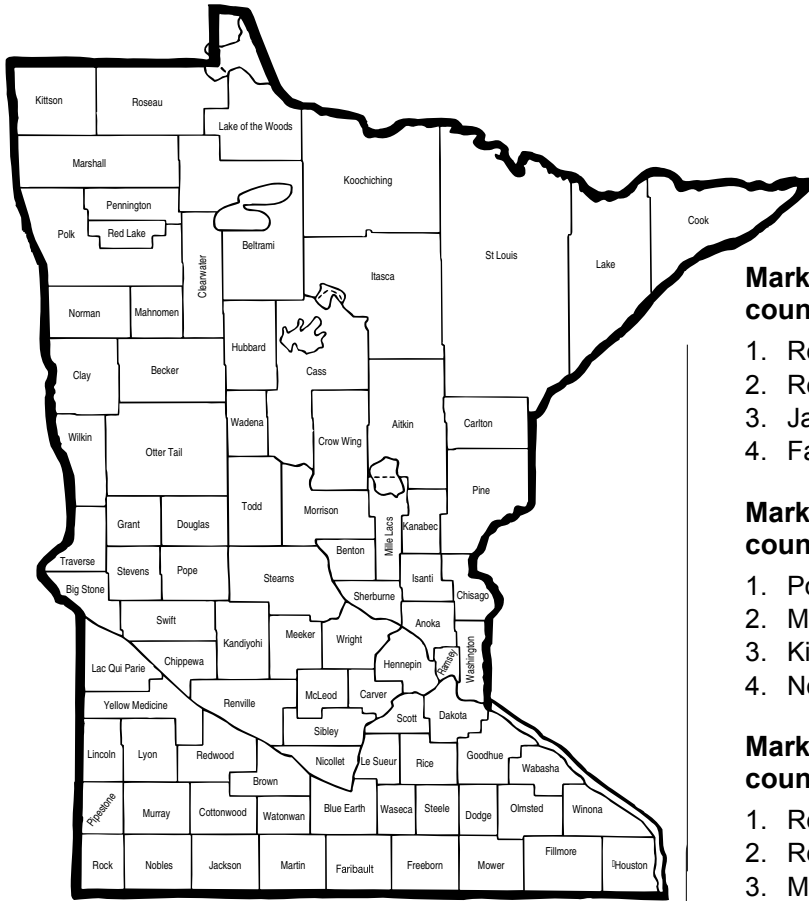
- | | | |
|--------------|------------------|---------------|
| 1. Lincoln | 5. Cottonwood | 8. Chippewa |
| 2. Pipestone | 6. Lac Qui Parle | 9. Otter Tail |
| 3. Lyon | 7. Fillmore | 10. Goodhue |
| 4. Murray | | |

1. Are any counties a top producer in
All 4 commodities? _____
3 commodities? _____

2. Why is there little livestock production in the northeastern part of the state? _____

3. What makes a good livestock producing area? _____

WHERE IN MINNESOTA?



(2009 RANKINGS)

Mark the following top 10 soybean-producing counties with "S."

- | | | |
|--------------|---------------|-------------------|
| 1. Redwood | 5. Nobles | 8. Murray |
| 2. Renville | 6. Martin | 9. Polk |
| 3. Jackson | 7. Blue Earth | 10. Lac Qui Parle |
| 4. Faribault | | |

Mark the following top 10 wheat-producing counties with "W".

- | | | |
|-------------|-----------|---------------|
| 1. Polk | 5. Clay | 8. Pennington |
| 2. Marshall | 6. Wilkin | 9. Otter Tail |
| 3. Kittson | 7. Roseau | 10. Red Lake |
| 4. Norman | | |

Mark the following top 10 corn-producing counties with "C".

- | | | |
|--------------|---------------|--------------------|
| 1. Renville | 5. Nobles | 8. Yellow Medicine |
| 2. Redwood | 6. Jackson | 9. Freeborn |
| 3. Martin | 7. Blue Earth | 10. Mower |
| 4. Faribault | | |

Mark the following top 10 sugarbeet-producing counties with "B".

- | | | |
|-------------|-------------|--------------|
| 1. Polk | 5. Chippewa | 8. Kittson |
| 2. Renville | 6. Marshall | 9. Kandiyohi |
| 3. Norman | 7. Wilkin | 10. Grant |
| 4. Clay | | |

Mark the following top 10 alfalfa hay-producing counties with "H".

- | | | |
|---------------|------------|--------------|
| 1. Stearns | 5. Wabasha | 8. Winona |
| 2. Otter Tail | 6. Houston | 9. Goodhue |
| 3. Morrison | 7. Todd | 10. Marshall |
| 4. Fillmore | | |

1. Are any counties a top producer in

All 5 commodities? _____
 4 commodities? _____

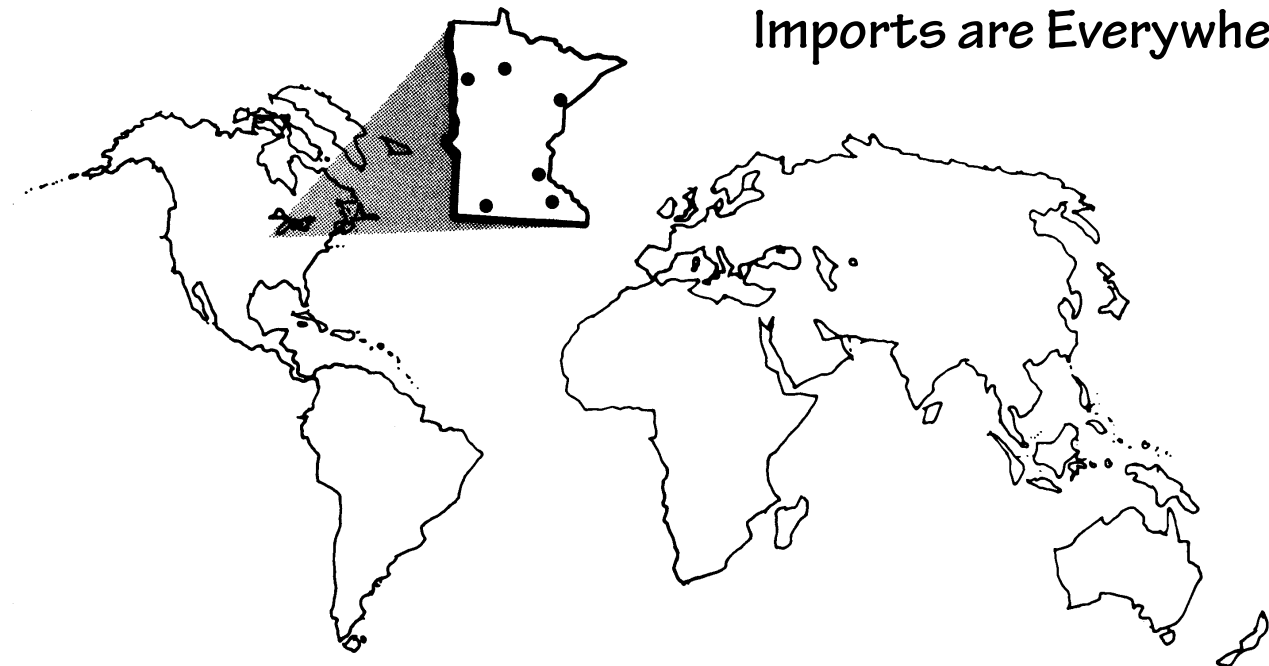
2. What do you notice about the patterns of where crops are raised in Minnesota?

3. What do you notice when comparing top crop-producing counties with top livestock-producing counties? _____

Name _____

MINNESOTA CONNECTIONS:

Imports are Everywhere



Millions of tons of imports come into Minnesota each year. They bring variety to our lives because we have and use things that are not produced in Minnesota. They also make it possible for us to take advantage of more tropical growing seasons. We can enjoy fresh fruits and vegetables during the long, cold winter months when our own fields, gardens and orchards are not producing.

You may need a Minnesota map and a World map to locate these places. The dots on your Minnesota map represent each of the cities named below. How many of the Minnesota city locations do you know before you look at the state map? Getting to know our state is fun and interesting!

- A. Fresh strawberries from Mexico end up in your strawberry sundae in Duluth.
Draw a red arrow from Mexico to Duluth.
- B. Coffee from Columbia (South America) is served at a restaurant in Bemidji.
Draw a red arrow from Columbia to Bemidji.
- C. Wool from Australia is blended into blankets sold in Rochester.
Draw a red arrow from Australia to Rochester.
- D. Olive oil from Spain is used in salad dressing made in Minneapolis.
Draw a red arrow from Spain to Minneapolis.
- E. Apples from New Zealand are sold in supermarkets in Worthington during the months fresh apples aren't available in Minnesota.
Draw a red arrow from New Zealand to Worthington.
- F. Cotton from China is sold at a fabric store in Moorhead.
Draw a red arrow from China to Moorhead.
- G. Your family is building a garage. The lumber comes from Canada.
Draw a red arrow from Canada to your part of Minnesota.

These are just a few of the things that are imported into our state. And while imported products are coming in, what's happening to many of our own Minnesota crops? We're busy exporting them to nations throughout the world!

Name _____

AG FROM A to Z

Can you think of a farm or agriculture word for each letter below?

A	_____
B	_____
C	_____
D	_____
E	_____
F	_____
G	_____
H	_____
I	_____
J	_____
K	_____
L	_____
M	_____
N	_____
O	_____
P	_____
Q	_____
R	_____
S	_____
T	_____
U	_____
V	_____
W	_____
X	Xylem (Look it up! Tell where you'll find it on a farm.)
Y	_____
Z	_____

Name _____

PLANT POWER!

These mixed-up words are all made from a top Minnesota crop. Unscramble them, then solve the riddle below to name the crop.

1. wehdorc _____
2. stirg _____
3. cpasilt _____
4. newestere _____
5. lecear _____
6. charts _____
7. tolhena _____

Riddle: This vegetable's outside is thrown away so the inside can be cooked. But the outside of the inside is eaten, and the inside of the inside is thrown away!

Circle these letters in the answers above to spell the mystery crop.

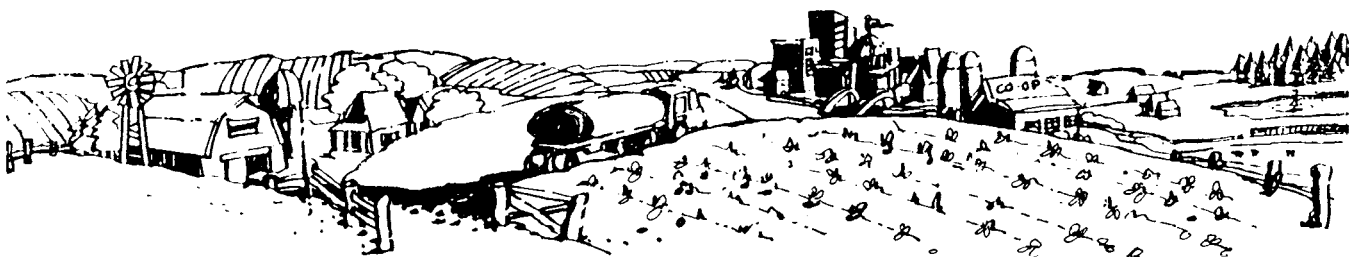
1st word: first letter

1st word: third letter

5th word: third letter

7th word: fifth letter

Answer: _____



Name _____

COUNTRY SCRAMBLE

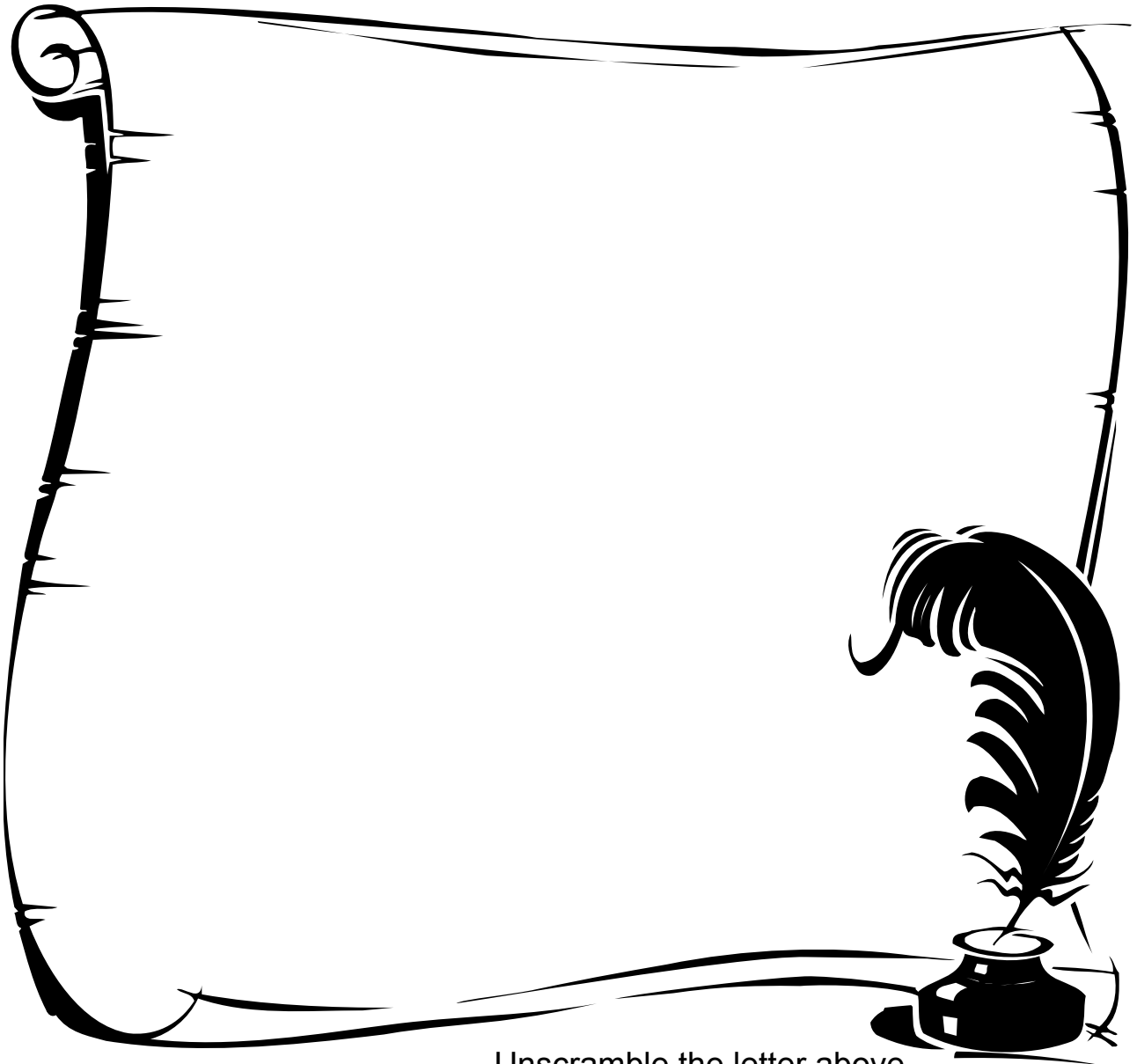
Yo, cuz!

Long time no ese. School's out and I've got a great summer boj driving our new cratrot. It tocs over \$100,000. You ought to see it—8-foot duals on the back, a purmotec, ira donicenitor, and awesome toerse!

We're cutting and baling yah for the scow. The norc and oysbanes look good. We're setting up a roadside stand to sell mottoesa, tewes norc, emlnos, and gesg. City folks are tnus about sherf gigeves. I'm going to swoh a alfc at the fair for 4-H this year. Every morning I dela her around to narit her. When can you moec for a tivsi? We could probably eird the roshes over to Catnip pond and go wimginsm.

Write soon!

Your nucsio,
Tap



Unscramble the letter above.

AG-RELATED WORDS

pulp	homestead	lard	thiamin	corral
molasses	conservation	corn	carbohydrates	barbed wire
sugar	topsoil	veal	iron	antibiotics
refinery	acid	ham	potassium	ewe
sunflower	clay	bacon	oats	lamb
fertilizer	subsoil	sausage	windrow	ram
nutrients	water table	spareribs	swath	mutton
manure	rotation	chicken	haystack	shearing
grasshoppers	alkaline	snood	bales	ruminant
chemical	fallow	coop	hayloft	flock
insecticide	run-off	toms	canvas	roughage
herbicide	sand	durum	alfalfa	breed
fungicide	bedrock	sheaf	clover	brand
pesticide	silt	bushel	hay	range
thistle	forestry	semolina	silage	rancher
organic	agri-business	hail	cover crop	ear-tag
rust	commodity	honey	tassel	acre
straw	timber	hive	dry beans	section
stubble	lumber	larva	legume	kernel
potash	sawdust	beeswax	aphid	germ
phosphorous	process	drones	pasture	bran
calcium	loan	apiary	forage	irrigation
aerial spraying	cooperatives	honeycomb	veal	livestock
fungi	malt	pollen	beef	cowboy
humus	cereal	queen	calf	bareback
drill	agriculture	pollination	bull	saddle
cultivator	pasteurization	pupa	cow	bridle
reaper	homogenization	swarm	roundup	bulldogging
bin	udder	workers	steer	steer wrestling
auger	cud	royal jelly	heifer	lariat
tractor	rumen	stinger	branding	rodeo
computer	colostrum	comb	feed lot	horse show
harrow	hog	rooster	herd	horse
disk	swine	poultry	Hereford	mare
sprayer	rooting	turkey	Angus	stallion
plow	confinement	eggs	Holstein	colt
dryer	piglets	pullet	Guernsey	yearling
elevator	gilt	incubator	Jersey	filly
combine	pig	hatcheries	Shorthorn	harvest
baler	litter	nutrition	weaned	drought
timothy	sow	riboflavin	grassland	sod-bust
blue grass	pork	protein	graze	biotechnology
rye	farrow	gluten	slaughter	
auction	snout	niacin	stockyard	
squatters				

Add your own, too!

IDEA STARTERS

Integrating agriculture into your classroom or community youth activities is easy and fun. Try the “Five Minute Ideas” when you have only a few minutes. Choose from “Extended Activities” when you have more time. Bring Ag to young people for Ag-cellent results!

--- Language Arts ---

Five-Minute Ideas

1. Play twenty questions using agricultural items to guess.
2. Play “Going to California” with an agricultural theme. “If I were going to California, I’d take apples, bulls, calves, dogs, eggs, fences, goats, etc.” Each person repeats what the previous player has said and adds an item starting with the next letter of the alphabet.
3. Play spelling tag. Start with the word Agriculture. Go around the room and have each student tag a word onto the end of the previous word. All words should have to do with agriculture. Example: agriculture, egg, goat, topsoil, lamb, etc.
4. Go around the room and have each student finish the sentence: “If I were a farmer, I’d raise” Each student tries to name a different crop.
5. Cut hand holes on two sides of a small covered box. In it place some wool fleece, corduroy, cotton washcloth, linen towel, cardboard square, cotton rug yarn, burlap material, short section of cotton or hemp rope, other handy materials. Students put their hands in the box, identify objects by feel and write them down. They then name and tell the agricultural product each was made from.
6. Use words from the Ag-Related Words list for dictionary skill races or relays. Example: Put words on the board one at a time. Students race to see who can find the word in the dictionary first. The first one to find the word successfully gets a point and reads the meaning.
7. Choose words from the Ag-Related Words list and have a quick spelling bee.
8. Select ten or more agriculture words from the Ag-Related Words list for students to alphabetize. Make the activity a relay or skill drill. Give a time limit; the winning team (or individual) is the first to correctly list the words in alphabetical order.
9. Classify words by headings such as machinery words, grain words, livestock words, chemical words, compound words, words with more than three syllables. . .
10. Choose agriculture words that have more than one meaning and/or word usage such as drill, hail, malt, litter. Ask students how these words are related to agriculture and discuss additional word meanings and usages.
11. Select unfamiliar words. Ask students to come up to the board and mark them with pronunciation symbols. Have students look up the words in a dictionary to check them.

Extended Learning

1. Give students old magazines and have them cut out pictures to staple on a bulletin board for a collage of things that agriculture contributes to their lives.
2. Take a field trip to a farm or agribusiness. Have students take pictures, then put together a picture show presentation to share with other classes or groups.
3. Select words to be divided into syllables. Put them in five different lists on the board. Divide the class into five groups. Each group is assigned one list on the board. Students look up the words in their dictionaries and come up one at a time to the board to divide the words in the proper places.

--- HISTORY, SOCIAL STUDIES ---

Five-Minute Ideas

1. Do a quick “hands up” survey. How many of the students’ parents work in an agriculture-related job? What are these jobs?
2. Pretend you are a person your age who went west with Lewis and Clark. What did you see? What did you eat? How did you travel? Where did you sleep? Emphasis: They depend on the land to provide for needs. How does agriculture depend on the land to provide for needs today?
3. Have students tell what they ate for a meal and then trace the products back to the farm. Examples: pancakes-milk-cow; flour-wheat; egg-chicken; shortening-soybean; syrup-corn or maple trees; butter-cows or margarine-soybeans. How would family life be different if we had to produce all of our own food?
4. Have youngsters look around the schoolroom to find things that came from farm products. Examples: glue, paper, pencils, clothing, chalkboard erasers, books, rubber items, wood items, venetian blind cord, drapes, flags, etc.
5. Make flow charts of the processing steps involved in bringing a specific product from field to table.
6. Name machines that are important to modern farming: combines, radios, computers, airplanes, video cameras, etc. Talk about their uses. What machines or tools were important to farmers thirty or more years ago?
7. When studying a particular agricultural specialty area (such as wheatbelt, cornbelt, etc.) have students list related industries and jobs, such as truck drivers driving to and from the farm and markets, fertilizer makers, seed growers, etc.

Extended Learning

1. Discuss how family chores and family life are different in the city and in the country.
2. Give students old magazines and have them cut out pictures to staple on a bulletin board for a collage of occupations related or dependent upon agriculture.

3. Read "Thanksgiving Feast, 1621" by Aileen Fisher (poem). Discuss and compare the menu at the first Thanksgiving to one served today. Discuss the differences in getting and preparing the food.
4. Give a current events assignment that reports items of an agricultural nature.
5. Start with a large outline map of the U.S. with state boundaries marked. Cut the map into individual states or regions. Give each student a cutout and have him or her label the state, capital and leading agricultural products. The students then reassemble the map on a sheet of poster board or the bulletin board.
6. Divide a large bulletin board into eight separate sections. Each section represents one occupational area within agriculture. Divide the class into eight groups; each is responsible for a section. Each group makes a display and gives a report to the class representing their area.

Areas: (1) Agriculture Production; (2) Agriculture Supplies and Services; (3) Agriculture Products; (4) Agriculture Mechanics; (5) Horticulture; (6) Agriculture Research; (7) Forestry; (8) Other Agriculture Occupations.
7. Create a large map of Minnesota and put it on a bulletin board. Students place symbols or pictures of Minnesota crops or livestock in appropriate production areas on the map.
8. Have an International Food Fest. Youngsters identify favorite foods from around the world, then prepare (with adult supervision) samples for everyone to try.
9. Discuss how the Homestead Act and the westward movement of the railroad changed farming in Western Minnesota.
10. Have students research why Europeans wanted to leave their countries of birth to come to homestead in the USA.
11. Make a wall-size timeline of important events in Minnesota agriculture history. Students contribute illustrations.

-- SCIENCE, ENVIRONMENTAL EDUCATION --

Five-Minute Ideas

1. Encourage students to form a "question bowl" of things they wonder about in science or environmental education and agriculture. During spare moments throughout the week, the group draws a question from the bowl and attempts to answer it, or researches to find the answer.
2. Brainstorm a list of the kinds of crops and agricultural animals youngsters have seen in Minnesota. How do the terrain, rainfall, length of growing season and soil conditions in each part of the state affect what is grown there?
3. Bring in pictures of soil conservation methods farmers are using to protect Minnesota topsoil. Discuss one soil conservation method a day, then post the picture on a bulletin board. After several days, you will have a whole collection of soil-saving ideas. Then challenge children to name ways some of these same ideas can be used in cities, towns, parks, etc. to save soil.
4. List all the reasons youngsters can think of that wetlands are important. How are farmers helping to save Minnesota wetlands?

Extended Learning

1. Get involved in Arbor Day and Arbor Month activities. Plant trees, learn to recognize various leaves, read the history of an area in the annual rings on a stump, tell tree stories and much more. For planning guides and free resource materials, go to Minnesota Department of Natural Resources at www.dnr.state.mn.us/arbormonth.
2. Plant vegetable and flower seeds, care for them properly and watch them grow. Discuss how gardening and farming are alike, and how they are different.
3. Invite a farmer or soil conservationist to come to your group and talk about ways agriculture is involved in saving and protecting natural resources. Clean water and air and plenty of rich topsoil are the lifeblood of agriculture . . . and of our food supply.
4. Discover what's new in agriculture. Science and technology are making a huge difference in modern agriculture. Have students watch the newspapers and rural publications (many libraries carry them) for current events, new agriculture products and space-age ways of doing things. You'll discover ostrich, fish and mushroom farmers, building materials made out of straw, animal bedding from recycled newspapers, chickens that lay nearly 300 eggs a year and much more.
5. During Wildlife Week or any time, explore the relationship between agriculture and wildlife. Have students list and discuss all the ways wildlife depend on farmers for food and protection.
6. Study and draw the water cycle and groundwater charts. Why is it so important to protect groundwater? How does agriculture play a part in protecting groundwater? (Careful and controlled use of plant protection chemicals, rinsing and proper disposal of chemical containers, sealing off abandoned wells, keeping grazing animals away from streams and riverbanks, preventing animal wastes from running into water supplies, etc.)
7. Study food chains. Have students identify and name several different food chains. What do they all begin with? (Plants.) What does that mean in terms of soil preservation?

--- HEALTH AND NUTRITION ---

Five-Minute Ideas

1. Jot food sources on the chalkboard such as "Dairy," "Meat," "Vegetables," "Fruits," etc., or post the Food Guide Pyramid. Have students name their favorite foods from each group.
2. Challenge youth to name foods that do not come from agriculture in some way. Can the group make an "agriculture connection" to everything named? Discuss why agriculture is absolutely necessary for good health and survival.

Extended Learning

1. Survey school lunches every day for three to four weeks.
 - (a) Record how many wheat, dairy, cattle, hog, poultry products are eaten in one day, one week or one month. Which is served most often?
 - (b) Make a chart of how each food served during this period of time fits into the Food Guide Pyramid food groups. Which food group is served most often? Find out how the school cooks make sure school lunches are nutritionally balanced.
 - (c) Have students plan nutritionally balanced school or at-home lunches with favorite foods. Make posters that encourage students to eat this meal based on nutritional value.
2. Make Nutrition Cubes. Cover small boxes with construction paper. Illustrate and write an interesting nutritional fact on each side. Hang from the ceiling on sturdy string.
3. Experiment with different foods to find out what will happen to them if not stored properly. Discuss the importance of proper food storage.
4. Have an easy classroom bake-off. Judge food based on nutrition, appearance and taste. Students must also be able to tell the origin of all ingredients.
5. Organize a “Good For You” Agriculture Tasting Party. Be sure to practice good food safety. Display as many agriculture products as possible. Have enough available for sampling. Other possibilities may be to have one type of food at a time, such as a Dairy Fair, Beef Fair, Wheat Fair . . .
6. Research foods that come from countries around the world. What different foods might be eaten in students’ homes because of family background? What food groups do these foods fit into? How are nutrition needs met in different ways throughout the world? In what parts of the world do people have the most difficulty getting the nutrition they need for good health? Why? What can be done to provide better nutrition in these areas?
7. Research and discuss ways the government and food industries are regulated to make sure food is safe to eat. Invite a food inspector, meat or livestock inspector, county extension agent or home economist to talk to the group about his/her job and the things government and industry do to keep foods safe.
8. Discuss at-home food safety. Make posters to emphasize important food safe-handling tips: keep cold things cold, hot things hot; wash hands before handling foods and eating; be sure meats, eggs, etc. are properly cooked; etc.
9. Grind your own wheat to make flour. Mix the wheat flour with white flour so the bread doesn’t get too heavy. Use the flour to make bread as a group project, or ask a parent volunteer to make bread for you. A bread making machine makes classroom baking easy and fun. Why is processing such an important part of agriculture? What would happen if we had to use or eat all foods in the exact form they leave the farm? (Raw crops, live animals, etc.)

--- MATH ---

Five-Minute Ideas

1. Only two percent of the American population feeds all the rest of us and many people overseas. Challenge the group to figure how many students in this group would represent two percent of the whole group. Have “two percent” of the group stand to visually show how this amount looks compared with the rest of the population.
2. Have students bring in current event clippings that affect agriculture. Have a brief Ag “Show and Tell” discussion each day, and post the clippings. How often is agriculture “in the news”?

Extended Learning

1. Look up Agriculture Records in the Guinness Book of World Records. Make a poster of some amazing facts and figures.
2. Have students compare the cost per serving of cooked cereal, ready-to-eat cereal, individually packaged cereal and sugared cereal. Where is each displayed on a grocer’s shelf? Why?
3. Measure the school grounds and determine what part of an acre or how many acres it is. (An acre is about the size of a football field.)
4. Problem of the Day: Estimate how far a farmer walked behind a horse in one day 50 years ago in order to plow two acres.

The Fact: To plow one acre, the farmer walked 43,560 feet. (5,280 feet = 1 mile.)

5. Walk around the outer dimensions of a school football field to get the feel for the approximate size of an acre.
6. Figure out the distance in miles food is exported from points in Minnesota to other states and countries. Find the distance in both miles and kilometers.

--- CREATIVE ARTS ---

Five-Minute Ideas

1. Have students break into groups to create and share quick ideas about creative things (art, music, writing, etc.) that can be done with agriculture or its products.
2. Share the work of an “artist of the day” or “artist of the week” who has featured agriculture in some way through paintings, sculpting, photography, songs, literature, etc.

Extended Learning

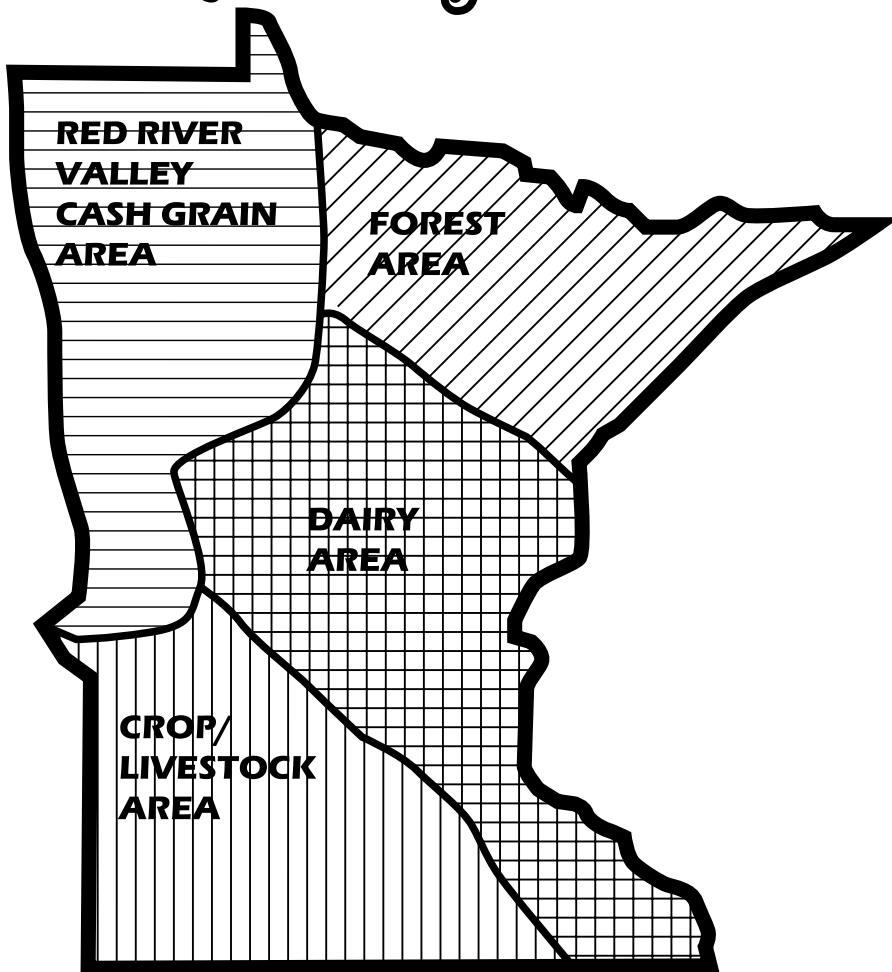
1. Make pictures on posterboard using seeds or other agriculture products. (Pumpkin, sunflower, wheat, bean, corn, etc.)
2. Make up food or farm animal cartoons. Use any Minnesota farm product as the “character.” Student imagination supplies the rest!
3. Have students research, study and report to the group about artists who have portrayed agriculture through painting, drawing, sculpture, photography, songs, literature and theater.
4. Learn “agriculture” songs. How many can the group identify? (America the Beautiful, This Land is Your Land, the Jolly Plowman, etc.)
5. Make a bulletin board entitled Fabulous Farm Facts. Students research trivia and records, describe and illustrate the facts and post them on the bulletin board.
6. Write and illustrate Farm Animals Riddle Books. Share them with younger students and family

AGRICULTURE IS EVERYWHERE!

When it comes to agriculture, Minnesota can't be beat!

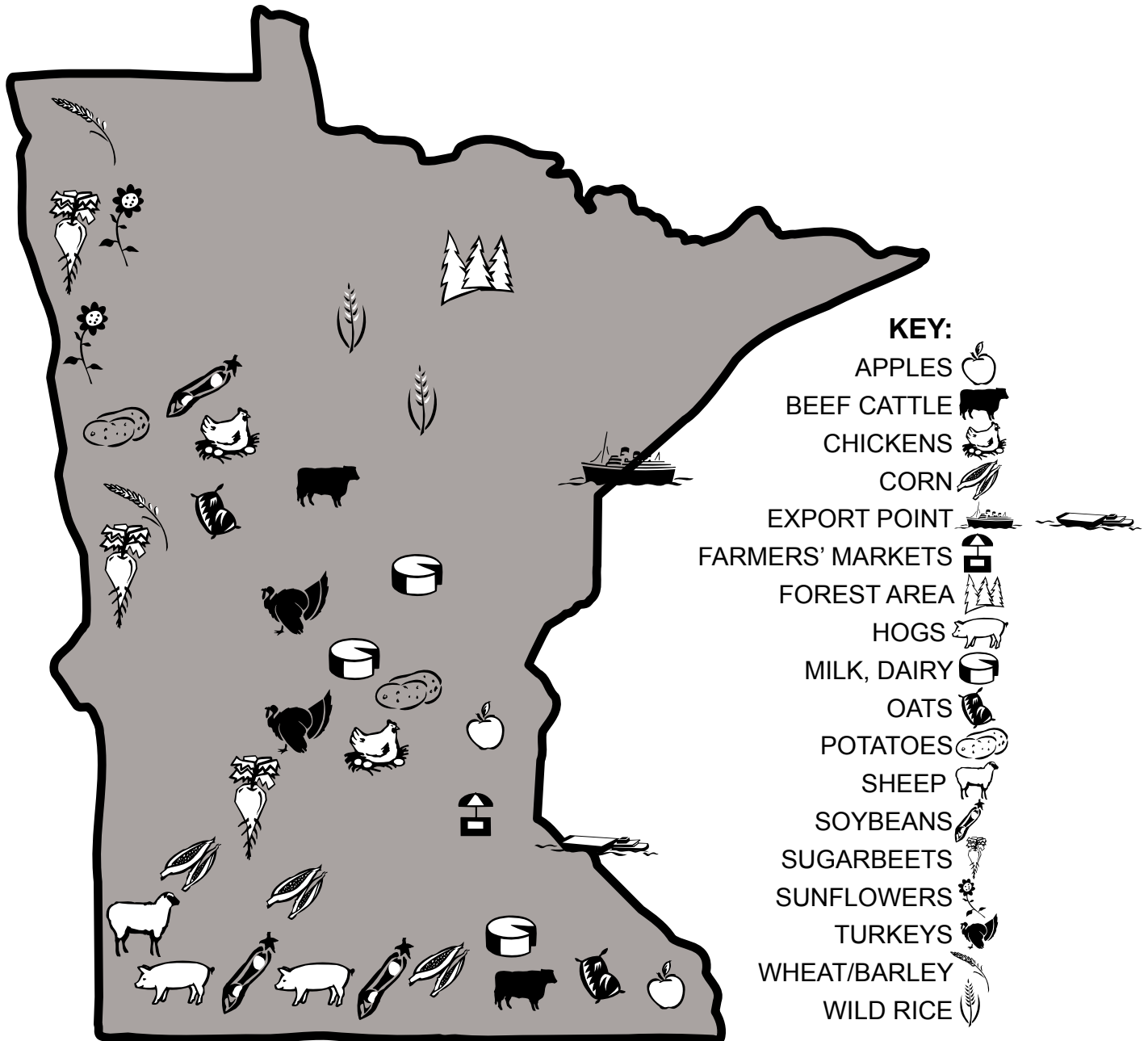
In 2009 we ranked in the top 10 states producing:

Growing Areas



Green Peas.....	1st
Sugarbeets.....	1st
Sweet Corn.....	1st
Turkeys Raised.....	1st
Cultivated Wild Rice.....	2nd
Oats.....	2nd
Spring Wheat.....	2nd
Hogs.....	3rd
Soybeans.....	3rd
Cheddar Cheese.....	3rd
Dry Edible Beans.....	3rd
Canola.....	4th
Corn.....	4th
Flaxseed.....	4th
Mink Pelts.....	4th
Total Cheese.....	5th
Ag Exports.....	6th
Milk Cows.....	6th
Milk Production.....	6th
Potatoes.....	6th
Red Meat.....	6th
Sunflowers.....	6th
Honey.....	6th
All Wheat.....	8th
Barley.....	8th
Cattle / calves on feed.....	9th
All Hay.....	10th

Let's Take A Trip to the Minnesota Farm!



You're sure to find these crops and animals where their symbol appears on the map above. Many will be found in other parts of Minnesota, too.

MINNESOTA'S PHYSICAL RESOURCES

Minnesota's soil, land, rainfall and growing season show a lot of variation across this "Land of 10,000 Lakes." Because of this diversity, Minnesota claims a variety of over 25 farm products ranking in the top 10 nationally each year.

Combined receipts from these and other farm products generate about \$16 billion to the state's economy. Processing those products adds billions more. And Minnesota is the 6th largest agricultural exporting state in the U.S.

The soil, terrain and weather diversity across Minnesota creates four main agricultural regions:

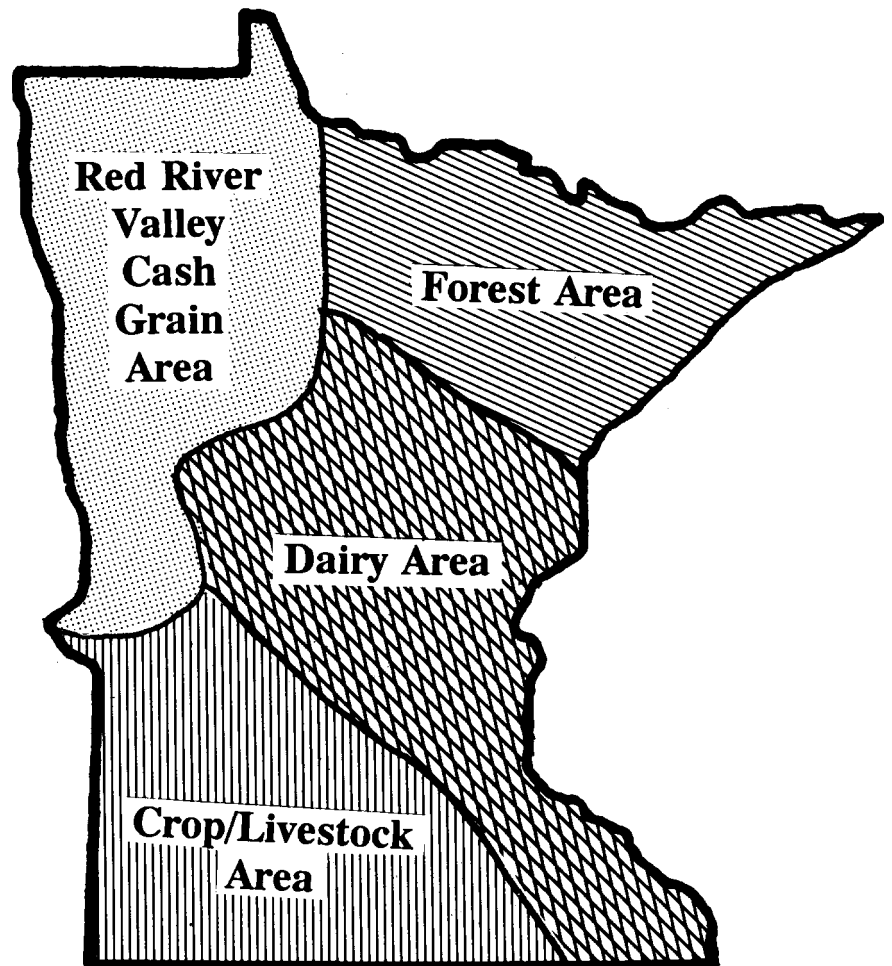
RED RIVER VALLEY CASH GRAIN AREA

The Red River Valley area is primarily a cash grain area. It's a major producer of wheat, oats, barley, sugarbeets, dry beans, flax, canola, potatoes and sunflowers.

Because most of this land is used for crop production, the average size of farms in this area is larger than the state average.

FOREST AREA

With less fertile soils and lower summer temperatures, this area isn't a major producer of ag products. It is primarily where Minnesota's timber industry is located. This region also includes about seven million acres of peatland, holding potential for energy resources.



CROP/LIVESTOCK AREA

The rich prairie soils, adequate rainfall and longer growing season to grow food crops in southern Minnesota make this area the home of most of Minnesota's beef cattle and hogs.

This area forms the northern border of the famous U.S. Corn Belt. Most Minnesota corn and soybeans come from here.

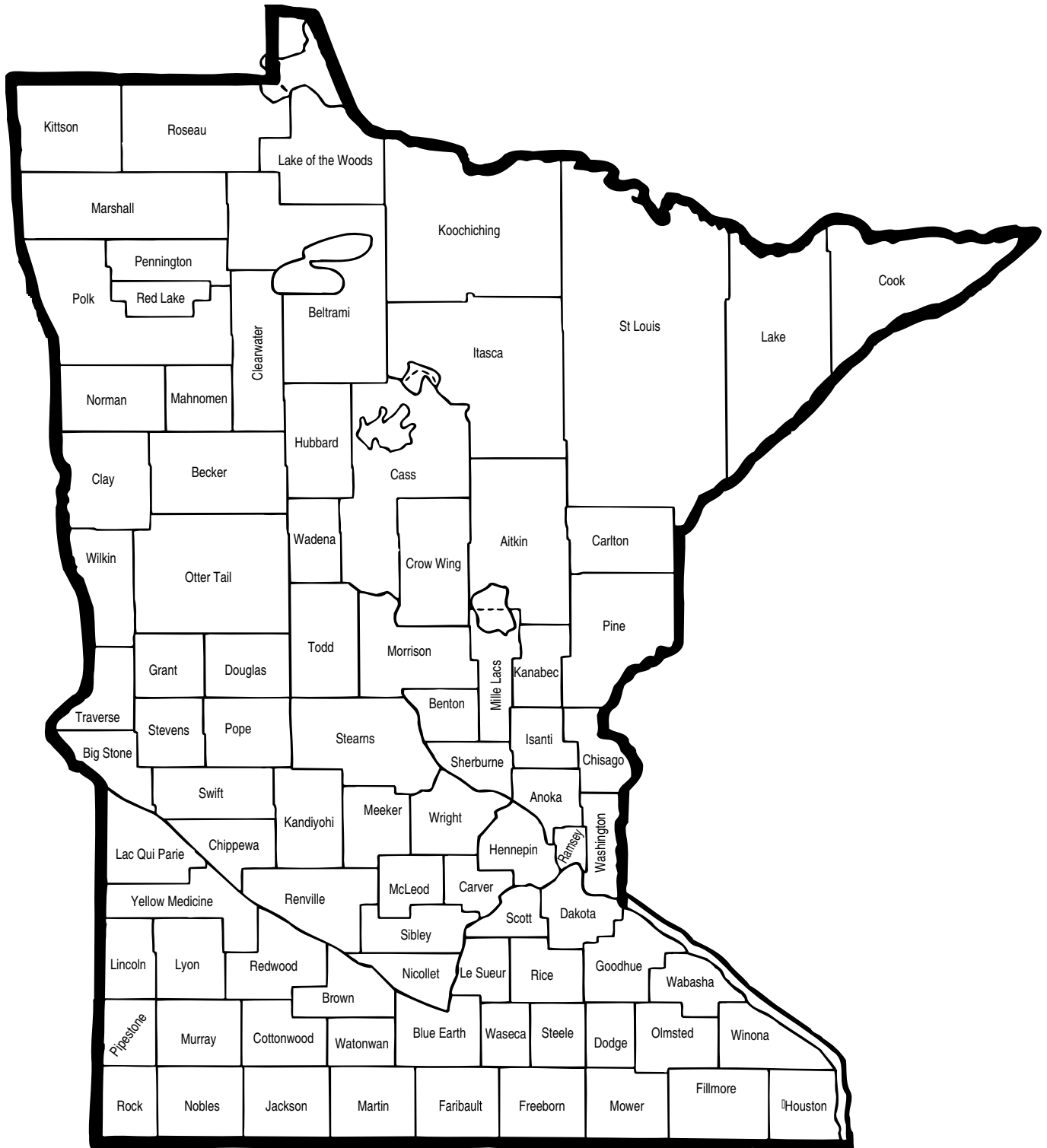
DAIRY AREA

The dairy region is concentrated in central to southeastern Minnesota. Land is generally hilly, with many lakes and patchwork fields.

Some dairy plants near urban centers are geared to fluid milk production while dairy facilities throughout the region supply dry milk, butter, cheese, ice cream and other specialty dairy products to food stores.

This area is also where most of Minnesota's poultry is produced. Minnesota is first nationally in the production of turkeys.

MINNESOTA



ANSWERS

Wild About Ag (p. 4)

Across:

1. hog; 4. pig; 6. wool; 8. calf; 9. bull; 10. tomato; 11. lime; 12. ram; 13. hens; 15. seed; 17. pea; 19. rye; 20. milk; 22. soil; 23. poult; 25. erosion.

Down:

2. owl; 3. golly; 4. plowed; 5. grain; 7. lambs; 8. corn; 9. barn; 13. hay; 14. same; 16. eggs; 17. pal; 18. apple; 21. kid; 24. wood.

Animal Care Crossword (p. 5)

Across:

4. ration; 5. dehorn; 6. confinement; 7. crate; 9. environment

Down:

1. vaccinations; 2. iron; 3. veterinarian; 5. docked; 8. veal

Trash to Treasure (p. 6)

Makin' Bacon ... and more!

a. 7; b. 1; c. 2; d. 5; e. 4; f. 3; g. 6

Something to Quack About!

Down

Everything but the moo

A	C	L	U	K	C	N	R	P	S	V	L	A	T
R	F	E	R	T	H	F	X	G	J	N	M	K	O
P	L	A	N	T	I	F	R	E	E	Z	E	A	L
M	A	T	W	S	N	R	T	S	V	Q	O	C	D
S	W	H	S	A	A	E	E	B	A	Z	U	O	Y
U	D	E	T	B	L	N	E	S	O	A	P	S	X
G	O	R	M	U	R	X	A	L	R	D	H	M	T
N	I	L	O	N	Y	G	A	W	T	V	O	E	L
O	P	T	F	F	I	L	M	A	E	F	L	T	Y
E	R	A	U	W	B	U	T	T	O	N	S	I	Z
R	S	F	Z	R	E	E	P	L	D	N	T	C	Q
K	B	E	Q	A	N	B	R	U	S	H	E	S	T
J	A	F	E	R	T	I	L	I	Z	E	R	T	A
E	X	P	L	O	S	I	V	E	S	A	Y	U	K

Can This Bee Math (p. 7)

1. 74,700 miles; 2. 80,000 hours;
3. 373,500 miles; 4. 960,000 hours;
5. 462 trips; 6. 7,392 trips.

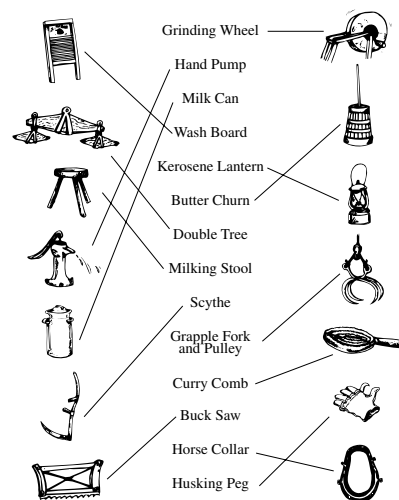
Wheat Whiz (p. 8)

1. doughnut; 2. pretzel; 3. wallpaper paste; 4. malt powder; 5. spaghetti; 6. soap; 7. cake mix; 8. cookies.
Riddle Answer: spaghetti

First Farmers (p. 9)

- Midwest Indian villages were near lakes or rivers so there was plenty of water for drinking, cooking, watering plants, bathing and other needs of the people. Waterways were travel routes. Fish were an important food. Animals who came to the water to drink were hunted for food, fur, and other needs.
- Settlers coming to North America had much to learn about growing crops in a new land. North American Indians already knew the land and climate and what would grow. By sharing their knowledge, they saved the settlers many years of trial and error.
- Processor - potato; tomato; canoe; moccasin; Minnesota

Aggie's Antiques (p. 10)



Minnesota Ag Trivia (p. 11)

1. Mahnomen
 2. grass
 3. sugarbeets
- Riddle: snow

Earth-Friendly Agriculture (p. 12)

4. forest and grassy areas; 2. terraces; 3. grassed waterways; 1. contour planting; 5. windbreak

Help Wanted! (p. 13)

1. agronomist; 2. truck driver; 3. rancher;
4. beekeeper; 5. economist; 6. entomologist;
7. meteorologist; 8. accountant; 9. veterinarian;
10. mechanic; 11. ag journalist; 12. forester;
13. landscape architect.

Grow in Agriculture: Jobs (p. 14)

On activity sheet.

The “Ripple Effect” (p. 15)

1. d; 2. c; 3. f; 4. a; 5. b; 6. e

What am I? (p. 16)

wild rice

Where in Minnesota? (p. 17)

1. 4 Commodities - None
3 Commodities - Otter Tail
2. The northeastern part of the state has poor soil for growing feeds crops. It is often rocky and hilly.
3. Livestock - producing counties have enough land suitable for herds and for raising crops for feeding animals.

Where in Minnesota? (p. 18)

1. No counties are top in 4 or 5 commodities, Renville, Polk and Marshall have 3.
2. Crops are raised in Minnesota where soil is rich, terrain is flat enough for machinery, there is enough moisture and there is open space. This is generally in the southern and western parts of the state, but new crop hybrids have allowed more production in the northwest.
3. Livestock are generally raised in areas where plentiful food crops are also grown.

Ag from A to Z (p. 20)

Xylem is fiber found in trees.

Plant Power (p. 21)

1. chowder; 2. grits; 3. plastic; 4. sweetener;
 5. cereal; 6. starch; 7. ethanol.
- The Mystery Crop is corn.

Country Scramble (p. 22)

Yo, cuz!

Long time no see. School's out and I've got a great summer job driving our new tractor. It cost over \$100,000. You ought to see it—8-foot duals on the back, a computer, air conditioner and awesome stereo.

We're cutting and baling hay for the cows. The corn and soybeans look good. We're setting up a roadside stand to sell tomatoes, sweet corn, melons and eggs. City folks are nuts about fresh veggies. I'm going to show a calf at the fair for 4-H this year. Every morning I lead her around to train her. When can you come for a visit? We could probably ride the horses over to Catnip pond and go swimming.

Write soon!

Your cousin

Pat