

We're #1!

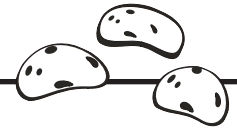
Idea: Ask the students what it means to be #1. What are some of their #1 teams? What do they think North Dakota ranks #1 in?

North Dakota usually ranks #1 among the states for production of 14 agricultural products. The 2007 information (the latest available) was released in June 2008 by the North Dakota Agricultural Statistics Service and is available at http://www.nass.usda.gov/Statistics_by_State/North_Dakota/Publications/Top_Commodities/pub/rank08.pdf.

Here are the percentages of the U.S. production provided by North Dakota in 2007 for each #1 product.

Spring Wheat.....	49 percent
Durum Wheat	61 percent
Oats.....	17 percent
Barley	37 percent
Flaxseed.....	94 percent
Pinto Beans.....	65 percent
Dry Edible Beans.....	42 percent
Dry Edible Peas.....	65 percent
Oil Sunflowers	52 percent
Non-oil Sunflowers	52 percent
Canola	91 percent
Lentils.....	39 percent
Honey.....	21 percent
Navy Beans.....	42 percent

Note: The government counts several kinds of beans separately but also combines navy, pinto, black and other kinds of beans into another category of all dry edible beans.



Answers to Crop Categories

- | | | |
|----------------|--------------------|--------------|
| ★ Spring Wheat | ✓ Pinto Beans | Canola |
| ★ Durum Wheat | ✓ Dry Edible Beans | ✓ Lentils |
| ★ Oats | ✓ Dry Edible Peas | Honey |
| ★ Barley | Oil Sunflowers | ✓ Navy Beans |
| Flaxseed | Non-oil Sunflowers | |

Oilseeds: flaxseed, oil sunflowers, canola

Legumes: pinto beans, dry edible beans, dry edible peas, lentils, navy beans

Cereal grains: spring wheat, durum wheat, oats, barley

Other: non-oil sunflowers, honey

Idea: After students list the foods they ate yesterday and circled the foods that came from North Dakota's #1 products, see if they can also categorize the foods into oilseeds, legumes, cereal grains and other categories.

Idea: Ask a local farmer, the local elevator manager, your high school agriculture teacher or an Extension agent to help gather samples of these and other crops. Have students sort them by category.

Idea: Have students bring from home items that contain North Dakota's #1 products. Have a display or have students guess which products the items contain.

Idea: Compare oil and non-oil sunflower seeds. How do they look similar? How are they different? What is each used for?

Idea: Have students create pie charts illustrating the percentages of North Dakota production for various crops.

Crop Production

What Crop is It?

Idea: Have each student or team of students research the crops in which North Dakota usually ranks #1 among the states in production. How does the crop grow? In what part of the state does it primarily grow? How is it processed? What is it used in?

Idea: Grow pinto beans or another kind of dry edible bean in small containers. Study the parts of the plants. How are various dry edible bean plants alike? How are they different?

Idea: Have the students use various colors, shapes and sizes of beans (or other legumes or grains) to make picture frames.

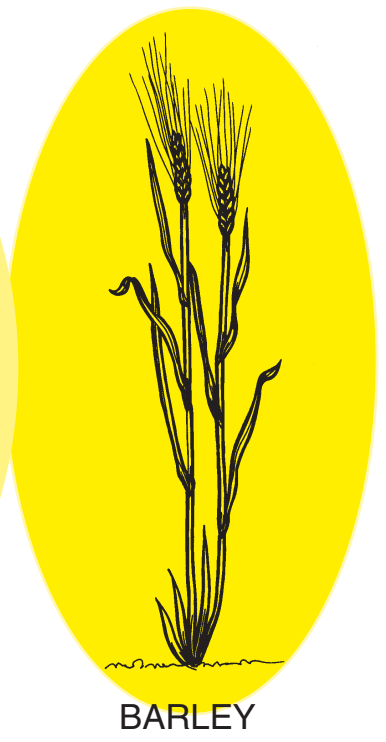
Materials: various dry beans; glue; small Styrofoam plates or cardboard pieces

Cut out the center of the plate or cardboard to fit the picture. Lightly draw a design with a pencil. Glue the beans and other dry commodities on the design.

Source: Northarvest Bean Growers Association

Idea: Make stained glass pictures with canola oil. On white paper, draw a picture using colored felt markers. Place the page on a sheet of newsprint or a paper towel. Using an old paint brush, cover the entire drawing with a light coating of canola oil. Let dry. Once dry, place or hang the picture in a window. See the sun shine through your drawing.

Source: Northern Canola Growers Association



Honey Production



Answers to Honeybee Math

- 1. 36 bees**
 $12 \text{ bees/teaspoon} \times 3 \text{ teaspoons/tablespoon} = 36 \text{ bees to make 1 tablespoon}$
- 2. 440,000 miles**
 $55,000 \text{ miles/pound} \times 8 \text{ pounds} = 440,000 \text{ miles}$
- 3. 52.5 miles**
 $15 \text{ miles/hour} \times 3.5 \text{ hours} = 52.5 \text{ miles}$
- 4. 6.55 pounds**
 $1.31 \text{ pounds/person} \times 5 \text{ people} = 6.55 \text{ pounds}$
- 5. 10,000,000 flowers**
 $2,000,000 \text{ flowers/pound} \times 5 \text{ pounds} = 10,000,000 \text{ flowers}$
- 6. 14 tablespoons**
.875 cup
 $2 \text{ tablespoons/trip} \times 7 \text{ trips} = 14 \text{ tablespoons,}$
 $14 \text{ tablespoons} \div 16 \text{ tablespoons/cup} = .875 \text{ cup}$
- 7. 46.9 lbs.**
 $30,000,000 \text{ pounds} \div 639,715 \text{ people} = 46.9 \text{ pounds per person}$

Idea: At the National Honey Board Web site – www.honey.com – purchase “The Honey Files: A Bee’s Life” teaching guide and 20-minute video for grade levels 4-6 for \$5, and see or purchase “The Story of Honey” and “The Story of Pollination” brochures.

Idea: Use the lesson “Buzzy Buzzy Bee” from Project Food, Land & People to learn about the honeybee’s role in plant pollination.



Idea: Make banana pops to show students that honey is part of a nutritious diet.

Ingredients: ground toasted almonds, flaked coconut, candy sprinkles and/or graham cracker crumbs; honey; peeled bananas; popsicle or craft sticks

Spread toppings on plates. Cut bananas in half crosswise. Insert a stick into each cut end. To assemble, hold each banana half over a plate or waxed paper to catch drips. Spoon about 1 tablespoon honey over banana, rotating and smoothing honey with back of spoon to coat all sides. (Or squeeze honey from a plastic honey bear container and smooth out with spoon.) Roll banana in topping of choice until coated on all sides, pressing with fingertips to help topping adhere. Place pops on waxed paper-lined cookie sheet. Repeat with remaining bananas, honey and topping. Serve at once.

Nutritional Information Per Serving

Calories: 224, Calories from Fat: 39%, Carbohydrates: 35.2 g, Cholesterol: 0 mg, Dietary Fiber: 3.26 g, Fat Total: 11.6 g, Protein: 4.98 g, Sodium: 3.8 g

Source: The National Honey Board, www.honey.com

Processing



Idea: Have students or teams of students select one of North Dakota's #1 products and research the steps required for processing to change it from a raw commodity to a finished product consumers can purchase.



Idea: Have students bring labels of products that contain these agricultural commodities in a processed form.

Idea: Discuss some of the reasons why processing plants are in specific locations. Examples – accessibility to railroads or interstate highways, close to production of raw product.

Idea: Request the “Canola: Sunshine from the Prairie” teaching packet from the Northern Canola Growers Association.



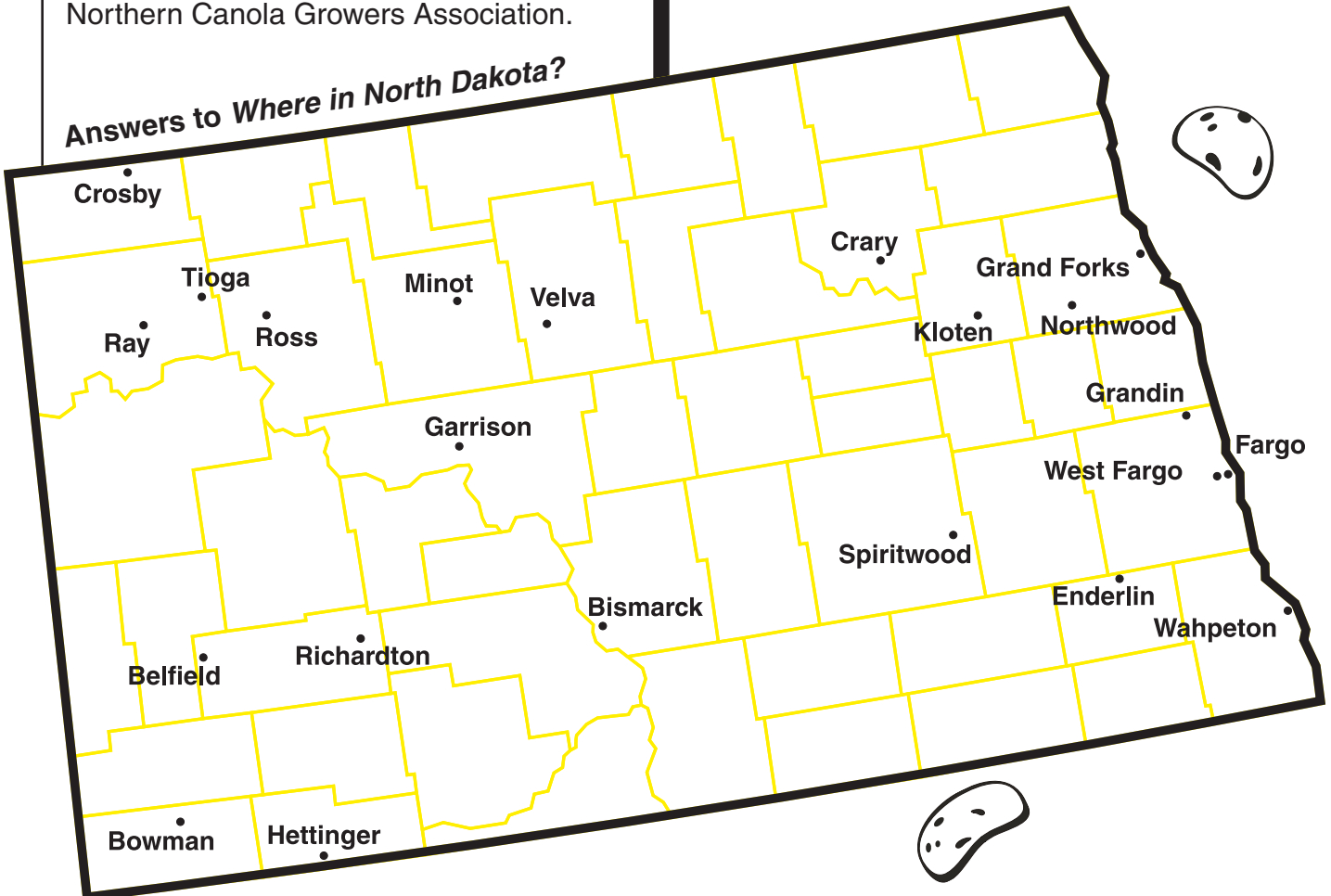
Career Corner

Idea: Have students or teams of students select one of North Dakota's #1 products and research careers related to that product. Have a career day to share what they've learned.

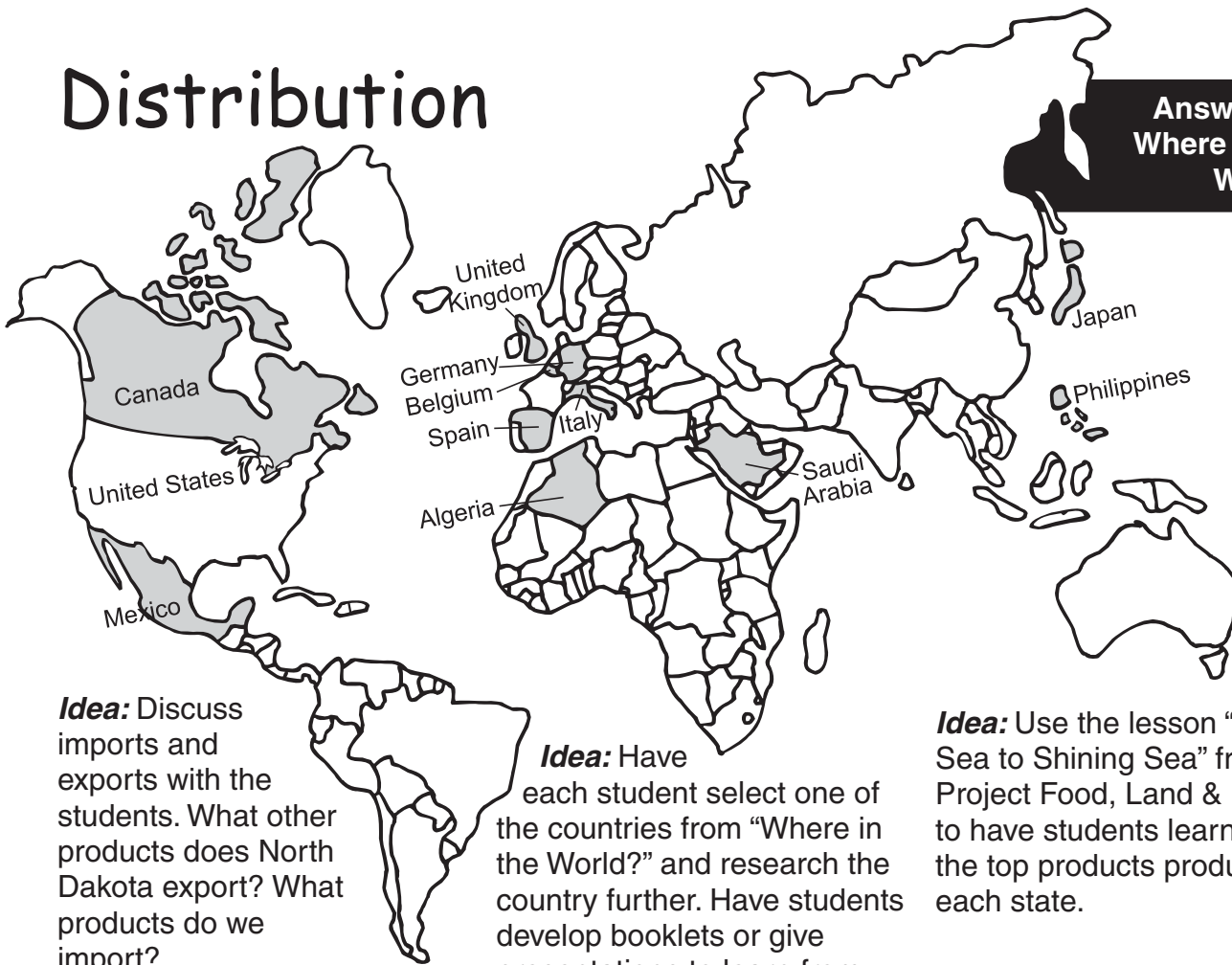
Idea: Have students research and gather the different beans and seeds the Hoffs process.

Idea: Have students bring a list of products they've identified at the grocery store that are certified organic or kosher.

Answers to Where in North Dakota?



Distribution



Answers to
Where in the
World?

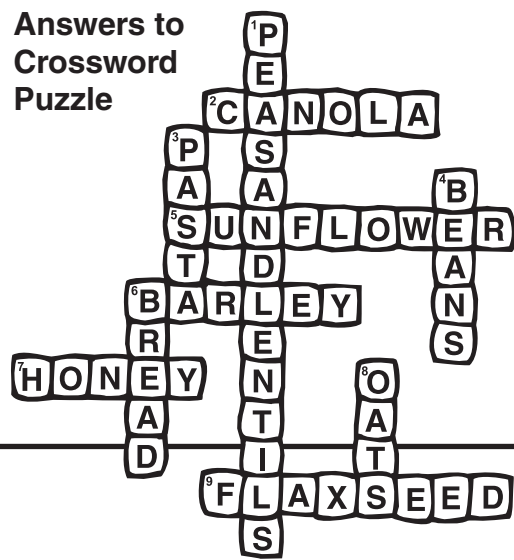
Idea: Discuss imports and exports with the students. What other products does North Dakota export? What products do we import?

Idea: Have each student select one of the countries from “Where in the World?” and research the country further. Have students develop booklets or give presentations to learn from each other.

Idea: Use the lesson “From Sea to Shining Sea” from Project Food, Land & People to have students learn about the top products produced in each state.

Consumption

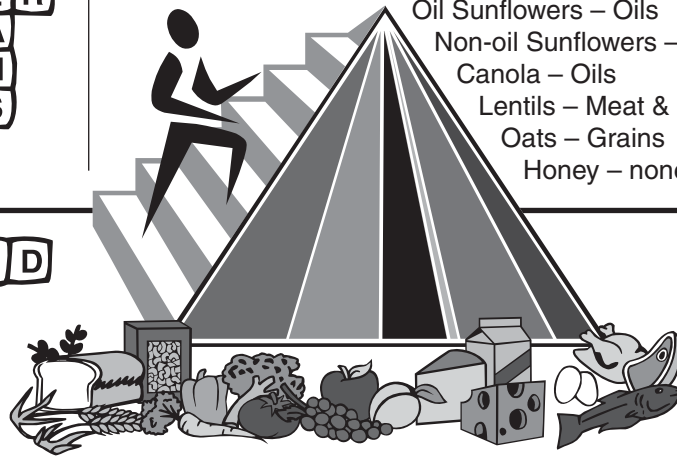
Answers to
Crossword
Puzzle



Idea: Discuss why North Dakota doesn't produce many products in the vegetable, fruit and milk groups.

Answers to Pack MyPyramid

- Spring Wheat – Grains
- Durum Wheat – Grains
- Navy Beans – Meat & Beans
- Barley – Grains
- Flaxseed – Oils
- Pinto Beans – Meat & Beans
- Dry Edible Beans – Meat & Beans
- Dry Edible Peas – Meat & Beans
- Oil Sunflowers – Oils
- Non-oil Sunflowers – Meat & Beans
- Canola – Oils
- Lentils – Meat & Beans
- Oats – Grains
- Honey – none



GRAINS VEGETABLES FRUITS OILS MILK MEAT & BEANS

Additional educational material is available at:

National Honey Board, www.honey.com

Northharvest Bean Growers Association,
www.northharvestbean.org

North Dakota Wheat Commission,
www.ndwheat.com

National Sunflower Association,
www.sunflowernsa.com

Northern Canola Growers Association,
www.northerncanola.com

Ameriflax, www.ameriflax.com

Northern Pulse Growers Association,
www.northernpulse.com

North Dakota Barley Council,
www.ndbarley.net

North Dakota Agriculture in the Classroom

This issue of the Ag Mag focuses on the agricultural commodities in which North Dakota usually ranks #1 among the states. The Ag Mag's information and activities are geared primarily toward the state's third, fourth and fifth graders. The Ag Mag is distributed three times per year. Subscriptions are free, but if you're not on the mailing list or if you know someone who wants to be added, contact the North Dakota Department of Agriculture at 1-800-242-7535 or ndda@nd.gov.

The magazine also is on the Web at www.ag.ndsu.edu/agmag/agmag.htm or through the North Dakota Agriculture in the Classroom Web site at **www.ndaginclassroom.org**.

This magazine is one of the N.D. Agriculture in the Classroom Council activities that helps you and other K-12 teachers integrate information and activities about North Dakota agriculture across your curriculum in science, math, language arts, social studies and other classes. It's a supplemental resource rather than a separate program.

N.D. Agriculture in the Classroom Mission

To cultivate an understanding of the interrelationship of agriculture, the environment and people by integrating agriculture into K-12 education

North Dakota Agriculture in the Classroom Activities

This Ag Mag is just one of the North Dakota Agriculture in the Classroom Council projects.

Each issue of the Ag Mag focuses on an agricultural commodity or topic and includes fun activities, bold graphics, interesting information and challenging problems. Send feedback and suggestions for future Ag Mag issues to:

Becky Koch
NDSU Agriculture Communication
(701) 231-7875
Becky.Koch@ndsu.edu

Another council teacher resource is **Project Food, Land & People (FLP)**. Using the national FLP curriculum, N.D. Ag in the Classroom provides 600-level credit workshops for teachers to instruct them in integrating hands-on lessons that promote the development of critical thinking skills so students can better understand the interrelationships among the environment, agriculture and people of the world. Teachers are encouraged to adapt their lessons to include North Dakota products and resources.

Project Food, Land & People has 55 lessons, including:

- Amazing Grazing
- Cows or Condos?
- Seed Surprises
- Schoolground Caretakers
- Could It Be Something They Ate?
- What Piece of the Pie?
- and many more.

For information, contact:

Gail Scherweit
N.D. Farm Bureau Foundation
(701) 298-2219
gails@ndfb.org

Educators may apply for **mini-grants for up to \$500** for use in programs that promote agricultural literacy. The Agriculture in the Classroom Council, working with the N.D. FFA Foundation, offers these funds for agriculture-related projects, units and lessons used for school-age children. The mini-grants fund hands-on activities that develop and enrich understanding of agriculture as the source of food and/or fiber in our society. Individuals or groups such as teachers, 4-H leaders, commodity groups and others interested in teaching young people about the importance of North Dakota agriculture are welcome to apply.

Examples of programs that may be funded: farm safety programs, agricultural festivals, an elementary classroom visiting a nearby farm and ag career awareness day. Grant funds can be used for printing, curriculum, guest speakers, materials, food, supplies, etc. More ideas and an application are at www.ndaginclassroom.org.

For information, contact:

Beth Bakke Stenehjem
N.D. FFA Foundation
(701) 224-8390
bethbakke@btinet.net

The N.D. Geographic Alliance conducts a two-day **Agricultural Tour for Teachers**. The tour includes farm and field visits, tours of agricultural processing plants to see what happens to products following the farm production cycle, and discussions with people involved in the global marketing of North Dakota farm products.

For information, contact:

Marilyn Weiser
North Dakota Geographic Alliance
(701) 858-3063
marilyn.weiser@gmail.com

Agricultural Science in the Virtual Classroom is a pilot project in which middle school and high school science classes are paired with North Dakota State University agriculture faculty and North Dakota ag industry leaders. The pairs use videoconferencing, Web pages and other technologies to share knowledge about biofuels, food safety or similar ag topics.

For information, contact:

Kim Owen
NDSU Information Technology
Services
(701) 231-9522
kim.owen@ndsu.edu

Since teachers must relate work to education standards, the council worked with North Dakota State University to identify which Project Food, Land & People lessons meet North Dakota's **academic standards** for grades K-8. The North Dakota Agriculture in the Classroom Web site at www.ndaginclassroom.org includes links to these standards alignments, educational materials, statistics, resources and activities for students and teachers.

For information, contact:

Joanne Beckman
N.D. Department of Agriculture
(800) 242-7535
ndda@nd.gov



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