Wisconsin Ag in the Classroom

2021 Farm Fact Lessons and Activities

www.wisagclassroom.org

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Wisconsin's Top Ten Commodities….

Ranking	Category	Give an example of a food/feed product in this category	Share one fact about this commodity.
1	Dairy Products		
2	Cattle and Calves		
3	Corn		
4	Soybeans		
5	Miscellaneous Crops		
6	Potatoes		
7	Hogs		
8	Cranberries		
9	Hay		
10	Chicken Eggs		

Your favorite food is: _____

1. Does it belong in one of the Top Ten categories? _____ If yes, which one? _____
2. Is your favorite food something that is grown/produced in Wisconsin? _____
3. List the basic steps of getting your favorite food from the farm to your table:

Agriculture provides jobs for others!

List three examples of on-farm production jobs:

1.

2.

3.

List three examples of processing jobs:

1.

2.

3.

Define these words

Processing:

Disposable income:

Commodities:

Yield:

Acre:

Worker Bee:

Sap:

Antioxidant:

Antibacterial:

Potassium:

Infographics

Select one of the commodities listed in either Wisconsin's Top Ten Commodities or Where we rank on a national level.

Commodity _____

Research five facts about that commodity:

1.

2.

3.

4.

5.

Make an infographic highlighting one of the facts:

Select either honey or maple syrup: _____

Make an infographic using one of the facts about it in the brochure:

Agriculture Provides Jobs

1. Select one product or commodity listed in the Wisconsin Farm Facts brochure

   _____

2. List four jobs that are related to that industry:

   a.

   b.

   c.

   d.

3. Write a job description for **your ideal job** in agriculture!

4. Considering what your ideal job in agriculture is, what type of education or training will you need?

5. What classes in middle school and high school will help you achieve your ideal job?

6. Is there someone or a business in your community that you could learn more about this career by job shadowing or interviewing someone?

Food Buying Trends

Select one of the holiday's listed in this section (Independence Day, Halloween, Valentine's Day, Memorial Day, or Thanksgiving).

Holiday _____

Amount of $ Americans spend on that holiday: $_____

Discussion points:

1. Did the dollar amount surprise you?

2. Does your family (or you) contribute to that number?

3. How does food fit into our "social" experience with holidays?

4. What is your favorite food for that holiday?

5. List different types of foods that might be purchased for this holiday?

6. Write out a recipe that might made for this holiday? Circle the ingredients that might originate in Wisconsin.

Careers using statistics-

https://www.nass.usda.gov/About_NASS/Opportunities/index.php

YouTube- https://youtu.be/4rodJxNmISE

The National Agricultural Statistics Service (NASS) provides timely, accurate, and useful statistics in service to U.S. agriculture. NASS is the official source of comprehensive, current information on the farms, ranches, and people who provide food, feed, and fiber to our nation and the world. Explore more at *A Career Choice that Adds Up*.

NASS collects, assembles, analyzes, and disseminates data about U.S. agriculture. The combination of rapidly changing agriculture, new statistical methods, and state-of-the-art computer and remote-sensing technology makes this an exciting era for NASS professionals.

- Conducts over 400 weekly, monthly, quarterly, or annual surveys each year.
- Conducts the Census of Agriculture every five years - a complete count of U.S. farms and ranches.
- Conducts ongoing research on survey design, sampling, and other cutting-edge statistical issues.

Our Products

Our data and reports cover a broad range of issues, including but not limited to:

- Agricultural production and inventories
- Farm labor and wages, income and finances
- Types and amounts of chemicals
- Conditions of specific crops, livestock inventories and trends, rural development
- Agriculture industries such as flour milling, ethanol, cotton, and fats and oils

NASS Staff by Job Type	%
Agricultural / Survey Statistician	56
Mathematical Statistician	12
IT Specialist	11
Administrative / Clerical	10
Statistical Assistant	5
Geographer / Cartographer	2
Finance, Communications, HR	2
Intern	2
All Staff	100

NASS Jobs

Whether you are an experienced professional or just starting your career, NASS offers excellent career opportunities and a dynamic, rewarding work environment. Nearly 70 percent of NASS employees are statisticians and another 11 percent are IT specialists, but NASS hires from a wide range of backgrounds. If you are interested in impartial, objective data, enjoy solving problems, and want to learn and grow throughout your career, consider joining the NASS team. Opportunities for advancement are excellent. NASS vacancies are available on USAJOBS.

Brochure: Career that adds up: https://www.nass.usda.gov/About_NASS/Opportunities/nass-career-brochure-2020.pdf

Lesson plan from NASS-

https://www.nass.usda.gov/Education_and_Outreach/Lesson_Plans/index.php

Lesson Plans

Increasing statistical literacy in youth is an important way to develop the next generation of statisticians. NASS and the American Statistical Association (ASA) with guidance from the National Agriculture in the Classroom organization developed a Food Preference Survey lesson, activities, and extensions that build on the existing ASA Census at School survey with an agricultural tie-in. The lesson teaches and addresses common core standards for grades 5-8 in Mathematics, Language Arts, Nutrition, Social Studies, National Family and Consumer Sciences. Students complete a brief online survey, analyze their class census results, and compare their class with random samples from students in the United States and other countries.

Census at School: Food Preference Survey Lesson Plan and Activities

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Recipes for kids!

Source: National Honey Board- https://honey.com/recipe/mixed-berry-roller-ups

MIXED BERRY ROLLER-UPS

YIELD: Makes 4 servings

INGREDIENTS

1 cup- strawberries, diced
1 cup-blueberries
1 cup-raspberries
1/3 cup-honey
1 T -orange peel, grated
4 10-inch-flour tortillas
1/4 cup-light cream cheese

DIRECTIONS

- In medium mixing bowl, place berries; gently stir in honey and orange peel.
- Arrange tortillas on work surface.
- Spread 1 T cream cheese evenly over one side of each tortilla. Spoon about 3/4 cup honey fruit mixture down center of each tortilla. Fold in ends, and then roll, starting at one side, to form a burrito-like roll.
- Serve at once.

Homemade Butter with Maple Syrup Flavoring

Wisconsin Ag in the Classroom- Hands-On Activities Book 1

Homemade Butter

Materials Needed:

- Jar (pint-sized). Can be glass or plastic. 2-ounce cups with lids also work well.
- Heavy whipping cream, preferably at room temperature.
- Salt
- Crackers

Procedure:

1. Fill jar or cup 2/3 full with whipping cream. Firmly secure lid. Be sure to leave some space in the container.
2. Shake container briskly for 5-10 minutes (the more cream in the container, the longer it will take). Continue shaking until the butter is a solid lump in the jar. Once the butter has formed, open the jar and pour off the buttermilk.
3. To make salted butter, add salt after the butter is formed.
4. Spread butter on crackers and enjoy!

Variations:

- For an experiment, try salting before shaking.
- Experiment by having students record the temperature of cream when beginning, length of time, and number of shakes it takes for butter to form.
- Instead of using heavy whipping cream (44% cream), try using light cream (18% cream), regular milk (3.5% cream), and 2% milk (2% cream). Have students compare the results
- After butter forms, you can add maple syrup for “maple butter’, honey for “honey butter” or others to use other Wisconsin commodities.

Word Scramble

Unscramble these words found in the 2021 Wisconsin Farm Fact brochure.

ADIYR _____

TPRSUDOC _____

ICSERNRBEAR _____

ASOYSNEB _____

HYA _____

EGSG _____

OWCS _____

TEAOOTPS _____

OMONYEC _____

FRMSA _____

SSATCITTSI _____

HYNEO _____

RPYSU _____

SPA _____

QEUEN _____

RNEOD _____

SCOPSRENGI _____

OOCTNT _____

ESRTRSERWBIA _____

Where to learn more about agriculture in our state and your county:

Contribution of Agriculture to the Wisconsin Economy- https://economicdevelopment.extension.wisc.edu/eda-university-center/contribution-of-agriculture-to-the-wisconsin-economy/
This study provides an update of the Contribution of Agriculture to the Wisconsin Economy undertaken by Steven Deller using data for 2017, the most current available. Despite currently weak commodity prices, particularly within dairy, agriculture remains an important part of the Wisconsin economy.

County Agriculture Impacts- https://economicdevelopment.extension.wisc.edu/eda-university-center/contribution-of-agriculture-to-the-wisconsin-economy/county-agriculture-impacts/
Agriculture is a vital part of the economy in nearly every Wisconsin county, whether urban or rural. Family-owned farms, food processors and agriculture-related businesses generate thousands of jobs and millions of dollars of economic activity while contributing to local income and tax revenues. The economic impact varies from county to county as do the commodities. While dairy is the number one commodity in most counties, other top commodities include grain, poultry and vegetables. Statewide, agriculture is a $104.8 billion industry and provides 435,700 jobs. Information about each county's top commodities, the number of people employed by agriculture-related businesses and the economic impact is available in these two-page reports.

You will find a list of counties like this. Click on a link to open your county information!

Please note: county impact reports will be added as information becomes available.

Adams	Florence	**Marathon**	Rusk
Ashland	**Fond du Lac**	**Marinette**	**St. Croix**
Barron	Forest	**Marquette**	**Sauk**
Bayfield	**Grant**	Menominee	**Sawyer**
Brown	**Green**	Milwaukee	**Shawano**
Buffalo	**Green Lake**	**Monroe**	**Sheboygan**
Burnett	**Iowa**	**Oconto**	**Taylor**
Calumet	Iron	Oneida	**Trempealeau**
Chippewa	**Jackson**	**Outagamie**	**Vernon**
Clark	**Jefferson**	**Ozaukee**	Vilas
Columbia	**Juneau**	**Pepin**	**Walworth**
Crawford	**Kenosha**	**Pierce**	**Washburn**
Dane	**Kewaunee**	**Polk**	**Washington**
Dodge	**La Crosse**	**Portage**	**Waukesha**
Door	**Lafayette**	Price	**Waupaca**
Douglas	**Langlade**	**Racine**	**Waushara**
Dunn	**Lincoln**	**Richland**	**Winnebago**
Eau Claire	**Manitowoc**	**Rock**	**Wood**

Other Maple Syrup Lessons and Resources Links

National Ag in the Classroom Curriculum Matrix- https://www.agclassroom.org/matrix/search_result/?search_term=maple+syrup&findlesson=on&findresource=on&maxlessons=25&maxresources=25

From Sap to Syrup

Students will recognize how geography and climate allow for the growth of maple trees and the process of making syrup. They will identify the characteristics of maple trees that produce the best sap for making maple syrup and name the steps in the process of creating syrup from sap.

Pancakes! (Grades 3-5)

Students will describe the physical properties of materials and observe physical and chemical changes as they learn about the ingredients in pancakes and how maple syrup is harvested from trees.

Pancakes! (Grades K-2)

Students will describe the physical properties of materials and observe physical and chemical changes as they learn about the ingredients in pancakes and how maple syrup is harvested from trees.

Wisconsin Maple Syrup Producers

Resources for teachers- https://wismaple.org/teaching-resource

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Wisconsin Ag in the Classroom

YouTube Channel- 2021 Farm Fact Playlist- https://www.youtube.com/playlist?list=PLUvmuVa0n1QL55WOPKLDcAVaru_8PALN6

Commodity fact sheet: **https://www.wisagclassroom.org/wp-content/uploads/2019/09/Maple-Syrup-Fact-Sheet.pdf**

Monthly Theme- January- https://www.wisagclassroom.org/wp-content/uploads/2021/01/Monthly-Theme-January-Maple-Syrup-and-Pork.pdf

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American Farm Bureau Foundation for Agriculture

How Maple Syrup is made- https://www.agfoundation.org/news/how-maple-syrup-is-made

YouTube- Kids' Questions About Agriculture- Can I get syrup from a tree?- https://youtu.be/nmhKO4SkLNE

America's Heartland

Creating Maple Syrup - https://youtu.be/xmsuJCQydAk

Other Honey and Bees Lessons and Resources Links

National Ag in the Classroom Curriculum Matrix

Bees-
https://www.agclassroom.org/matrix/search_result/?search_term=bees&findlesson=on&findresource=on&maxlessons=25&maxresources=25

Conserving Bumble Bees

This lesson introduces the importance of bumble bees and other pollinators. Using a case study approach, students will examine bumble bee population surveys and use the scientific method to discuss possible causes for the decline of pollinators. Students will then determine which land management conservation strategies in agricultural ecosystems are most successful in attracting and supporting bumble bee populations.

Fabulous Flowers

The students will examine the functions of flowers and determine that some flowers are edible.

Flower Power (Grades 3-5)

Students will observe physical characteristics of flowers and explore principles of pollination.

Flower Power (Grades 6-8)

Students will observe the anatomical structures of flowers and explain a flower's role in plant growth and reproduction as well as their connection to our food supply.

Good Taste: Honey Bee Forager Food Preference

In this lesson students learn about the foraging behavior of bees and hypothesize if the bee's behavior is related to its ability to detect sugar. Students will then determine which type of foraging bee would be best for pollination or honey production. Students will learn about the process of gel electrophoresis as a genetic tool and analyze DNA to identify strains of bees who are better pollen-collecting bees or better nectar-collecting bees.

Honey Bees: A Pollination Simulation

Students will identify the parts of a honey bee, the stages of its life cycle, and its role in pollination.

Mind Your Own Beeswax

Through project-based learning, students will solve the problem of excess beeswax, a byproduct of honey bees, by developing a useful beeswax product and marketing their product to be sold in a local boutique or farmers market.

Preservation Power of Honey

Students will expand their knowledge of microbial growth and scientific food preservation methods to learn how honey can serve as an antibacterial agent. Students will learn how honey may be used as a preservative of milk in areas without access to electricity or refrigeration and how this preservation method relies on elements found specifically in honey that cannot be replicated with other sources of sugar.

The Amazing Honey Bee

Students will investigate the three types of honey bees in a colony, identify their roles, and recognize honey bees as part of a community that works together.

Honey- https://www.agclassroom.org/matrix/search_result/?search_term=honey&findlesson=on&findresource=on&maxlessons=25&maxresources=25

Fermentation of Honey

This lesson explains the processes of cellular respiration and fermentation and how it applies to the production and processing of honey.

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Honey Bees: A Pollination Simulation

Students will identify the parts of a honey bee, the stages of its life cycle, and its role in pollination.

Honey as a Biomolecule

Students will learn about different types of carbohydrates, the role of enzymes in breaking down complex sugars into simple sugars, and how different sugars impact our perception of sweetness and may impact human health.

Mind Your Own Beeswax

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American Farm Bureau Foundation for Agriculture

A Beekeeper's Story: An Interview With Cameron Robertson- https://www.agfoundation.org/news/a-beekeepers-story-an-interview-with-cameron-robertson

Bee Ag Mag (also in Spanish)- https://www.agfoundation.org/recommended-pubs/bee-ag-mag

At Home Learning- https://www.agfoundation.org/news/at-home-learning-nov.-9

Wisconsin Honey Producers -https://www.wihoney.org/

National Honey Board- https://honey.com/

American Honey Producers Association - https://www.ahpanet.com/links-resources

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American Beekeeping Federation - https://www.abfnet.org/page/16

America's Heartland –
Saving the Bees- https://youtu.be/UeO5horngm8

Researchers Work to Save the Honeybee - https://youtu.be/aDVB03PIj8A

Wisconsin Ag in the Classroom
YouTube Channel- 2021 Farm Fact Playlist-
https://www.youtube.com/playlist?list=PLUvmuVa0n1QL55WOPKLDcAVaru_8PALN6

Answers:

Define these words- Page 3

Processing: Agriculture is the process of producing food, feed, fiber and many other desired products by the cultivation of certain plants and the raising of domesticated animals (livestock).

Disposable income: is the amount of money that an individual or household has to spend or save after income taxes have been deducted.

Commodities: crops and animals produced or raised on farms or plantations

Yields: a measurement of the amount of agricultural production harvested—yield of a crop—per unit of land area.

Acre: a unit of land area equal to 4,840 square yards

Worker Bee: A worker bee is any female bee that lacks the full reproductive capacity of the colony's queen bee; under most circumstances, this is correlated to an increase in certain non-reproductive activities relative to a queen, as well.

Sap: the fluid, chiefly water with dissolved sugars and mineral salts, that circulates in the vascular system of a plant.

Antioxidant: A substance that reduces damage due to oxygen, such as that caused by free radicals.

Antibacterial: Anything that destroys bacteria or suppresses their growth or their ability to reproduce.

Potassium: A mineral found in the foods you eat. It's also an electrolyte. Electrolytes conduct electrical impulses throughout the body.

Word Scramble Answers- Page 10

Dairy
Products
Cranberries
Soybeans
Hay
Eggs
Cows
Potatoes
Economy
Farms
Statistics
Honey
Syrup
Sap
Queen
Drone
Processing
Cotton
Strawberries

Standards covered by this lesson and resource:

NALO= National Agricultural Literacy Outcomes-
https://cdn.agclassroom.org/nat/data/get/NALObooklet.pdf
T3.3-5 f
T3.9-12, d
T4. 6-8, g
T5.k-2, a, b, d, e
T5.3-5, d,
T5.6-8, a, b, g
T5.9-12, d

Pillars of Agricultural Literacy- American Farm Bureau Foundation for Agriculture
https://www.agfoundation.org/pillars

The Relationship between Agriculture and Economy
EC- 6a
Discovery 6a, 6b, d
Knowledge Building 6a, 6c,

The Relationship between Agriculture and Lifestyle
Discovery 4a, 4b
Knowledge Building 4b

The Relationship between Agriculture and Food, Fiber and Energy
Knowledge Building 2g

Agriculture, Food and Natural Resource (AFNR) Wisconsin Standards
FPP1a: Evaluate the significance and implications of changes and trends in the food products and processing industry.

Family and Consumer Science (FCS) Wisconsin Standards
CS1.a: Analyze career paths within consumer service industries
FPS1.a: Analyze career paths within the food production and food services industries

Career and Technical Education (CTE) Wisconsin Standards
Business and Information Technology
IMT1.a: Choose appropriate sources of data and information for a given purpose
IMT2.b: Prepare media products in order to communicate a specific message
ICT1.g: Analyze and use various technologies to produce graphic communication products
CD3: Students will create and manage a flexible and responsive learning plan to meet their career goals.
CD4: Students will identify and apply employability skills

Marketing, Management and Entrepreneurship
MC7.e: Develop and execute an advertising campaign to achieve marketing objectives
MC7.f: Describe design principles to be able to communicate needs to designers