Unearthing the Facts

Objective
The student will read agriculture-related questions and determine the best reference source for finding the answers.

Background
Reference materials are valuable tools. You can look in the dictionary to find the correct spelling of a word, its definition, how to pronounce it, its many forms and its origin. In an encyclopedia you can find information about famous people and places. An almanac will give you information about the weather and the movements of the moon and stars, and an atlas will help you locate a particular place. Newspapers and magazines provide current information on a daily, weekly or monthly basis. The internet makes finding all this information easier than ever.

Don’t expect to stop using reference materials once you get out of school. People in all professions must consult reference resources regularly. Even the best lawyers can’t remember all the laws and must spend hours in law libraries digging for information in law books. Doctors keep medical books on hand and subscribe to medical journals so they can keep track of the latest developments in their profession. People from most professions use digital references to get the information they need.

The people who produce your food use a great variety of reference materials. Farmers may consult the market prices listed in daily newspapers to decide when is the best time to sell their crops. Or they may use the latest computer technology to provide current information about prices in the major markets of Chicago and Kansas City. Farmers may also get information they need from fact sheets available in county Cooperative Extension Service offices. Fact sheets are written by people who do agricultural research at the land-grant universities. If a farmer needs information about a particular variety of wheat or the best way to treat an animal with a certain disease, he or she can go to the county office and get the fact sheet that pertains to that subject. Most of these fact sheets are also available online.

Farmers also need reference materials to decide when to plant, harvest and water their crops. Almanacs provide them with general information about the weather. The television weatherman gives them more up-to-date information. In Oklahoma, a computer network, the Oklahoma Mesonet, monitors a whole list of environmental conditions and provides the information to farmers and others who need to keep track of the weather.

Having the right information at the right time helps farmers save money, but it also helps them protect the environment and conserve resources. Oklahoma farmers irrigate more than 600,000 acres of peanuts, cotton, wheat, sorghum, corn and other crops. By using current weather data, farmers can wait until just the right time to water. That saves water, electricity and money—an estimated $3 million each year.
Language Arts

1. Read and discuss background and vocabulary.
2. Have available the following reference materials in stations: almanacs, encyclopedias, newspapers, atlases, state road maps.
   — Explain how to use each kind of reference for researching a question or topic.
   — Point out all the features of each resource. For example, most dictionaries include not just word listings but also tables of measurement, geographical information, information about English usage and listings of colleges and universities in the United States.
   — Set up four or five work stations with an assortment of reference materials at each one.
   — Hand out the “Reference Scavenger Hunt” included with this lesson.
   — Students will work in groups to find answers to the questions.
   (Note: The answers to most of these questions can be found online, but students should work to find the information with the resources they have available.)
   — Students will write the names of the resources they use to find the answer to each question in the spaces provided.

3. Working in the same groups, students will write questions about a common agricultural topic—the agricultural practices of a particular country, a particular crop, cars, animals, etc.
   — Groups will exchange questions and determine which reference materials would be used to answer the questions.
   — Students will share the results with the class in a discussion of the answers.

4. Lead a discussion about the advantages and disadvantages of using digital as opposed to physical references. (Digital resources may be more up to date. Anyone can put information on the web. Physical references may be more reliable.)

Extra Reading

National Geographic Kids, 5,000 Awesome Facts (About Everything), National Geographic, 2012.
Old Farmer’s Almanac, The Old Farmer’s Almanac for Kids, Old Farmer’s Almanac, 2005.

Vocabulary

almanac— an annual publication including calendars with weather forecasts, astronomical information, tide tables, and other related tabular information

atlas— a book or bound collection of maps

Cooperative Extension Service— formerly the Cooperative States Extension Service, an agency of the US Department of Agriculture established in 1914 to apply the results of agricultural research done in US land-grant colleges. Operating through state and county extension agents, it helps US farmers learn and use new agricultural techniques. In addition, home-demonstration agents supply information and advice on farm economics and financing, food-safety and nutrition, gardening and a wide variety of practical topics.

dictionary—a reference book containing an alphabetical list of words, with information given for each word, usually including meaning, pronunciation, and etymology.

encyclopedia— a comprehensive reference work containing articles on a wide range of subjects or on numerous aspects of a particular field, usually arranged alphabetically

Additional Online Resources

Census of Agriculture: http://www.agcensus.usda.gov/


OSU Extension Fact Sheets: http://pods.dasrn.okstate.edu/docushare/dsweb/HomePage

www.agclassroom.org/ok
Reference Scavenger Hunt

When looking for answers to difficult questions, you sometimes have to dig into several different sources. Many times reference books can provide the answers. Each type of reference book contains a specific type of information. A dictionary contains an alphabetical list of words, with information about each word, including its meaning and pronunciation. It also includes tables of measurement and other kinds of information. An encyclopedia contains articles on a wide range of subjects. An atlas is a collection of maps with information about the different places. A state road map provides the same kind of information as an atlas but about only one state. An almanac is printed once a year and includes calendars, weather forecasts, astronomical information, tide tables, and other information. Some almanacs include lists, charts, and tables of information about elected officials and a variety of other subjects. A newspaper is usually printed daily or weekly and contains current news, editorials, feature articles, and usually advertising. When you use reference books, follow these guidelines:

1. Choose the reference book that contains the type of information you want.
2. Check your facts in more than one source.
3. Always use the most up-to-date book. Look for the copyright date in the front of the book.

Use one of the following sources to find answers to the questions below. In the space provided, write the name of the reference source you used.

Encyclopedia  Almanac  Newspaper  Dictionary  State Road Map

4. Who is best-known for producing the steel plow?

Source:

5. What are the current market cattle prices?

Source:

6. In what Oklahoma county is Stratford, home of the Stratford Peach Festival, located?

Source:

7. In the word “emu,” is the accent on the first or second syllable?

Source:

8. How many towns are in Texas County, Oklahoma?

Source:

9. The Oklahoma redbud tree belongs to the genus

Source:

10. What is the predicted high temperature for tomorrow?

Source:

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11. What state highway runs through Cordell, Oklahoma? __________________________________________
   Source: ________________________________________________________________________________
12. What is the predicted rainfall pattern for April? ______________________________________________
   Source: ________________________________________________________________________________
13. What is the best route from Hugo, OK, to Arnett, OK? _________________________________________
   __________________________________________________________
   _________________________________________________________
   Source: ________________________________________________________________________________
14. Name three cities in Oklahoma where colleges or universities are located.___________________________
   __________________________________________________________
   _________________________________________________________
   Source: ________________________________________________________________________________
15. What is the date of the harvest moon? _______________________________________________________ 
   Source: ________________________________________________________________________________
16. On what date will Thanksgiving be celebrated this year?_______________________________________
   Source: ________________________________________________________________________________
17. How many square feet are in an acre? _________ How many square meters? ________________________
   Source: ________________________________________________________________________________
18. What are the “withers” on a horse?__________________________________________________________
   Source: ________________________________________________________________________________
19. What fresh fruits and vegetables are on sale in local supermarkets this week? ________________________
   __________________________________________________________
   _________________________________________________________
   Source: ________________________________________________________________________________
20. What is your school cafeteria serving for lunch tomorrow?_______________________________________
   Source: ________________________________________________________________________________
21. What Oklahoma crop do we associate with George Washington Carver? ____________________________
   Source: ________________________________________________________________________________
22. What is the plural of the word “beef?” _______________________________________________________
   Source: ________________________________________________________________________________
23. Name at least two Oklahoma counties whose boundaries are formed by the Cimarron River. ____________
   Source: ________________________________________________________________________________
Reference Scavenger Hunt (answers)

1. John Deere; encyclopedia.
2. varied answers; newspaper.
3. Garvin; atlas, Oklahoma road map.
4. first; dictionary.
5. 13; atlas, Oklahoma road map.
6. Cercis; dictionary, encyclopedia.
7. varied answers; newspaper.
8. 152; atlas, Oklahoma road map.
9. varied answers; almanac.
10. North on Indian Nations Turnpike to Henryetta, west on I-40 to Oklahoma City, north on I-44 to Highway 3, north to Kingfisher, west on Highway 3 to Seiling, west on Highway 51 to Arnett; atlas, Oklahoma road map.
11. Any three of the following: Stillwater, Norman, Lawton, Edmond, Ada, Tahlequah, Alva, Durant, Weatherford, Langston, Goodwell, Chickasha; encyclopedia, dictionary, atlas, Oklahoma road map.
12. variable dates in September; almanac.
13. variable dates in November; almanac.
14. 43,560, 4,047; dictionary.
15. The high part of the back, between the shoulder blades, dictionary.
16. varied answers; newspaper.
17. varied answers; newspaper.
18. peanut; encyclopedia
19. beeves; dictionary

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