# Wisconsin Farm Bureau- Ag in the Classroom's World Dairy Expo Lesson Plans

## How to use these lesson plans:

The Wisconsin Farm Bureau- Ag in the Classroom Program worked cooperatively with the World Dairy Expo to develop lesson plans that complement the 4th grade classroom tours to World Dairy Expo. The lessons offer a short lesson that can be used on the bus ride back to school or in the next day's class. The career lesson should be done at World Dairy Expo and offers students the opportunity to interact with the exhibitors, producers and showman at the event. The rest of the lessons use the **"Welcome to World Dairy Expo"** educational packet that is offered by World Dairy Expo.

## Changes in "Welcome to World Dairy Expo"

Each year the educational packet is updated by World Dairy Expo staff with attendance, breed and show numbers. The lesson plans will not be updated each year so you will notice blanks where statistics will be. **The answer key is based on 2007 show numbers** taken from the 2008 educational packet.

## Wisconsin Model Academic Standards

This set of lesson plans has been correlated to Wisconsin Model Academic Standards for core areas for fourth grade. You can find out more information about standards at www.dpi.state.wi.us/standards

## Learn more about agriculture!

The Ag in the Classroom provides resources to teachers to help students K-12 to explain the importance of agriculture. The program is coordinated by the Wisconsin Farm Bureau Federation with funding from the Wisconsin Farm Bureau Foundation, other agricultural groups, and a grant from the Wisconsin Department of Agriculture, Trade, and Consumer Protection. Learn more at www.wisgclassroom.org.

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## Answer Key and Standards

### Show me the Numbers!

| | | | | |
|---|---|---|---|---|
| English | A.4.1 | A.4.4 | | |
| Math | A.4.1 | A.4.2 | A.4.4 | A.4.5 |
| | B.4.1 | B.4.5 | E.4.1 | E.4.2 |
| Social Studies | A.4.2 | | | |

1. 1967
2. 2,967 people from 90 foreign countries; 2967/90 = 32.9; 67,000-2967=64,033 Americans
3. Create a chart using the current statistics given. Students can make a chart in MS Excel or using graph paper.
4. 903 exhibitors from 35 states and 2 Canadian provinces; 905/37= 24.4 per state.

5. Seven
6. Holstein – 731; Jersey – 416; Brown Swiss – 402; Red & White – 263; Ayrshire – 258; Milking Shorthorn – 218; and Guernsey – 195. There were 2,483 total animals.
7. 731/2483=29%
8. 258/2483=10.3%
9. 416+258=674 Jersey and Ayrshires. There were 731 Holsteins. 674 is less than 731
10. 402 * .25 = 100 increase. 100 + 402 = 502
11. 2483 cattle is less than 2967 foreign visitors.

## Learning Terminology

| | | | | |
|---|---|---|---|---|
| English | A.4.1 | A.4.3 | A.4.4 | D.4.1 |
| Science | C.4.1 | F.4.1 | | |

1. Herbivore
2. Ruminant
3. Gaur
4. Bull
5. Cow
6. Udder
7. Cud
8. Teat
9. Domesticated
10. Insects
11. Domestication
12. Calf

## Milk and Cow Facts

| | | | | |
|---|---|---|---|---|
| English | A.4.1 | A.4.3 | A.4.4 | |
| Science | B.4.1 | C.4.1 | C.4.5 | F.4.1 |
| Math | A.4.1 | A.4.2 | A.4.5 | B.4.1 |
| | B.4.5 | D.4.1 | F.4.5 | |

1. 12 x 3 = 36 pounds of milk to make 3 gallons of ice cream. 1.5 gallons of milk to make 1 gallon of ice cream. 350 squirts of milk in one gallon of milk. It would 4.5 gallons of milk to make the 3 gallons of ice cream. 4.5 x 350 = 1575 squirts.
2. You want 5 pounds of cheese. 10 pounds of milk x 5 = 50 pounds of milk are needed.
3. A cow needs to drink 2 gallons of water to produce one gallon of milk. 68 pounds/8.5= 8 gallons of milk produced. 8 x 2 = 16 gallons of water are needed.
4. 8 x 4 = 32 quarts in 8 gallons.
5. California- 1,793,000 cows; Wisconsin – 5,556,506 people; New York- 19,306,183 people; Pennsylvania- 549,000 cows; Idaho – 1,466,465 people. Ranking by people: 1-California, 2-New York, 3- Pennsylvania; 4- Wisconsin, 5- Idaho.

1. Calcium
2. Vitamin B-12
3. 2% lowfat milk
4. Skim milk
5. 1% lowfat milk

6. Buttermilk
7. Whole milk
8. Vitamin D
9. Phosphorus
10. Riboflavin
11. Protein

## Milking Equipment and Parlors

| | | | | | |
|---|---|---|---|---|---|
| English | A.4.1 | A.4.4 | D.4.1 | F.4.1 | |
| Science | B.4.1 | C.4.2 | C.4.5 | C.4.7 | F.4.3 |
| Math | D.4.1 | D.4.3 | | | |

1. Use a protractor to measure the students work
2. Two or three times
3. Possible ones include-A rotary parlor has a larger capacity and more cows can be milked per hour. The herringbone parlor with elevating floor has ideal working conditions for the milker. The herringbone positions the operator very close to the cow. The milking position in the herringbone is between the back legs- a good working position. The rotary parlor can handle a heavy load (weight of cattle).
4. Give birth to a calf
5. 101 degrees
6. Student's responses will vary.
7. Flat barn parlor that milks 18 cows (9 on each side)

## Cow Food and Digestion

| | | | | | |
|---|---|---|---|---|---|
| English | A.4.1 | A.4.4 | C.4.2 | C.4.3 | |
| Science | B.4.1 | B.4.3 | C.4.1 | C.4.2 | C.4.3 |
| | F.4.1 | F.4.2 | G.4.1 | G.4.5 | |

Relay answers:

1. Rumen – large pouch the food passes into when the cow swallows
2. Reticulum – where food moves to and rolls into balls which the cow coughs up- cud
3. Omasum- does more digesting
4. Abomasum- finishes the digestion

True and False

1. False
2. False
3. False
4. True
5. False
6. True
7. True
8. False
9. False
10. True

## Facts Challenge

| | | | | | |
|---|---|---|---|---|---|
| English | A.4.1 | A.4.2 | A.4.3 | A.4.4 | B.4.3 |
| | C.4.3 | D.4.1 | | | |
| Science | C.4.1 | C.4.2 | | | |

## Breeds of Cattle

| | | | | | |
|---|---|---|---|---|---|
| English | A.4.1 | A.4.2 | A.4.4 | B.4.1 | B.4.2 |
| | B.4.3 | D.4.1 | D.4.2 | F.4.1 | |






Top row: Red and White Holstein, Guernsey, Milking Shorthorn, Aryrshire
Bottom row: Jersey, Brown Swiss, Holstein

## Judging Cattle

| | | | | | |
|---|---|---|---|---|---|
| English | A.4.1 | A.4.2 | A.4.4 | C.4.2 | C.4.3 |
| | D.4.1 | | | | |
| Science | B.4.3 | C.4.1 | G.4.1 | | |

Feet and legs- 15%  Frame – 15%  Capacity – 10%
Udder – 40%  Dairy Character- 20%

Matching

1. D
2. B
3. A
4. C

## Careers in Agriculture

| | | | | | |
|---|---|---|---|---|---|
| English | A.4.4 | C.4.2 | C.4.3 | F.4.1 | D.4.3 |
| | D.4.4 | D.4.5 | D.4.6 | D.4.7 | E.4.10 |
| Science | G.4.1 | G.4.2 | G.4.3 | G.4.4 | G.4.5 |

## Follow Up Exercise

| | | | | | |
|---|---|---|---|---|---|
| English | C.4.1 | C.4.2 | C.4.3 | D.4.2 | |
| Science | G.4.1 | G.4.2 | G.4.3 | | |