

Great Expectations

Objective

Students will read a chart to find answers to questions about the gestation of cattle and research to learn about gestation periods for other animals.

Background

Modern domestic cattle evolved from a single ancestor, the aurochs (pronounced or oks). Prehistoric paintings on cave walls help us see what the aurochs looked like. Early cattle served a triple purpose for the humans who raised them. They provided meat, milk, and labor. Today, cattle are raised primarily to provide people with meat and milk.

Bovine is the scientific name for beef or dairy cattle. A bull is a mature male bovine. A sire is a bull used for breeding and is not usually used for meat. Most of the beef that people eat comes from beef steers. A steer is a bull which has been castrated. A bull is more muscular, which makes its meat less tender.

People who raise cattle usually have one bull for every 25 cows. During the breeding season, the bulls are placed in a pasture with heifers and cows. A heifer is a young female that has never given birth, and a cow is an older female that has given birth. The time the bulls and the females are together is called a breeding season. A breeding season usually lasts three to four months. Most producers have their cattle bred in the fall or spring. Once breeding season is over, the bulls are moved to another pasture until the next breeding season. The bred females will then have a nine-month (285-day) gestation period. Gestation is the period of time that begins when the cow is bred and ends when she gives birth to her calf. A group of calves all born in the same season to cows belonging to one producer is called a calf crop.

It is very important for beef producers to know when their animals will give birth to calves. They must be prepared to have shelter and the proper supplies available, in case of an emergency. One way a producer can estimate the date the calves will be born is by using a gestation table. A gestation table makes it easier for the producer to count the days from the time the cow was bred by the bull to the time she should give birth.

Procedures

1. Read and discuss background and vocabulary.
2. Hand out student worksheets.
 - Look at the chart with students and help them understand how to read it. Point out that the shaded numbers in bold print are the numbers that show when the cow was bred, and the unshaded numbers in regular print are the numbers showing when the calf should be born.
 - Students will use the chart on Student Worksheet A to answer the

Oklahoma Academic Standards

GRADE 3

Life Science: 1-1

Vocabulary

aurochs—an extinct bovine mammal of northern Africa, Europe and western Asia, believed to be the forerunner of domestic cattle

bovine—an animal of the family Bovidae; cattle

breeding season—a set period of time when male animals and female animals are placed together for breeding

bull—adult male bovine mammal

cow—the mature female of any bovine animal

calf crop—the total number of calves born in a calving season to cattle belonging to a particular cattle producer

domesticate—to train or adapt (an animal or plant) to live in a human environment and be of use to humans

gestation—the time period beginning when a female animal is bred and ending with the birth of her offspring

gestation table—a table used by producers showing the approximate date an animal will give birth, based on the conception

heifer—a young cow that has not given birth to a calf

steer—a young bovine animal castrated before sexual maturity and raised for beef

questions on Student Worksheet B. (See answers below.)

- Students will research to find the gestation periods of a variety of animals—elephants, horses, giraffes, pigs, dogs, etc.—and make gestation tables for them.

Additional Reading

Gibbons, Gail, *Pigs*, Holiday House, 2003.

Murphy, Andy, *Out and About at the Dairy Farm*, Picture Window, 2004.

Patrick, Jean LS, and Alvis Upitis, *Cows, Cats and Kids: A Veterinarian's Family at Work*, Boyd's Mills, 2003.

Provinsen, Alice, and Martin Provinsen, *The Year at Maple Hill Farm*, Sagebrush, 2001.

Simmons, Lynn Sheffield, *Sugar Lump, The Orphan Calf*, Pelican, 2003.

Stone, Lynn M., *Cows Have Calves*, Compass Point, 2001.

Townsend, Una Belle, Bob Artley and Yolanda Powell, *Grady's in the Silo*, Pelican, 2003.

Wolfman, Judy, and David Lorenz Winston, *Life on a Cattle Farm*, Lerner, 2002.

Wolfman, Judy, and David Lorenz Winston, *Life on a Pig Farm*, Lerner, 2002. <https://www.facebook.com/okagclass#>

Answers

- Oct. 13; 2. March 15; 3. Jan. 9, April 12; 4A. Jan. 20; 4B. Nov. 20; 4C. Dec. 15, no; 4D. 76 days

Gestation Table

It is very important for beef producers to know when their animals will give birth to calves. They must be prepared to have shelter and the proper supplies available, in case of an emergency. One way a producer can estimate the date the calves will be born is by using a gestation table. Gestation is the period of time that begins when the cow is bred and ends when she gives birth to her calf. The gestation table below is based on a 285-day gestation period. In each segment, the shaded line represents the day the cow was bred by the bull, and the white line represents the day the cow should have her calf.

Jan 1	Jan 5	Jan 10	Jan 15	Jan 20	Jan 25	Jan 30
Oct 13	Oct 17	Oct 22	Oct 27	Nov 1	Nov 6	Nov 11
Mar 1	Mar 5	Mar 10	Mar 15	Mar 20	Mar 25	Mar 30
Dec 11	Dec 15	Dec 20	Dec 25	Dec 30	Jan 4	Jan 9
May 1	May 5	May 10	May 15	May 20	May 25	May 30
Feb 10	Feb 14	Feb 19	Feb 24	Mar 1	Mar 6	Mar 11
July 1	July 5	July 10	July 15	July 20	July 25	July 30
April 12	April 16	April 21	April 26	May 1	May 6	May 11
Sept 1	Sept 5	Sept 10	Sept 15	Sept 20	Sept 25	Sept 30
June 13	June 17	June 22	June 27	July 2	July 7	July 12
Nov 1	Nov 5	Nov 10	Nov 15	Nov 20	Nov 25	Nov 30
Aug 13	Aug 17	Aug 22	Aug 27	Sept 1	Sept 6	Sept 11

Use the gestation table to answer the questions below. The numbers in bold type on the shaded rows show when the cow was bred; the numbers that are not shaded and plain show when the calf was born.

- If a cow is bred on January 1, the calf should be born on what day? _____
- On Christmas Day, a cow belonging to rancher Harry Jones gives birth to a calf. What day was the cow bred? _____
- Workers at the Circle R Ranch need to figure out how long their calving season will last. They have 20 cows to breed. The first cow is bred on March 30, and the last cow is bred on July 1. On what date will the first calf be born? _____ On what day will the last calf be born? _____
- Circle R Ranch is considering a fall calving season. They want all their calves to be born before it starts to turn cold. The weather man has predicted the first cold spell will be in Oklahoma by November 1.
 - To ensure no calves are born after November 1, what is the last day a cow can be bred? _____
 - If the first calf is born on September 1, what day was the cow bred? _____
 - The last cow of the herd was bred on March 5. When was her calf born? _____ Did she calve by the November deadline? _____
 - How long was Circle R's fall calving season, starting from the first calf born to the last calf born? _____

