DEERLICIOUS KNOWLEDGE!!!!!

Learn about the most popular big game animal species in America.

THEMES:

Biological; Recreational; National Parks

PARTICIPANTS:

Middle/High school students

OVERVIEW:

The purpose of these lessons is to introduce students to the species of deer found along the Niobrara National Scenic River. These lessons are designed for visual and kinesthetic learners through the use of visual aids and an activity with the focus on identifying physical traits, learning mannerisms and fascinating facts about both species of Odocolieus found along the N.N.S.R.

OBJECTIVES:

Introduce students to the species of deer found along the Niobrara National Scenic River.

Students will be able to tell the species of a deer by observing its appearance, behavior and antler structure.

Students will be able to approximate the age and sex of deer by the size of its tracks.

Students will be able to identify plant species found along the Niobrara National Scenic River that are most desired by both Whitetail and Mule deer.

Students will be able to recognize and mimic communication between a buck and his herd.

Students will experience the habitat in which both species co-exist.

MATERIALS NEEDED:

Pre-Visit Activities

Packet materials: 1) *DEER FACTS* sheet; 2) *Deer Field Identification* sheet w/ *"Deer Candy"* plant life on the back; 3) ***TALK ABOUT DEER*** game information; 4) *"Draw a deer in ten steps!"* sheet.

Healthy snacks to replicate deer browse for game.

Pencils or colored pencils: "Draw a deer in ten steps" activity.

Pre-Visit Preparations

Plaster or casting medium

Small bucket for mixing plaster or casting medium

Water to mix with plaster or casting medium

Field glasses (if available)

Sketchbook and/or small notebook

Digital camera (if available)

12" ruler for showing scale of photographed plants or animal tracks

PRE-VISIT ACTIVITY

Cover materials in packet. Learn to identify of both species by physical attributes, learn to identify "deer candy", play game and practice sketching deer.

ON-SITE ACTIVITY:

Arrange a trip to walk wildlife trails along the Niobrara National Scenic River either at Fort Niobrara National Wildlife Refuge or Smith Falls State Park near Valentine, NE. Time the visit so that your arrival will be either very early in the morning or will extend into the early evening hours the time when deer are most active.

Spend the "prime time" trying to spot deer with either the naked eye or with field glasses trying to move as little as possible as a deer's eyesight is very sensitive to movement but does not respond well to stationary people or animals. Record via sketch/notebook or digital photograph the details of your observations.

If no deer are immediately visible, look for "sign" such as tracks or large flattened areas of grass where deer may have bedded down for the night. If tracks are located record them via casting with plaster (or other casting medium) or digital photograph remembering to use the ruler to show scale.

Continue to explore the area looking for "deer candy" and record via sketch or digital photograph examples that you find.

At the end of your journey assemble and share your views and observations.

POST- VISIT ACTIVITY

Assemble all data collected as a group--all drawings, photographs, castings and written observations and reflections into a display for public viewing. Use packet information to estimate the age and possible gender from tracks recorded.

ARTICLES FOR FURTHER STUDY:

See attached articles.

STANDARDS:

South Dakota: 7.N.2.1; 8.N.2.1; 9-12.N.2.1

Nebraska: 8.1.1; 12.4.6

BIBLIOGRAPHY –"ARTICLES FOR FURTHER STUDY:"

"Deer antler research leads to new prosthetic possibilities"; University College London 4 July 2006. 23 July 2009 <http:www.ucl.ac.uk/news/news-articles/0607/06070401>

"Tissue Regeneration; Deer Antlers May Reveal Role for Stem Cells in Organ Renewal"; Stem Cell News.com . 27 February 2006. 23 July 24, 2006 <http://www.stemcellnews.com/articles /stem-cells-found-in-deer-antlers-for-organ-renewal>

"Deer antlers may teach humans how to re-grow body parts"; University of Guelph.19 May 2000. 23 July 2009. <http://www.uoguelph.ca/news/archives/001241.html>

DEER FACTS!----------THE REAL DEAL!

Deer will establish a territory and not leave it

Deer are known to starve rather than leave its domain.

Just two deer without predation can produce a herd of up to 35 deer in just seven years.

Deer can live up to eleven years in the wild. Mule deer have lived up to 25 years in captivity. Whitetails have lived for nineteen years in captivity.

Under optimal conditions without regulating factors like predators or hunting, deer populations can double in size annually.

Market gunning, unregulated hunting and poor land-use practices severely depressed deer populations in the early 1900's. By about 1930 the U.S. population was thought to number about 300,000 animals.

Recent estimates put the deer population in the U.S. at around 30 million animals.

A deer can clear an eight foot hurdle from a standing position.

Deer are very good swimmers. They have been clocked at speeds up to thirteen miles an hour.

Antler growth is usually complete by the end of August.

Mule deer have a keen sense of smell and can sense and claw out water as much as two feet deep.

Deer need 10 to 12 pounds of food per day.

At birth a baby doe weighs about 4 ½ pounds a baby buck weighs about 5 ½ pounds.

A Whitetail deer has a top speed between 35 to 40 miles per hour.

The average Whitetail deer stands between 36 to 40 inches high at the top of the shoulder.

The speed at which antlers grow makes them the fastest growing structures in the animal kingdom.

The ears of a Mule deer can operate independently of each other.

Mule deer have a high bounding gait when startled and can turn or completely change direction in the course of a single bound.

A doe can produce one to four young (normally two).

Deer do not have a gall bladder which enables them to eat plant life that would be toxic to other animals.

TALK ABOUT DEER!

Deer communicate or "talk" by a few simple moves to alert other deer to actual or perceived threats. This game can be used to begin an understanding of deer behavior in the presence or lack thereof predators.

Behaviors that communicate:

A buck will stamp his hoof to get the attention of his herd.

A head bob will indicate to the herd that they should stop what they are doing and look around.

A high wag of the tail means RUN!

A low side to side flicker of the tail signals the ALL CLEAR.

This is a game that can introduce students to not only how deer "talk" but to the common and scientific names of animals found along the Niobrara National Scenic River as well.

Pre-game activity:

Review the behaviors listed above as well as the scientific and common names of the animals on the third page of this activity packet.

Set-up to play the game

This game is played in rounds. You will need to prepare two or more sets of cards that have the scientific names of the animals (listed on the third page) on one side and the common names on the other side. These should be large enough to be read from across the room. 4" X 6" (or larger) index cards work well. You should only create 4 Predator cards. Predator cards may or may not be included in the shuffle for each round as they may or may not be present in the wild. At least one round should have no Group two (predator) or Group three (Animals whose sudden movements can alarm deer) cards. You will need a minimum of two deer and a maximum of four deer to play. Example: For a class of twelve to fourteen you would have 24 Group Three and Group Four cards, Two "Deer" cards and four Group Two cards (Predator cards).

Set up four "feeding stations" around the room. Use apple slices, orange sections, dried fruit, carrots and veggie dip or other easily handled healthy snacks as different feed at each station.

How to play the game

1.) Shuffle the cards and pass out one card to each student. The scientific name should be facing up and the student should cover the name with his or her hand. By the draw of the card or by selection by the teacher (if no "deer" cards are drawn) two to four students are selected to be "deer".

2.) The "deer" go to the feeding stations and have a snack.

3.) The teacher begins the game by stomping one foot signaling the "deer" to look up and the students to hold up their cards scientific name out.

4.) The "deer" then give a head bob if they believe that they see a threat.

5.) The "deer" must then quickly scan the names on the cards and decide to wag their hand either up (signaling a threat) or down (signaling an "all clear").

6.) If the "deer" are correct they get to move to a different snack station and continue to "browse".

7.) The deer that are incorrect in identifying a threat are either "eaten" or are not savvy enough to lead the herd and must sit down and are replaced by another student.

To win the game

The "deer" that are able to stay alive the longest become the "Alpha" deer and are awarded "the largest rack". (This can be a certificate or special snack decided upon by the teacher.)

Post game activity

Scramble both scientific names and common names and have students match them up correctly.

TALK ABOUT DEER Game Animal Names---Both Latin and Common

Deer-----Group One

Odocolieus hemionus----------Mule Deer

Odocolieus virginianus----------White Tail Deer

Predators----Group Two

Lynx rufus----------Bobcat

Homo sapiens----------Human

Puma concolor----------Mountain Lion

Canis latrans----------Coyote

Animals whose sudden movements can alarm deer----Group Three

Lepus townsendii----------White Tailed Jackrabbit

Tympanuchus cupido----------Greater Prairie Chicken

Tympanuchus phasianellus----------Sharp Tail Grouse

Non-threat animals----Group Four

Sylviagus floridanus----------Eastern Cottontail Rabbit

Antilocapra americana----------Pronghorn Antelope

Lontra Canadensis----------Northern River Otter

Erethizon dorsatum----------North American Porcupine

Procyon lotor----------Northern Raccoon

Cynomis ludovicianus----------Black Tailed Prairie Dog

Mustela vison----------American Mink

Mephitis mephitis----------Striped Skunk

Meleagris gallopavo----------Wild Turkey

American Black Currant
Ribes americanum

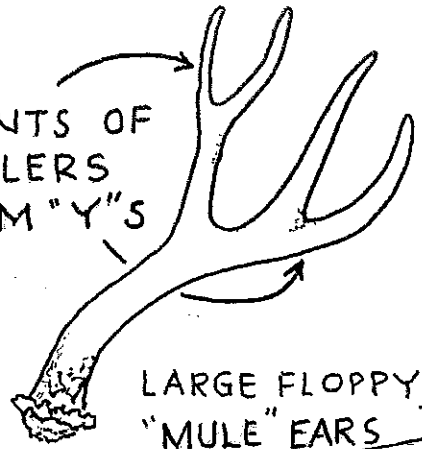
Wild Plum
Prunus americana

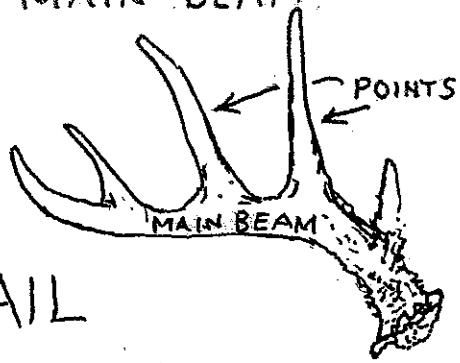
Choke Cherry
Primus virginiana

River Bank Grape
Vitus riparia

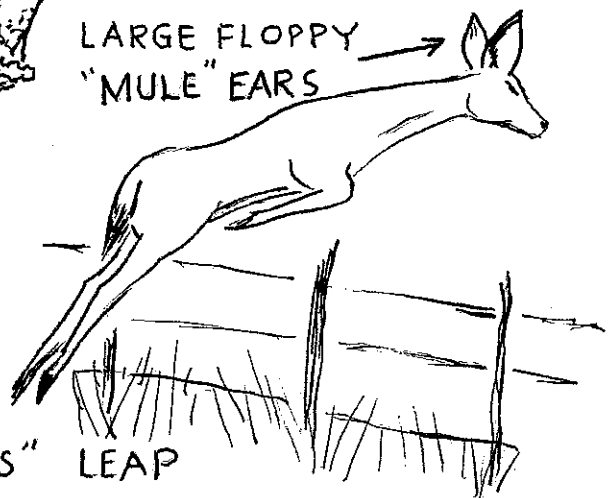
JM '09

HOW YOU CAN TELL...

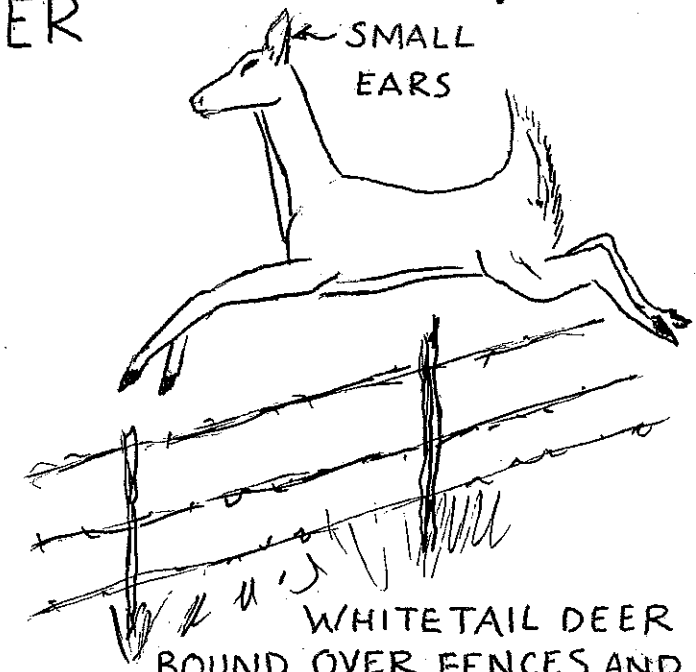




MULE DEER OR WHITETAIL DEER

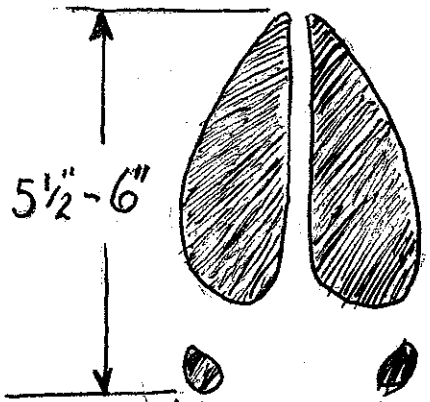


"MULEYS" LEAP HEADFIRST OVER OBSTACLES TUCKING THEIR TAILS AT THE BEGINING OF THEIR LEAP

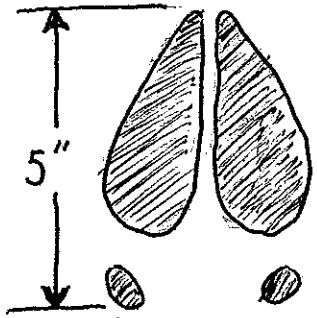


WHITETAIL DEER BOUND OVER FENCES AND OBSTACLES HEAD AND TAIL ERECT

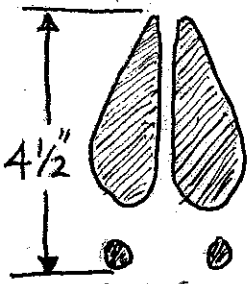
WHAT TYPE OF DEER?



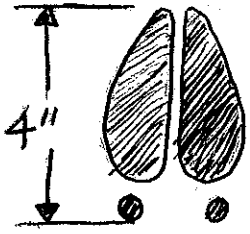
3½-6½ YEAR OLD BUCK



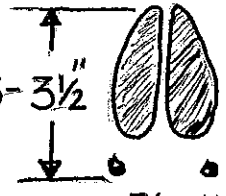
2½ YEAR OLD BUCK



ADULT DOE OR YEARLING BUCK



YEARLING DOE



FAWN

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Draw a deer in ten steps!

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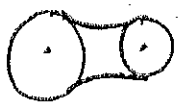
2. 

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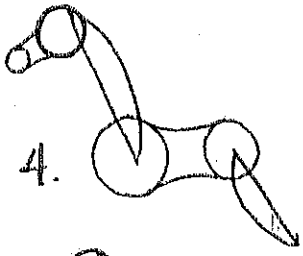
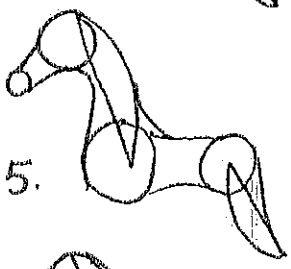
4. 

5. 

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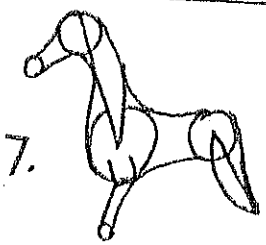
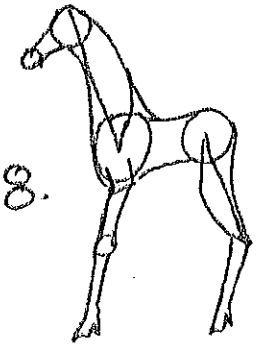
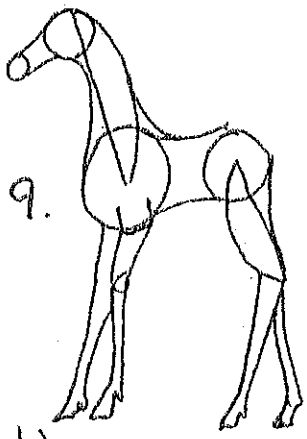
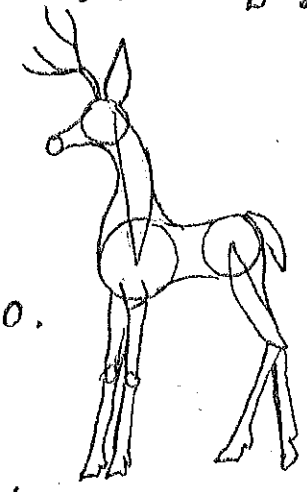
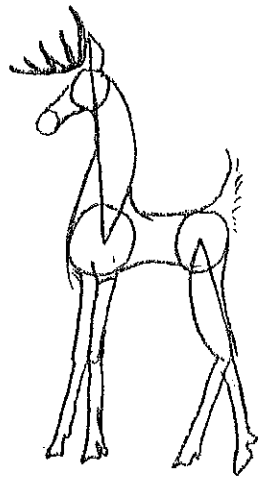
7. 

8. 

9. 

10. 



Mule Deer
(Odocolieus hemionus)

1. Large floppy ears
2. Antlers form equal "Y"s
3. Down turned tail.

Whitetail Deer
(Odocolieus virginianus)

1. Small ears
2. Antler points rise from a main beam
3. Upraised tail