

Alternative Assignment – Species Accounts

Due: At the start of class on the same day as the species quiz

Overview

You will develop a more in-depth understanding of several species of your choice by creating one-page species accounts. We recommend that you follow the steps below:

- 1) Start by creating a species account template that will contain the information you find. You can create this template on the computer or by hand, and the format can be as creative as you want as long as you have the required information. See the checklist on the next page, and the example template on p. 3. After you make your template, create **identical** copies – you may do this by hand, by copy machine, or by printing multiple drafts (if you used the computer to make your template), just make sure each page uses the same format.
- 2) Next, select the species you'd like to learn more about. You may choose any species you'd like, **as long as they are present in Vermont** for at least part of the year. If you're not sure which to choose, we have included some potential "focal species" below.
- 3) Use field guides, books, and/or internet resources to learn more about your species. Create a single-sided, one-page species account for each of your organisms. While the template can be computer generated, **all information should be hand-written and hand-drawn**. Information should be cited parenthetically in APA format, and a references list should be included at the end (as a separate, final page).¹ All pages should be neatly stapled, with your name in the top right corner on the first page.²

Quantity

Because each subsequent species quiz includes additional species, more work is required to create an equivalent set of species account. Here's how many you need:

Species Quiz #1 (Jan 24) – 3 species

Species Quiz #2 (Feb 21) – 4 species

Species Quiz #3 (Mar 7) – 5 species

Focal Species

Feel free to do your accounts on the species below, or to select your own, as long as they are found in Vermont.

Focal tree species:

Sugar Maple	Red Pine	Eastern white Pine	Striped Maple
American Beech	Black Cherry	Eastern Hemlock	Silver Maple
Yellow Birch	White Ash	Hophornbeam	Boxelder
American Elm	Paper Birch	White oak	Northern red oak
Red maple	Basswood	Musclewood	White ash
Green ash	Black ash	Witch hazel	Balsam fir
Red spruce	Black spruce	White spruce	

Focal bird species:

Downy woodpecker	Hairy woodpecker	Pileated woodpecker	Scarlet tanager
Common loon	Hermit thrush	Wood duck	Goldfinch
Great blue heron	Osprey	Black-capped chickadee	American crow
White-breasted nuthatch	Common raven	Red-breasted nuthatch	Northern cardinal

Focal mammal species:

Black bear	Eastern bobcat	Moose	Porcupine
White-tailed deer	Beaver	Otter	Raccoon
Coyote			

¹ This list of references may be typed if you prefer.

² We get grumpy when people don't staple. Be warned: no staple = a reduction in your score.

Species Account Checklist

Basic formatting requirements:	
Name on the top right corner of the first species account	_____
Pages are neatly stapled	_____
Identical template used for each page	_____
Writing and drawings are neat and done by hand (the template itself may be created on the computer) – color encouraged!	_____
Citing sources:	
Uses and cites at least one source for each species	_____
Includes APA-style citations in each species account (author and year)	_____
Includes alphabetized, properly formatted APA-style references at the end	_____
Species Account Content – Each Account Should Have...	
Common name and scientific name (both genus and species)	_____
Hand-drawn illustration of key identifying features	_____
<i>*For trees, include leaves and bud or twigs, and fruit, cones, or bark if they are helpful ID traits</i>	
<i>*For other plants, include sketch of plant that shows leaves, flowers, fruit</i>	
<i>*For mammals, include tracks and scat; sketch of animal is optional</i>	
<i>*For birds, include sketch of animal; include different both sexes if they look very different</i>	
<i>*For fish, reptiles, or amphibians, include sketch of the animal</i>	
Description of species (size, key identifying features)	_____
Habitat where this species is found	_____
Life history (reproduction strategies, life span, and (for mammals, reptiles, amphibians, and birds) food preferences)	_____
Fun facts (optional)	_____

Potential starting points for your research:

For plants and trees: <http://plants.usda.gov/java/>

For trees: https://www1.maine.gov/dacf/mfs/publications/handbooks_guides/forest_trees/individual_spp_index.html

For amphibians and reptiles: <https://www.vtherpatlas.org/>

For birds: <https://www.allaboutbirds.org/guide/search/>

For fish: <https://vtfishandwildlife.com/fish/fishing-opportunities/sportfish-of-vermont>

Species Common Name

(Scientific name)

Beautiful drawings here — see the checklist for what to include

* Color encouraged, but not required

Description

Habitat

LIFE HISTORY

Reproduction Strategies

Life span

Food prets
(for mammals, birds, reptiles, amphibians)

Fun Fact (Optional)

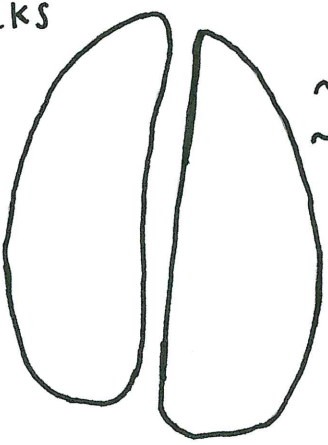
* Note: creativity, color, and "extra" images/artwork are encouraged. See if you can make your template less boring than this one!



Common Name: MOOSE

Scientific Name: Alces americanus


Tracks



~3-5 in. L
~2.5-4 in. W

at most, approx. length and width of small hand

Scat



basically larger and rounder deer scat

(Muma, 2016)

Description of species:
stand ~6 feet tall from shoulders to feet, "long, thick, light brown to dark brown fur" ("Moose", 2016), long head, large nose and upper lip and small ears and tail, dewlap on throat, shoulder muscles make it look humpbacked, only male/bull has antlers ("Moose", 2016).

Fun fact:
 Moose can swim as fast as 6 mph in water!
 ("Moose", 2016)



IE U.S., Canada, Alaska

Habitat: forested areas w/ snow in winter, lakes/bogs/swamps/streams/ponds nearby, not in 80°F+ ("Moose", 2016)

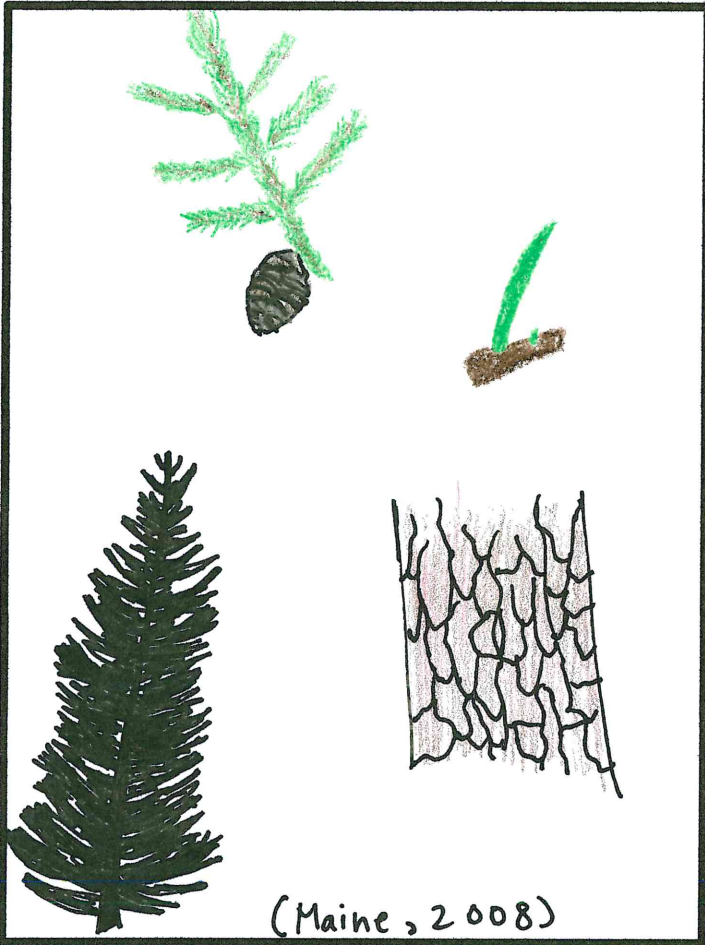
Life History
 Reproduction strategies: mate in early fall, females attract males w/ a deep call and strong scent, bulls may fight over females and have pushing fight with antlers, females birth in spring/summer and usually has only one calf ("Moose", 2016)

Life span: ~ 15-20 years (Bradford, 2014)
 Food preferences (for mammals, reptiles, amphibians, and birds):
twigs, browser, water lilies, leaves, buds ("Moose", 2016)

Red Spruce

Common Name:

Scientific Name: *Picea rubens* Sarg.



(Maine, 2008)

Description of species: **conifer**

Trunk: long w/ slight taper, can be 60-80 feet w/ diameter of 1-2 feet

Bark: (mature trees) thick, broken into thin, reddish-brown scales irregularly shaped

Leaves: dark green, often have yellow tinge, 4 sided needles grow individually on twig, ~1/2 in.

long, point toward tip of branch

Cone: oblong, ~1 1/2 - 2 in., noticeable notches, reddish-brown, skiny (Maine, 2008)

Fun fact:

Wood of red spruce used for lumber and to make paper (Maine, 2008)



Canada NE U.S.

Habitat: Well-drained, rocky

upland soil, cool/moist climates,

softwood cover (Blum, n.d.)

Life History

Reproduction strategies: monoecious

(hermaphrodite) species, "buds open in May in axils [blw stalk/branch and

stem/trunk] of previous year's shoots

on different branches of same tree,"

seed distribution by wind, cones

(Blum, n.d.)

Life span: anywhere from ~50-400

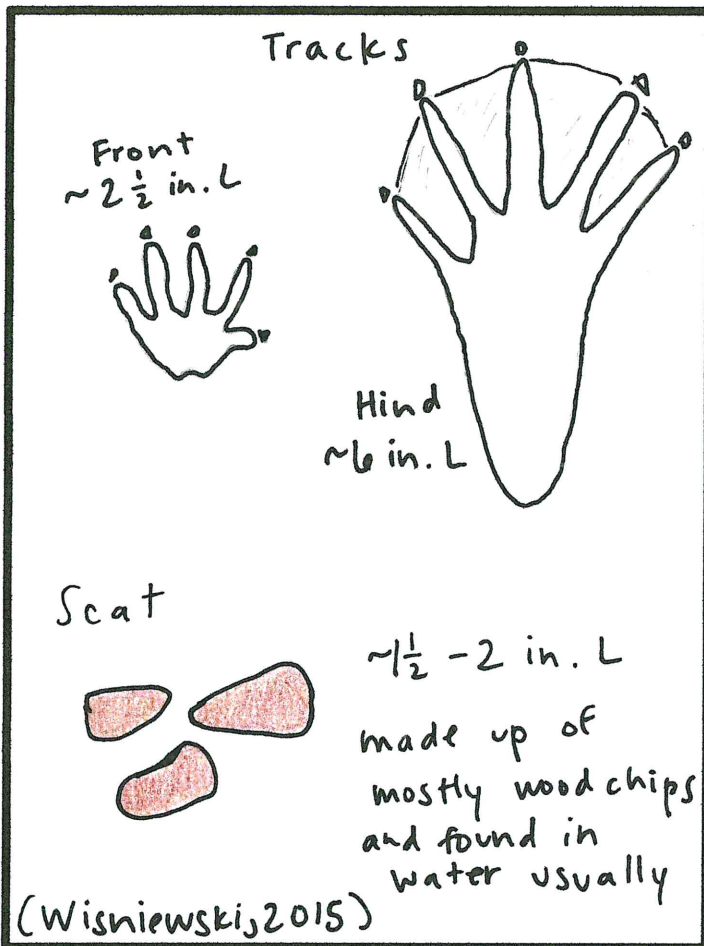
years (Blum, n.d.)

Food preferences (for mammals, reptiles, amphibians, and birds):

N/A

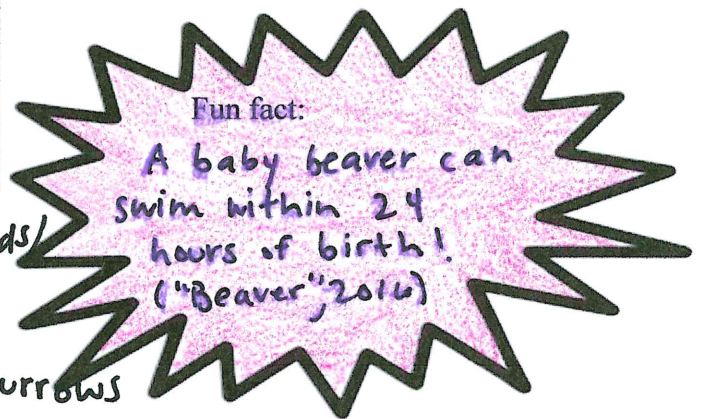
Common Name: Beaver

Scientific Name: Castor canadensis



Description of species:

Adults can be up to 4 ft. long, webbed hind feet, large + flat + almost hairless tail, short front legs w/ heavy claws (rear legs shorter than front), dark brown fur on back, lighter brown fur on chest + belly, long + sharp upper + lower teeth ("Beaver", 2016)



Habitat: live near rivers / streams / ponds / small lakes / marshes where they

may build lodges and dams or burrows

Life History ("Beaver", 2016)

Reproduction strategies: find one mate for life (if one dies will find another one), mate ~ 3 yo from Jan. - March in cold places and Nov. - Dec. in south, gestation is ~ 3 months, females have 1 litter / yr. b/w April - June ("Beaver", 2016)

Life span: ~ 20 years ("Beaver", 2016)

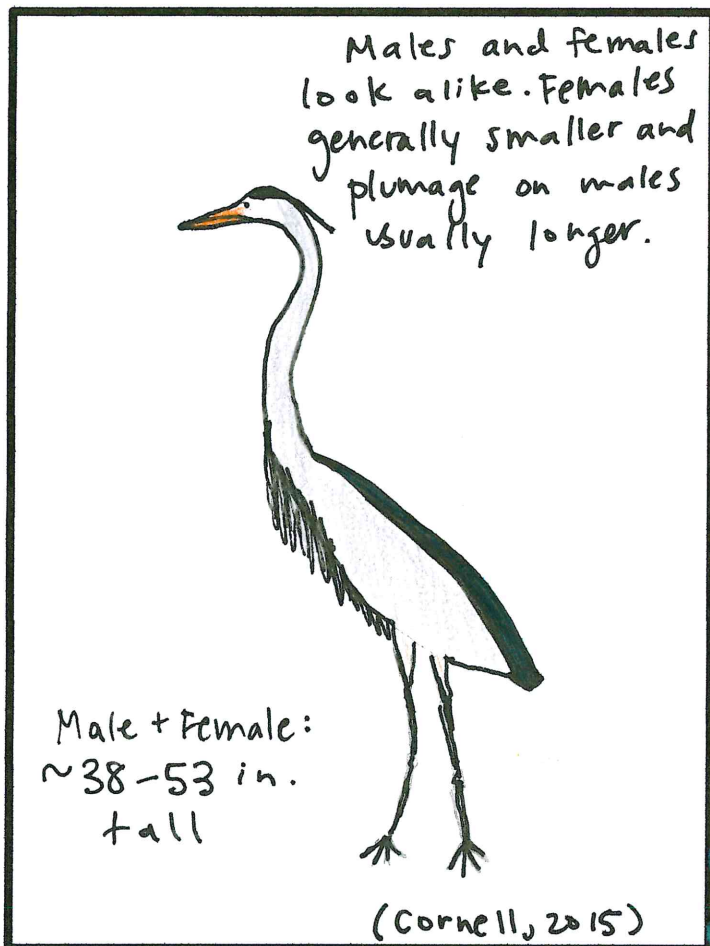
Food preferences (for mammals, reptiles, amphibians, and birds):

tree bark, cambium (soft tissue under bark), roots, buds ("Beaver", 2016)



Common Name: GREAT Blue Heron

Scientific Name: Ardea herodias



Description of species:

long legs, curvy neck, thick bill, head + chest + wing plumes are shaggy, blue-gray color, wide black stripe over eye, upper side of wing is pale on forewing and darker on flight feathers (Cornell, 2015)



Habitat: saltwater + freshwater places,

grasslands + agricultural fields,

shorelines/riverbanks/ponds (Cornell, 2015)

Life History

Reproduction strategies: "elaborate courtship

and pair-bonding displays that

include ritualized greeting, stick

transfers, + nest relief ceremony

in which the birds erect their plumes +

'clapper' their bill tips." (Cornell, 2015)

Pairs mostly monogamous during
season + new partners each year
(Cornell, 2015).

Fun fact:

only weigh 5 to 6 pounds even though they are tall b/c of hollow bones (like all birds) (Cornell, 2015)

Life span: ~ 15 years

(Cornell, 2015)

Food preferences (for mammals, reptiles, amphibians, and birds):

fish, amphibians, reptiles,

small mammals, insects,

other birds (Cornell, 2015)

References

- Blum, B. M. (n.d.). *Picea rubens* Sarg. *Northeastern Area*. Retrieved from https://www.na.fs.fed.us/spfo/pubs/silvics_manual/Volume_1/picea/rubens.htm.
- Bradford, A. (2014, Nov 13). Moose: Facts About the Largest Deer. *Live Science*. Retrieved from <http://www.livescience.com/27408-moose.html>.
- Cornell University. (2015). Great Blue Heron. *All About Birds*. Retrieved from <https://www.allaboutbirds.org/>.
- Muma, W. (2016). Mammal Tracks and Sign. *Wildwood Tracking*. Retrieved from <http://www.wildwoodtracking.com/mammals/moose/index.html>.
- Maine Forest Service. (2008). Red Spruce. *Forest Trees of Maine* (14th ed.). Retrieved from https://www1.maine.gov/dacf/mfs/publications/handbooks_guides/forest_trees/pdf/red_spruce.pdf.
- n.a. (2016). Beaver- *Castor canadensis*. *NatureWorks*. Retrieved from <http://www.nhptv.org/natureworks/beaver.htm>.
- n.a. (2016). Moose- *Alces americanus*. *NatureWorks*. Retrieved from <http://www.nhptv.org/natureworks/moose.htm>.
- Wisniewski, N. (2015). Animal Tracks & Sign. *Walnut Hill Tracking & Nature Center*. Retrieved from <http://www.walnuthilltracking.com/animaltracks&sign.html>.

White-tailed Deer

N.R. 095
10/12/16

Odocoileus virginianus

Description:

White-tailed deer are the smallest members of the North American deer family. They weigh between 110-300 pounds, and have a coat that grows reddish-brown in summer and brownish-gray in winter. Their undersides are always white, hence the name "white-tail", explains Eric Pickhartz (2014), since "they will stick their tail straight up in the air to ~~appear~~ warn other deer" (p. 1).

Habitat:

The habitat for a white-tail can vary from large northern woods to cactus and thorn-bush deserts of the south. An ideal habitat for a deer is one with dense thickets for cover, and fields/tall grasses for grazing.

White bedded down, a fawn has a heart rate of ~175 beats per minute. When it senses danger, it will slow its breathing as well as heart rate (down to 60 bpm).

Fun Fact:

Scat: Similar in appearance to rabbit pellets, but bigger + usually in higher quantity.



front*



hind
* note: dew laws possible in both tracks just not likely unless a mature buck.

LIFE HISTORY

Reproduction: Male deer grow antlers during the summer in preparation for "the rut," AKA breeding season (Oct-Nov). Males will fight for the privilege to mate with females. Gestation is 6.5 months, and females give birth to a single (or 2) fawn.

Life span: In the wild, deer rarely live past 3-4 years, but can reach a maximum age of 20 years old. Due to their species' depth and range of habitat, they are commonly hunted as a game species. Tanya Dewey (2003) notes that hides were used "to make buckskin leather" (p. 1) before they were just for sport hunting.

Diet:

Vegetation, twigs, bushes and shrubs are the main items on a deer's menu. Able to leap fences 30' high, they will invade gardens and graze on crops.

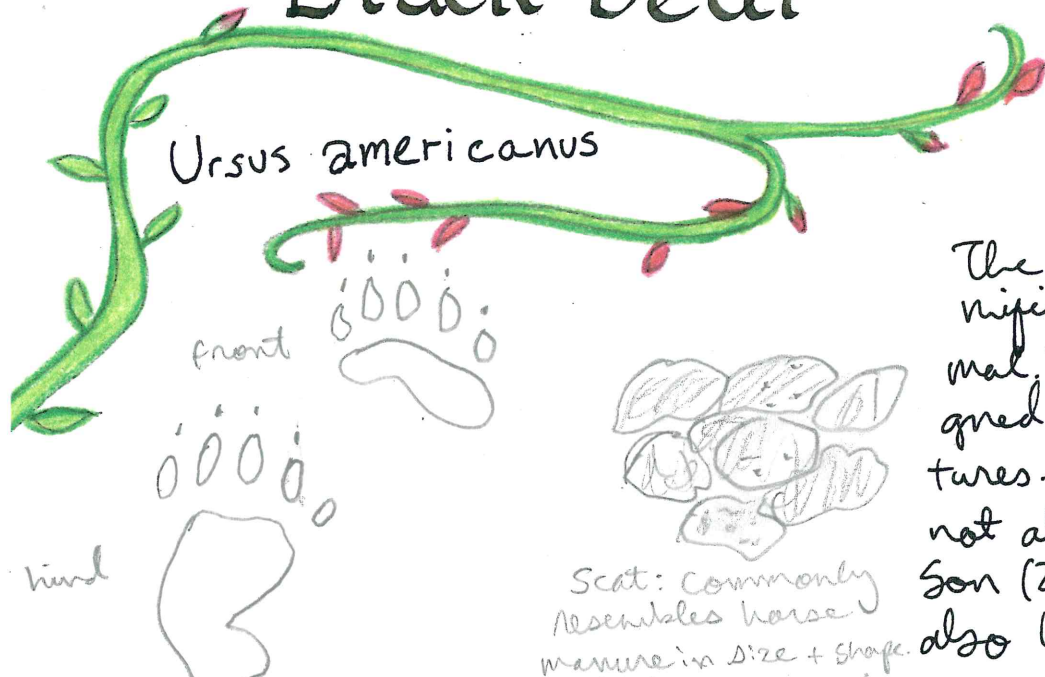
Black Bear

Serena Pedane
N.R. 095
10/12/16

Ursus americanus

Description:

The black bear is a magnificent and formidable animal. They have thick hides, designed to withstand cold temperatures. However, the black bear is not always black: Sarah McPherson (2014) explains that "they can also be light brown, blond, or even grey-blue" (p.1). Average weights can be between 90-500 lbs, with males being larger than females. They can be 4-7 feet in length (head to tail).



Scat: commonly resembles horse manure in size + shape. Contents vary, as does consistency (wet/dry).

LIFE HISTORY

Reproduction: During mating season (May-June), both sexes increase their territory roaming by 3 times. Cubs are born in Jan-Feb, in litters of 1-2 but up to 6. At this point the mother will be hibernating, but wakes to give birth and continues to care for the cubs in the den. Despite stereotypes, Lynn Rogers (2002) explains that "black bear mothers have never been known to kill anyone in the wild, these bears can live up to 30 years, but most die before they pass 20. "Nearly all adult bears die from human-related causes," (Rogers, 2002, p.1) whether it be from a car accident, hunting, or euthanasia.

Life Span:

Die:

Despite the classic image of a bear snatching salmon from a river, 90% of a bear's food consists of plant/herbaceous materials. Omnivores, black bears forage for nuts, berries, grubs, insects, small mammals, and in urban areas a bird seed and trash.

Habitat:

Found in North America, black bears habitate forests from Florida to Canada. However, with increasing human settlement, bears are forced into suburban areas. Those who leave bird feeders or trash out encourage bears to enter their yard. Usually solitary animals, they can travel 2-15 miles to establish their home range.

Fun Fact:

Bears are excellent climbers, and can scale a tree much faster than a human. If she feels her cubs are in danger, she will put her cubs in a tree.

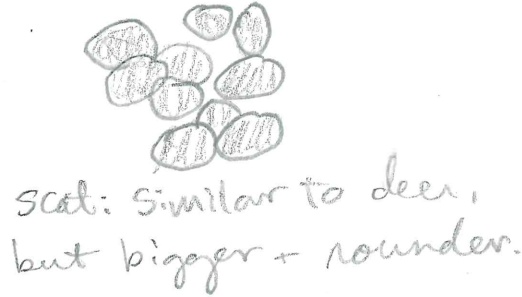
Moose

Alces alces



Description:

The moose is the largest of the deer family. Males grow large, heavy antlers during the summer that they shed during the winter. With long legs and a heavyset body, the moose is built for moving through deep snow and wading into lakes.



LIFE HISTORY

Reproduction: Despite being a very solitary animal, the moose will gather a harem of females during mating season. Gestation length is 231 days.

Habitat:

Moose only live in area with seasonal snow cover this is because they cannot tolerate temperatures above 80° F, due to their inability to sweat. They are found in secluded woods and fields, but increasing in suburban neighborhoods where deforestation occurs.

Life span: Moose generally live for 15-20 years. However, according to Alina Bradford (2014), "around 50% of calves die due to bear or wolf attacks" (p.1).

Moose are herbivorous. Elizabeth Schleicht (2009) explains, "the word 'moose' comes from the Algonquian word for 'twig eater'" (p.1). Leaves, buds, bark, and low-growing plants are the staple of the moose's diet.

Diet:

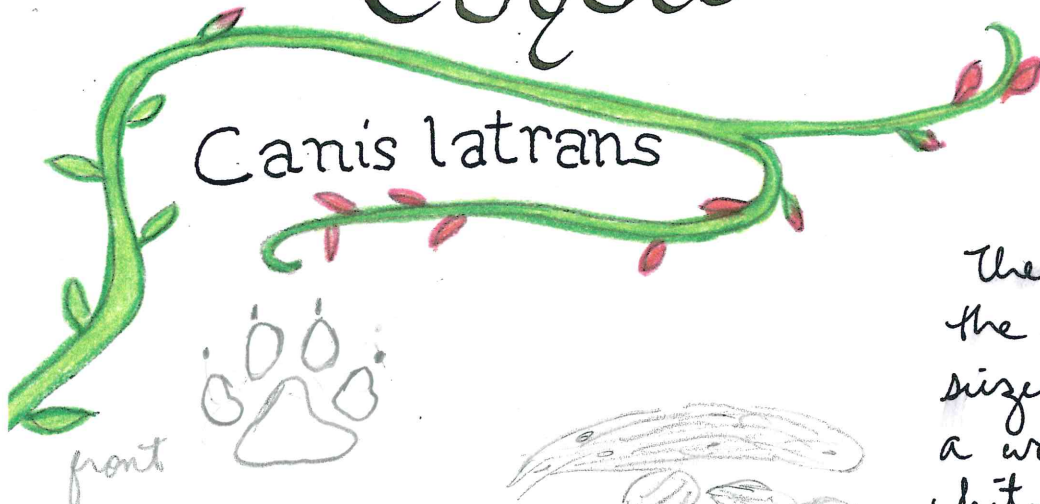
Fun Fact:

Moose are excellent swimmers, and can swim up to 6 mph!

Coyote

Serena Pedane
N.R. 095
10/12/16

Canis latrans



Description:

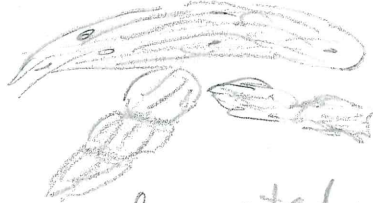
The coyote is about the size of a medium-sized dog. Smaller than a wolf, they have gray, white, and tan fur. Their amber eyes and elongated snouts give them a leaner appearance than domestic dogs. They always have long, full, bushy tails.



front



hind



Scat: elongated, usually containing hairs of prey.

LIFE HISTORY

Reproduction: Breeding season is February-March, with a gestational length of 63 days. A litter of 3-12 pups will be born at a time. Both the male + female participate in raising the young.

Life span: In the wild, life expectancy is 6-8 years. Main causes of death include parasites and humans (whether from hunting or car accidents). In captivity, coyotes can live twice as long.

Habitat:

Coyotes can adapt very well, and so are found in plains, deserts, mountain ranges, and even in suburban neighborhoods. The color of a coyote's coat will vary depending + based on its location/habitat.

Diet:

Fun Fact:

Coyotes are nocturnal, carnivorous hunters. Nina Sen (2014) says, "Coyotes are known for being pests because they will kill livestock and pets" (p.1).

Jim Bremner (n.d.) says that "the coyote can run at almost 40 mph and can get over an 8' fence" (p.1).

Serena Pedane

N.R. 095

October 12, 2016

Synthesis Assignment # 3

References

Moose

Bradford, A. (2014, November 13). *Moose: Facts about the largest deer*. Retrieved from <http://www.livescience.com/27408-moose.html>

Schleichert, E. (2009, August). *Moose*. Retrieved from <http://www.nwf.org/Kids/Ranger-Rick/Animals/Mammals/Moose.aspx>

Coyote

Bremnar, J. (N.d.). *Coyotes*. Retrieved from <http://www.desertusa.com/animals/coyote.html>

Sen, N. (2014, August 14). *Coyote facts*. Retrieved from <http://www.livescience.com/27976-coyotes.html>

Deer

Dewey, T. (2003). *Odocoileus virginianus*. Retrieved from http://animaldiversity.org/accounts/Odocoileus_virginianus/

Pickhartz, E. (2014, August 19). *Whitetail deer facts: Everything you ever needed to know*. Retrieved from <http://www.wideopenspaces.com/whitetail-deer-facts-everything-ever-needed-know/>

Black bear

McPherson, S. (2014, August 26). *10 Amazing black bear facts*. Retrieved from <http://www.discoverwildlife.com/animals/mammals/10-amazing-black-bear-facts>

Rogers, L. (2002, February 3). *Quick black bear facts*. Retrieved from <http://www.bear.org/website/bear-pages/black-bear/basic-bear-facts/168-quick-black-bear-facts.html>