



Wolf Survival

National Science Content Standards:

Unifying Concepts and Processes

- Evidence, Models, and Explanation
- Change, Constancy and Measurement

Life Science

- Populations and ecosystems

Vocabulary:

Predator

Prey

Limiting Factors

Links:

Materials:

- Large playing area
- prey cards
- hula hoops or similar size
- paper for recording points

Introduction:

In this simulation, some students will become wolves and the other students will be the prey of the wolf. The goal of the simulation is to have the wolves work together to survive.

This activity could be used either before or after playing *WolfQuest*.

Objectives:

At the end of this activity, the student will:

1. Understand predator/prey relationships.
2. Define a major component of a wolf's habitat.
3. Identify a limiting factor.

Procedure:

Background:

Wolves are predators. Locating prey is the first big job of hunting. Wolves, during their daily or nightly travels, are always alert for signs of prey nearby. Usually the signs are in a form of scents picked up from the air. When wolves pick up the scent of prey they move quickly but cautiously towards the prey. Silence and speed are essential. A wolf hunting alone will capture animals like beavers and rabbits, but this is just a mouthful for a hungry wolf. In order to feed its many members, the pack must be able to bring down large prey. In Minnesota, wolf packs prey on deer and moose.

Because prey animals have so many avenues of escape, wolves do not have a high rate of success. Luckily, wolves have a great capacity to go with out food for long periods of times. They can survive for as much as two weeks with out eating. When food is available, they gorge themselves to make up for the periods of famine. Adult wolves are capable of eating as much as 20 pounds of meat at one time.

Game set up:

1. Set up the playing field as shown in diagram
2. Create cards for the prey to hold
3. Choose 8 students to be the wolf pack.
4. The remaining students will be the prey
 - 1 person will be a moose
 - 3 students will be deer
 - Remaining students will be beavers (1/4) or rabbits (3/4)

Procedure:

Explain the role to each group of students. Plan to play 2 -3 rounds during the class period, so determine the time of rounds based on your schedule.

Play the game:

1. After everyone knows their role and is at the appropriate starting point, start the first round.
2. Be sure that when a wolf tags a prey (beaver or rabbit) that they take their card and escort them to the mortality zone.
 - By escorting the prey, this ensures the time needed to consume the prey and keep them out of play
3. The only way a deer can be captured is by 3 wolves working together and surround the deer at the same time. All three wolves need to take the deer card and escort the deer to the mortality zone
4. The only way a moose can be captured is by 5 wolves working together and surround the moose at the same time. All five wolves need to take the moose card and escort the moose to the mortality zone
5. Only 3 small prey or 1 large prey may be in a safety circle at any one time. If needed, limit the amount of time prey can remain "safe"

After round one:

Have the wolves count up the number of prey cards they have collected and record.

Each rabbit = 1 point
Each beaver = 2 points
Each deer = 40 points
Moose = 100 points

In order to survive, collectively the pack needs to have at least 160 points.

If the pack did not survive, play another round to see if they can survive.

If the pack did survive, move to round 2

Round 2:

This time the game is in spring and everyone has young.

- Change one beaver into a moose calf. This individual must always travel with the moose parent. If surrounded by 5 wolves, the calf is taken, but the moose escapes.
- Change 3 rabbits into fawns. Each fawn must travel with its deer parent. If surrounded by 3 wolves, the fawn is taken and the deer escapes.
- The wolves have pups to feed, no person needs to become pups, but collectively, the wolves need to eat more as a group.

Play the game as before and at the end count the wolf points

Each rabbit = 1 point

Each beaver = 2 points

Each deer = 40 points

Each fawn = 20 points

Moose = 100 points

Moose calf = 30 points

In order to survive, collectively the pack needs to have at least 200 points.

Discussion Questions:

1. Why did the wolves survive/not survive round 1?
2. What did the wolves need to do in order to survive?
3. What did the prey do to survive?
4. How did it feel to be a wolf?
5. How did it feel to be a rabbit or beaver?
6. How did it feel to be a deer or the moose?
7. How did it feel to be the fawn or calf?
8. How did have young affect the survival of both the wolves and the prey?

Extensions:

- A. Have some of the wolves be injured and not be able to run after prey.
- B. Change the habitat size by making the playing field progressively smaller.
- C. Increase or decrease the number of wolves or prey or both.

WOLF SURVIVAL ROLES:

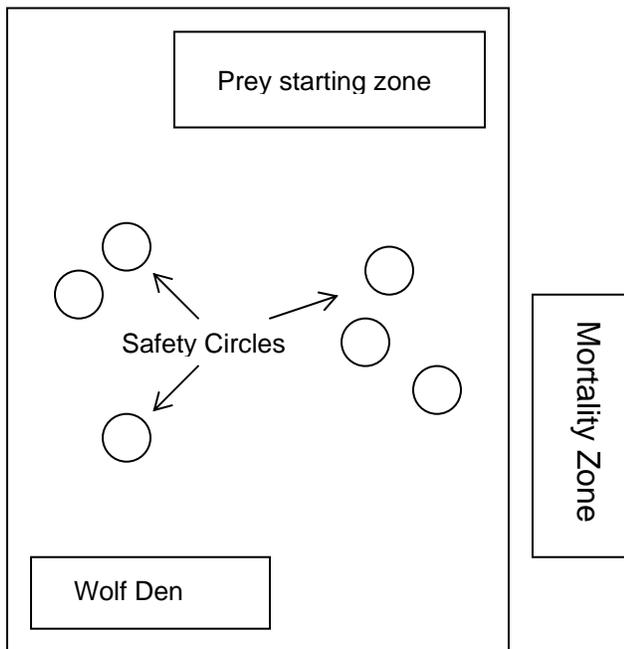
- WOLVES:** Find and eat as much prey as possible. To “catch” the prey, tag them and then escort them to the mortality area. Be sure to collect the prey card for each animal caught. Prey can not be caught when in the safety circles (maximum of 3 in a circle at a time)
- Rabbits and Beavers may be caught by individual wolves
 - Deer may only be caught by surrounding the deer with 3 wolves and tagging the deer.
 - Moose may only be caught by surrounding the moose with 5 wolves and tagging the moose.

- RABBITS/
BEAVERS:** The main job of the rabbit and beaver is to not be eaten by the wolves! The wolves will try to chase and tag the rabbits and beavers. If tagged, the wolf claims the card and escorts the rabbit or beaver to the mortality zone where it remains until the end of the round.
- Safety circles will provide temporary safety to you during the game. Maximum of 3 rabbits/beavers at a time in a safety circle.

- DEER:** The main job of the deer is to not be eaten by the wolves! The wolves will try to chase and tag the deer. The only way a deer may be captured is if 3 wolves surround the deer and then tag. If only one wolf attempts to capture the deer, the wolf receives a “got away” card and the deer may freely move to the nearest safety zone. If tagged by a group of 3 wolves, the wolves claims the card and escorts the deer to the mortality zone where it remains until the end of the round.
- Safety circles will provide temporary safety to you during the game. Maximum of 1 moose or deer at a time in a safety circle.

- MOOSE:** The main job of the moose is to not be eaten by the wolves! The wolves will try to chase and tag the moose. The only way a moose may be captured is if 5 wolves surround the moose and then tag. If only one wolf (or any less than 5) attempts to capture the moose, the wolves receives a “stood and fought” card and the moose may freely move to the nearest safety zone. If tagged by a group of 5 wolves, the wolves claims the card and escorts the moose to the mortality zone where it remains until the end of the round.
- Safety circles will provide temporary safety to you during the game. Maximum of 1 moose or deer at a time in a safety circle.

PLAYING FIELD DIAGRAM:



Make sure the playing field is large enough for the students to run around comfortably and chase each other as in the game of tag.

Hula hops would work for the safety circles, paper plates would work (one foot on is safe), pieces of rope... just use something easy to throw out on the field...be creative.

Determine the number of circles by dividing the number of prey by 4 or 5. That way not every one can be "safe" at the same time

Cards (For a class of 32 students):

Wolf

8 Cards

Rabbit

1

15 cards

Beaver

2

5 cards

Deer

40

3 cards

Moose

100

1 card

Got Away

15 cards
3 per deer

Stood and fought

10 cards

Fawn

20

3 cards

Calf

30

1 card

WOLF	WOLF
RABBIT 1 POINT	RABBIT 1 POINT

RABBIT 1 POINT	RABBIT 1 POINT
RABBIT 1 POINT	RABBIT 1 POINT
RABBIT 1 POINT	RABBIT 1 POINT
RABBIT 1 POINT	BEAVER 2 POINTS
BEAVER 2 POINTS	BEAVER 2 POINTS
BEAVER 2 POINTS	BEAVER 2 POINTS
DEER 40 POINTS	DEER 40 POINTS
DEER 40 POINTS	MOOSE 100 POINTS

STOOD AND FOUGHT	STOOD AND FOUGHT
STOOD AND FOUGHT	FAWN 20 POINTS
FAWN 20 POINTS	FAWN 20 POINTS
CALF 30 POINTS	