USE THE MINNESOTA TREK TO HELP YOU LEARN HOW...

- The deciduous forest, prairie grassland, and coniferous forest are the three main biomes present in Minnesota. Each of these biomes defined by their dominant vegetation and prevailing climate, is home to a variety of Minnesota wildlife.
- Adaptations, both behavioral and physical, allow Minnesota animals to survive in their environments.
- Humans have impacted the biomes and wildlife both positively and negatively over time.

We are meeting together at the Minnesota Zoo for ________________________.

   (lunch or program)

Meet at _____________________ at ____________.

   (location)                   (time)

The bus will be leaving at ____________.

   (time)

Meet at _____________________ before we depart.

   (location)

Other reminders:
FIELD TRIP FOCUS:

- Minnesota is home to three major biomes, the prairie, deciduous forest, and coniferous forest.
- Plants and animals in Minnesota are uniquely adapted to survive and thrive in one or more of these biomes.

PRE-VISIT QUESTIONS:

Considering what you already know about Minnesota’s biomes and also about the physical and behavioral adaptations of plants and animals, think of some questions that you would like to find the answers to during your field trip to the Zoo. Write down a few of them here to focus your attention.
Activity 1: Minnesota Trail Lodge

Minnesota is special! It is the only place in our country where the eastern forest meets the western prairie and the northern forest. The Minnesota Zoo has animals from all three major biomes found in Minnesota.

**ORIENT YOURSELF:**

As you enter the Minnesota Trail Lodge you will find a map of the Minnesota biomes on the wall to the right. Write the name of each biome found in Minnesota in the correct geographical location.

**MATCH THE BIOME TO ITS CHARACTERISTICS:**

- **Prairie**: Dominated by deciduous trees (they lose their leaves each fall) including oaks and maples. More precipitation than prairies.
- **Deciduous Forest**: Dominated by conifers or evergreen trees and few deciduous trees (birches). Colder climate and more precipitation (mostly snow).
- **Coniferous Forest**: Dominated by grasses, few trees. Warmer and dryer climate (less annual precipitation).

An abundance of natural resources enticed early settlers to make Minnesota their home. Scan the walls of the Minnesota Trail Lodge. Select 3 different tools, list the material from which it is made and identify its purpose (the human need fulfilled).

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Activity 2: Beaver Exhibit

In which of the three biomes is the beaver found?
Shade all the sections of the map to help represent your answer.

- Coniferous Forest
- Deciduous Forest
- Prairie

The beaver exhibit displays common structures beavers build to survive. Make a quick sketch in the box below of the beaver exhibit. Describe and/or label the key features in the exhibit that allow this to be a perfect habitat for the beaver.
Beavers have played a huge role in shaping the landscape of Minnesota. What do you see in this exhibit that indicates how the landscape has been impacted by beavers?

Beavers were nearly extinct in Minnesota due to extensive trapping by early European explorers and settlers. What made the beavers so valuable?

How did the beaver population recover?
Activity 3: (between beaver exhibit and wolf cabin)

An Adaptation is a trait that allows an organism to survive in a particular environment. It can be a behavior (something the organism does) or a physical trait (color, size, shape, structure, etc) that provides a survival advantage. As you walk along the Minnesota Trail, choose one animal. Watch it for a minute or two and look at the nearby graphics before answering the questions below.

Name of Animal: __________________

Shade the biomes on the map of Minnesota where this animal is found.

Write down a physical adaptation that you observe in this animal and describe why you think it gives the animal a survival advantage.

Write down a behavioral adaptation that you observe in this animal and describe why you think it gives the animal a survival advantage.

How do you think that this animal fits into its biome? Does it eat others, get eaten, provide something for another species? Look around the exhibit and see what you find.
Activity 4: Wolves vs Coyotes

What are the similarities and differences between wolves and coyotes? Observe both in their exhibits and use this Venn diagram to keep track of the similarities and differences.

In the Wolf Cabin, use the ‘History in Making’ graphic on the wall, shade in the wolf range for each time period.

- Historic
- 1974
- Current
What do you think has contributed to the changes in population and range over time?

How have humans contributed both positively and negatively to the changes in wolf populations? Give at least one positive and one negative example.
An Adaptation is a trait that allows an organism to survive in a particular environment. It can be a behavior (something the organism does) or a physical trait (color, size, shape, structure, etc) that provides a survival advantage. As you walk along the Minnesota Trail, choose one animal. Watch it for a minute or two and look at the nearby graphics before answering the questions below.

Name of Animal: __________________

Write down a physical adaptation that you observe in this animal and describe why you think it gives the animal a survival advantage.

Write down a behavioral adaptation that you observe in this animal and describe why you think it gives the animal a survival advantage.

How do you think that this animal fits into its biome? Does it eat others, get eaten, provide something for another species? Look around the exhibit and see what you find.
Activity 6: Black Bear Exhibit

In which of the three biomes is the black bear found? Shade all appropriate sections of the map to help represent your answer.

- Coniferous Forest
- Deciduous Forest
- Prairie

American Black Bears have many adaptations that help them survive. Label the different behavioral and physical adaptations that help them survive. *Hint: look near the Bear Statue near the bear viewing window.*

Examine the black bear exhibit. What key features support these adaptations?
The name Minnesota comes from the Dakota-Sioux word for ‘sky-tinted waters’. How many lakes do you think Minnesota actually has? ________________________________

All living things rely on clean water to survive. Think about the animals you just saw on the Minnesota Trail. Place a check-mark (✓) next the animals whose lives would be impacted if the waters were polluted.

- Turtles
- Frogs
- Raccoon
- Beaver
- Fish
- River otters
- Coyotes
- Porcupines
- Fisher
- Birds
- Wolves
- Wolverine
- Bald eagle
- Mountain lion (puma)
- Black bear
- Lynx

Explain Why you chose the animals that you did above?

**REFLECTION QUESTIONS**

1. Reflecting on the animals you encountered, which biome was least represented on the Minnesota Trail?

2. Give at least two examples of interesting adaptations, either behavioral or physical that you observed today that help animals survive in Minnesota.

3. How have humans impacted the land, plants, and animals of Minnesota both positively and negatively throughout history? Give at least two examples.

4. What steps can we take in the future to help protect and preserve the resources that make Minnesota a great place to live?