

Lewis & Clark Lesson Plan – Elementary

THE PLANTS AND ANIMALS OF THE LEWIS & CLARK JOURNEY

Recommended Grade Level: 4th-6th grades

Duration: 3-4 class periods (2-3 class periods if a portion of the plan is independent or accomplished at home).

Historical Background

In the early part of American history, Lewis and Clark became household names for their exploration into the west. This lesson plan aims to increase the student's social studies and science knowledge base in addition to allowing time in nature. This is accomplished through historical and scientific classroom research and hands-on living wild experiences.

Objectives

- Students in Missouri schools will acquire the knowledge and skills to gather, analyze, observe, record, and apply research information and ideas.
- Students will use tools of observation and science inquiry to identify the type of specimens they believe Lewis and Clark would have wanted to collect on their travels.
- Students will investigate and collect an assigned specimen (and/or as a lesson alternative: bring an approved mystery specimen from home).
- Students will know how to classify items based on common characteristics.
- Students will understand that plants are used to treat illness, maintain health, and are essential for survival.
- Students will have a basic understanding of how Lewis, Clark and the Native American Indians observed and interacted with animals.
- Students will apply their knowledge in constructing, researching, and factual interpretation for their specimens by way of a journal and oral presentation.
- Students will be able to spell and define vocabulary words.

Learning Standards

This lesson meets the criteria for more than ten Grade and Course-Level Expectations for Science, Math, and Language Arts Education for grades 4-6.

Materials

- Research materials (trunk content)
- Identification guides for local flora and fauna (trunk content and local library)
- Specimen boxes/containers of your choice
- Journal (some type of notebook, sketchbook, etc.)
- Pencil/colored pencils
- Measuring tool (yard stick, measuring tape, etc.)

Lesson Preparation

- Instructor's choice: Organize students into groups or instruct students to work on an individual basis.
- Make copies of the activity and identification guides as needed.
- Have students familiarize themselves with Lewis and Clark journal entries from September 7, 1804 to September 18, 1804, regarding some of the animals the Corps of Discovery encountered.
- Provide students with background on the goals of the Corps of Discovery, such as President Jefferson's requirements of each specimen to be measured and their habitat and descriptions noted in detail.
- Make arrangements for students to participate in a flora and fauna research expedition, either during class time or independently at home. This expedition can be conducted as a class in the school yard, park, forest, grassland, wetland, or urban area.
- Give students time to familiarize themselves with trunk content of instructors choosing.
- Present students with the lesson vocabulary words and definitions listed at the end of the plan.

Challenge One:

- a. Students choose somewhere they haven't been before and create a travel guide. It can even be an imaginary place.
- b. Write description of place, include pictures or drawings, and maps showing terrain, trails, roads, etc.
- c. Use poster creating tool online (such as <https://venngage.com/features/poster-maker>) to create the travel guide.

Challenge Two:

- a. Have students imagine that they have been asked by President Thomas Jefferson to document the flora and fauna in their area. Remind them of the importance of their research and observations, as the data they develop will be added to important books and research materials.
- b. Travel to the designated outdoor space. Students will need a journal and a pencil. Students are to observe animals in the area and by utilizing their journals—make note of appearance, behavior, and habitat. This will include mammals, birds, and/or insects.
- c. Students will then answer the following questions:
 - What fauna do you see?
 - What groupings are the fauna from? (Mammal, bird, insect, etc.)
 - Are they wild/native or domestic? How do you know?
 - What behaviors are they displaying? (Eating, flying, hiding, etc.)
 - Do you hear any animal communication?

*Instructors choice: Students may collect insect specimens for fauna study, with a catch-and-release protocol.

- d. Students will collect a variety of flora from the natural area, being careful to only take what is necessary for the lesson and not disturbing the surrounding area. Students

should record data, such as the size of the specimen and the size of the tree/shrub/grass plot/area it came from (width, height, and general description) if applicable.

3. Students will then answer these questions:
 - What type of flora did you collect? Was it from a tree? A plant? Grasses?
 - By utilizing observation skills, do you notice anything unique about the appearance of the specimen? (Color, texture, shape, etc.)
 - Measure the specimen(s).
 - What are some specific details about the area the flora specimen was collected from?

Analysis:

Back in the classroom, students will compile their observation data.

- Properly identify specimens by name (Latin and common).
- If more than one natural area was used, or students completed the challenge independently – compare the different types of environments from which the fauna was observed and the flora was collected.
 - Forest?
 - Grassland?
 - Wetland?
 - Yard?
 - Urban area?
- Would these environments be the same type of areas that the Corps of Discovery traveled through? Why or why not?
- Do the students think the flora and fauna they observed would be of interest to the Lewis and Clark expedition? Why or why not?

Challenge Three:

- a. The students choose a Missouri arthropod for a case study (alternatively, the instructor may assign each student an arthropod).
- b. Utilizing the information learned in challenges one and two, students will create a diorama depicting the arthropod, its typical habitat, and food sources from materials listed above. Examples for building a diorama can be found at www.wikihow.com/Make-a-Diorama. The diorama should be labeled with the name of the featured arthropod and the student's name.
- c. Students present their diorama to the class. They explain facts they have learned about that particular arthropod; its habitat, behavior, shelter, what it eats, and whether it is friend or foe.

Analysis:

- Do students think there are ways we can encourage “friend” arthropods to live in our outdoor areas? (Growing native plants, refraining from pesticide use, offering arthropod specific shelter, etc.)
- Are there ways we can discourage “foes”? (Removing all food and water, keep hiding places to a minimum, control moisture, etc.)

Lesson Plan Assessment:

- Do the students feel comfortable working in nature?
- Did the students enjoy studying the flora and fauna?
- Are students able to identify the three identification groups discussed in this lesson?
- Were the students engaged during the challenges?
- Can students utilize the vocabulary?

VOCABULARY:

Arthropod – An invertebrate animal with an exoskeleton, a segmented body, and paired jointed appendages.

Botany – Branch of biology dealing with plant life.

Dichotomous key – A key for the identification of organisms.

Domestic – Tame, no longer wild. Adapted to life in a household.

Flora – Plant, bacterial, or fungal life.

Fauna – Animal life.

Invertebrate – Animal without a backbone, such as snails, earthworms, and arthropods.

Naturalist – A student of natural history. Specifically, a field biologist.

Specimen – An individual animal, plant, piece of a mineral, etc., used as an example of its species or type for scientific study or display.

Taxonomy – Classification of plants and animals according to their natural relationships.

Urban – Relating to, or characteristic of, a city.

Zoology – A branch of biology concerned with animals.