

Natural History along the Natchez Trace Parkway



On-Site Lesson: Scavenger Hunt (code 4SH)

➤ **Grade Level:**

Fourth

➤ **Subject Area:**

Math, Science

➤ **Setting:**

National Scenic Trail on Natchez Trace Parkway/
Classroom

➤ **Duration:**

1 Hour

➤ **Skills:**

Graphing Skills,
Working with others, Estimating,
Observation

➤ **Vocabulary:**

Habitat

Summary: Students will work alone or in pairs as they walk along the National Scenic Trail and observe different elements of habitats that may be found along the trail.



Materials Needed:

Duel Tally sheet printed on card stock, pen, access to internet and Natchez Trace National Scenic Trail website for maps (www.nps.gov/natt)

Instructional Information

Fourth Grade Tennessee Grade Level Expectations:

Science:

GLE 0407.Inq.3 Organize data into appropriate tables, graphs, drawings, or diagrams.

Math:

CLE 3102.5.1 Describe and interpret quantitative information.

CLE 3102.5.2 Use statistical thinking to draw conclusions and make predictions.

CLE 3102.5.3 Understand basic counting procedures and concepts of probability.

3102.5.12 Use techniques (Venn Diagrams, tree diagrams, or counting procedures) to identify the possible outcomes of an experiment or sample space and compute the probability of an event.

3102.5.13 Determine the complement of an event and the probability of that complement.

3102.5.14 Determine if two events are independent or dependent.

Learning Objectives: The students will 1) review components of habitat 2) predict the number of specific habitat components they will see, 3) observe and record the number of habitat components seen, 4) chart the number of components and compare with the prediction.

Teacher Set: The teacher will review the components of habitat; food, water, shelter and space. The teacher will take the students on an easy hike on a section of the Natchez Trace National Scenic Trail. The teacher will direct the students in tallying observations. The teacher will lead the students in the analysis and charting of the results of student observation.

Teacher Overview: The National Scenic Trails began to be developed in 1965 when President Johnson gave his “Natural Beauty” speech. He wanted to develop and protect a trail system that everyone could enjoy for recreational uses. In 1968, Congress established the National Trails System and the first scenic trail was the Appalachian National Scenic Trail. The Appalachian Trail goes from Georgia to Maine. The Natchez Trace National Scenic Trail was established in 1983. Five sections of the National Scenic Trail can be found along the Natchez Trace Parkway. The section in Tennessee in the Leipers Fork district is twenty-four miles long. Tupelo, Mississippi has a seven-mile section that begins across the road from the Visitor Center and ends on West Jackson Street. The Ridgeland, Mississippi trail, called Yockanookany, is twenty-three miles long. Further south in Mississippi is the Rocky Springs section of trail that is ten miles long and an additional new

section, called Loess Hills, which is three miles long. (Visit www.nps.gov/natt for current trail maps). The trails are used for hiking, horseback riding, bird watching, photography, and picnicking. All terrain vehicles are prohibited on the trails. The trails are free and open to the public but are closed from sunset to sunrise, as are all of the trails along the Natchez Trace Parkway.

Habitat: Both plants and animals need food, water, shelter, and space to survive. Animals are able to roam and search for food, water, shelter, and space while plants are not. Plants manufacture their own food and get their water and minerals mostly from the ground. When the plant's growing process begins, the seeds do not "choose" where to grow. Seeds are planted by people or end up in a growing space through a variety of adaptations. This space may or may not be adequate for the plant to live. For example, an acorn planted by a squirrel in a flowerpot of daisies would not have enough space to live out its life. Most plants do not need shelter but some small plants need to be protected from the elements of weather. Some plants need to be shaded to survive and some do not. Animals take a much more active role in finding a habitat. They are usually able to move to a new habitat if an element of theirs becomes inadequate. Anything that protects the animal from weather, sun, or just where the animal finds refuge is considered the animal's shelter. Space can range in size from the underside of a leaf to an ocean. Depending on the species, food can be plant, animal, insect or a combination of those. Animals consume food, plants manufacture food.

Student Instruction: The teacher will inform the students that they will be walking part of the National Scenic Trail along the Natchez Trace Parkway. Inform the students that first they will be working on their own, then with a partner. Before they start the hike (can be done in classroom), each student will estimate the number of habitat elements they will see at five stops along the trail. This will be recorded on their tally sheet.

As they are walking on the trail, they will look for elements of habitat: food, water, shelter, and space. They will only record tally marks when the teacher stops and calls for observation time.

The teacher will lead the hike for about three to five minutes and then stop. The teacher will then stop and call for an observation time and instruct the students to tally the number of each habitat element they see. The teacher will allow three minutes for the students to observe and record. The teacher will then walk another 3 to 5 minutes and again allow students to make observations for three minutes. This will be done for a total of five stops.

After five observation stops, the teacher will pair up students. This may be an appropriate place to turn and head back if the trail is not a loop trail. While in pairs, the teacher will direct five more observation stops. This time the students will make observations as partners and only record on one of the partner's tally sheets. When they are finished the "non-recording partner" should write the number of tallies from the "recording partner's paper" on their sheet.

When the students return to the classroom, they will individually make bar graphs of the data collected while on the trail. The graph should include the estimated number, the single observation number, and the partner observation number. The SPACE column is divided into sections as it is hard to quantify space.

Student Task: Before the students hike on the scenic trail, they will estimate and record how many of each element they think will be found along the trail at various stops.

When the teacher stops on the trail, he/she will time three minutes. During that time, the students will first individually record how many habitat elements they see at that stop (without moving around). After five stops, the students will be paired up and the teacher will lead them on five more stops. The pair will observe together but only one student records. After all the stops the "un-recording students" will write on their sheet, the number of tallies from the partner "recording students' " sheets.

When the students return to the classroom, they will make a bar graph that displays the data collected while on the hike. The bar graphs will display "estimate" "solo" and "pair" results.

Teacher Closure: To conclude the nature walk, the teacher will ask the students to discuss the different habitat elements they saw as they walked along the trail. The teacher will use the opportunity to subjectively assess how well the students enjoyed the activity and how much learning took place. When the students are finished with their graphs, the teacher will have the students orally discuss and compare and contrast their results.

Student Assessment: When the students turn in the bar graph assignment in, they must also turn in the data collected along the trail. Everything including the estimate before, the single observation, and the partner observation, must be handed in. The teacher will use the material to grade the students on the accuracy of the bar graph.

Suggestions for re-teaching: The teacher will ask the students to write a short paper (two or three paragraphs), about the experience they had on the hike. The students can include the different elements, different wildlife they might have seen, and how they felt about the activity.

Extension: Students could “invent” and draw an imaginary habitat including all elements for either a real or imaginary creature or plant.

Estimates before hike:

Name: _____

FOOD	WATER	SHELTER	SPACE
			A piece of wood space A rock space Water space Forest space Grass space

Hike with partner:

FOOD	WATER	SHELTER	SPACE
			A piece of wood space A rock space Water space Forest space Grass space