

## Habitats Curriculum Map

This easy-to-use, teacher-friendly resource provides 58 engaging student information cards and activities. Divided into seven components, the topics are best covered sequentially, however each component may be used alone. Many of the activities can be integrated into other areas of the curriculum.

### Topics include:

1. **What is Ecology?**
2. **A Habitat is a Home**
3. **Food Chains**
4. **Each to its Niche**
5. **Earth's Biomes**
6. **Adaptation**
7. **Habitat Helpers**

### ***Overall Student Expectations Include:***

1. Identify, through observation, various factors that affect plants and animals in a specific habitat.
2. Classify organisms according to their role in a food chain.
3. Demonstrate an understanding of a food chain as a system in which energy from the sun is eventually transferred to animals.
4. Describe the structural adaptations of plants and animals that demonstrate a response of living things to their environment.
5. Recognize that plants and animals live in specific habitats because they are dependent on those habitats and have adapted to them.
6. Classify plants and animals observed in local habitats according to similarities and differences.
7. Formulate questions about and identify the needs of animals and plants in a particular habitat and explore possible answers to these questions and ways of meeting these needs.
8. Use appropriate vocabulary and science terminology when describing investigations, explorations and observations.

9. Compile data gathered through investigation, in order to record and present results, using tally charts, tables and graphs.
10. Communicate the procedures and results of investigations.
11. Describe ways in which humans are dependent on plants and animals.
12. Describe ways in which humans can affect the natural world.
13. Construct food chains that include different plant and animal species.
14. Show the effects on plants and animals of the loss of their natural habitats.
15. Investigate ways in which the extinction of a plant or animal species affects the rest of the natural community as well as humans.
16. Understand that the information we have and continue to gain about plants and animals, their relationships to one another and their roles in the environment are due to the science of ecology.
17. Understand that the study of ecology is important to an understanding of environmental problems and possible solutions to those problems.
18. Understand that scientists gain information through observation and experimentation.
19. Understand the purpose of the activities and approach them like young scientists.
20. Plan investigations and identify variables that need to be held constant to ensure fair and accurate testing.

### Introduction:

- Unit Overview
- Teacher Input
- Planning Ahead
- Vocabulary
- Student Vocabulary Worksheets
- Setting Up Classroom Habitats
- Student Tracking Self-Evaluation Form – for each topic
- Junior Ecologist Award

## Lesson Topics:

Teacher suggestions and resources can be found at the beginning of each component. These pages give a brief overview of each topic, the learning expectations for the component and ideas for planning ahead and implementing the section. The implementation suggestions are presented as ideas only. It is not intended that any or all be implemented to use the activity pages.

### What is Ecology?

This component examines the concepts related to the science of ecology as the science interested in the study of the homes of plants and animals.

The main investigative activities will require the student to become a 'Junior Ecologist' and set up, maintain and observe mini habitats (optional)

- Teacher Notes
- Student Activities
- Student Self Evaluation Form
- Answer Key

Skill:

- Word study, scientific terms, using the dictionary.

### A Habitat is a Home

This component examines the concepts related to habitats and the basic needs of living things and the factors that affect plants and animals living in specific habitats.

The main investigative activities will require the student to investigate a backyard habitat, and record observations in the form of a tally chart, drawing, map and graph.

- Teacher Notes
- Student Activities
- Student Self Evaluation Form
- Answer Key

Skills:

- Classify plants and animals observed in local habitats
- Compile data gathered through investigation in order to record and present

results, using tally charts, tables and graphs.

- Mapping, creating a sketch map of a familiar place
- Understanding the concept of population in ecology; gathering and displaying data collected on a labeled graph
- Constructing and displaying data collected on a labeled graph

### **Food Chains**

This component examines the concepts related to food chains, food webs and the role of various living things in a food chain and energy, plant growth, producers and consumers, etc.

The main investigative activities will require the student to construct food chains and webs.

- Teacher Notes
- Student Activities
- Student Self Evaluation Form
- Answer Key

Skills:

- Classify animals according to their roles in the food chain; classify animals as herbivore, carnivore, omnivore
- Understand that a food chain is a system in which energy from the sun is eventually transferred to animals
- Constructing food chains and webs.
- Investigate ways in which the extinction of an animal affects the rest of the natural environment

### **Each to Its Niche – Wood Lice**

This component examines the concepts related to the term 'ecological niche' as it applies to the role of every living thing in maintaining balance in nature.

The main investigative activities will require the student to observe wood lice and record your observations, and plan and conduct a scientific investigation of wood lice

- Teacher Notes
- Information About Wood Lice
- Student Activities
- Student Self Evaluation Form

- Answer Key

Skills:

- Formulating questions about, identifying and exploring the needs of animals in a particular habitat.
- Recognize that animals live in specific habitats because they are dependent on those habitats and have adapted to them

## The Earth's Biomes

This component examines the concepts related to the major biomes of the earth, the plant and animal life found in each and the ways plants and animals in these regions survive.

The main investigative activities will require the student to prepare a short research project about one of the earth's biomes.

- Teacher Notes
- Student Activities
- Student Self Evaluation Form
- Answer Key

Skills:

- Recognizing that plants live in specific habitats because they are dependent on those habitats and have adapted to them
- Recognizing that plants and animals live in specific habitats because they are dependent on those habitats and have adapted to them.
- Classifying plants and animals in specific habitats.

## Adaptations

This component examines the concepts related to the various structural adaptations which allow animals and plants to survive in their habitats.

The main investigative activities will require the student to observe and describe the special adaptations of animals and plants to their environments and investigate the adaptations of fish.

- Teacher Notes
- Student Activities
- Student Self Evaluation Form

- Answer Key

Skills:

- Describing the structural adaptations of plants and animals that demonstrate a response of living things to their environments.

### Habitat Helpers

This component examines the concepts related to the positive and negative effects of human behavior on habitats and the importance of preserving the habitats of living things.

The main investigative activities will require the student to complete a short report about an endangered species; experiment and draw conclusions about air pollution; design an ecology game using the concepts related to habitats; plan and deliver an oral presentation.

- Teacher Notes
- Student Activities
- Student Self Evaluation Form
- Answer Key

### Quizzes

- Quiz 1
- Quiz 2
- Quiz 3
- Answer Key

### Additional Activities

- Wordsearch
- Crossword Puzzle
- Answer Key