



# What You Otter Know

## Ohio Academic Standards (K-5)

Below is a list of Ohio Academic Standards discussed during the teaching of **What You Otter Know**.

### **SCIENCE**

#### **Standard: Life Science**

**K-2 Benchmark A:** Discover that there are living things, non-living things and pretend things, and describe the basic needs of living things.

- 1.1 Explore that organisms, including people, have basic needs which include air, water, food living space and shelter.
- 1.4 Investigate that animals eat plants and/or other animals for food and may also use plants or other animals for shelter and nesting.
- 2.1 Explore that organisms, including people, have basic needs which include air, water, food living space and shelter.

**K-2 Benchmark B:** Explain how organisms function and interact with their physical environment.

- 1.3 Explore that humans and animals have body parts that help to seek, find and take in food when they are hungry (e.g., sharp teeth, flat teeth, good nose and sharp vision).
- 2.2 Identify that there are many distinct environments that support different kinds of organisms.
- 2.3 Explain why organisms can only survive in environments that meet their needs (e.g., organisms that once lived on Earth have disappeared for different reasons such as natural forces or human-caused effects).
- 2.6 Investigate the different structures of plants and animals that help them live in different environments (e.g., lungs, gills, leaves and roots).

**K-2 Benchmark C:** Describe similarities and differences that exist among individuals of the same kind plants and animals.

- 2.4 Compare similarities and differences among individuals of the same kind of plants and animals, including people.



3-5 Benchmark B: Analyze plant and animal structures and functions needed for survival and describe the flow of energy through a system that all organisms use to survive.

- 3.2 Relate animal structures to their specific survival functions (e.g., obtaining food, escaping or hiding from enemies).
- 3.3 Classify animals according to their characteristics (e.g., body coverings and body structure).

K-2 Benchmark C: Describe similarities and difference that exist among individuals of the same kind of plants and animals.

- 2.4 Compare similarities and differences among individuals of the same kind of plants and animals, including people.

3-5 Benchmark C: Compare changes in an organism's ecosystem/habitat that affect its survival.

- 3.6 Describe how changes in an organism's habitat are sometimes beneficial and sometimes harmful.
- 5.4 Summarize that organisms can only survive in ecosystems in which their needs are met (e.g., food, water, shelter, air, carrying capacity and waste disposal). The world has different ecosystems and distinct ecosystems support the lives of different types of organisms.
- 5.5 Support how an organism's patterns of behavior are related to the nature of that organism's ecosystem, including the kinds and numbers of other organisms present, availability of food and resources, and the changing physical characteristics of the ecosystem.
- 5.6 Analyze how all organisms, including, humans, cause changes in their ecosystems and how these changes can be beneficial, neutral or detrimental (e.g., beaver ponds, earthworm burrows, grasshoppers eating plants, people planting and cutting trees and people introducing a new species).

**Standard: Science and Technology**

K-2 Benchmark A: Explain why people, when building or making something, need to determine what it will be made of, how it will affect other people and the environment.



1.3 Identify some materials that can be saved for community recycling projects (e.g., newspapers, glass and aluminum).

1.5 Identify how people can save energy by turning things off when they are not using them (e.g., lights and motors).

3-5 Benchmark A: Describe how technology affects human life.

5.1 Investigate positive and negative impacts of human activity and technology on the environment.

**Standard: Scientific Inquiry**

K-2 Benchmark A: Ask a testable question.

1.1 Ask "what happens when" questions.

K-2 Benchmark B: Design and conduct a simple investigation to explore a question.

1.3 Use appropriate safety procedures when completing scientific investigations.

1.6 Use appropriate tools and simple equipment/instruments to safely gather scientific data (e.g., magnifiers, timers and simple balances and other appropriate tools).

2.4 Use appropriate safety procedures when completing scientific investigations.

2.7 Use appropriate tools and simple equipment/instruments to safely gather scientific data (e.g., magnifiers, timers and simple balances and other appropriate tools).

K-2 Benchmark C: Gather and communicate information from careful observations and simple investigation through a variety of methods.

1.4 Work in a small group to complete an investigation and then share findings with others.

1.5 Create individual conclusions about group findings.

2.5 Use evidence to develop explanations of scientific investigations. (What do you think? How do you know?)

2.6 Recognize that explanations are generated in response to observations, events and phenomena.



- 2.9 Use whole numbers to order, count, identify, measure and describe things and experiences.
- 2.10 Share explanations with others to provide opportunities to ask questions, examine evidence and suggest alternative explanations.
- 3-5 Benchmark A: Use appropriate instruments safely to observe, measure and collect data when conducting a scientific investigation.
- 5.1 Select and safely use the appropriate tools to collect data when conducting investigations and communicating findings to others (e.g., thermometers, timers, balances, spring scales, magnifiers, microscopes and other appropriate tools).
- 3-5 Benchmark B: Organize and evaluate observations, measurements and other data to formulate inferences and conclusions.
- 3.2 Discuss observations and measurements made by other people.
- 3.3 Read and interpret simple tables and graphs produced by self/others.
- 3.5 Record and organize observations (e.g., journals, charts and tables).
- 5.2 Evaluate observations and measurements made by other people and identify reasons for any discrepancies.
- 5.3 Use evidence and observations to explain and communicate the results of investigations.
- 3-5 Benchmark C: Develop, design and safely conduct scientific investigations and communicate the results.
- 3.4 Identify and apply science safety procedures.
- 3.6 Communicate scientific findings to others through a variety of methods (e.g., pictures, written, oral and recorded observations).
- 4.3 Develop, design and conduct safe, simple investigations or experiments to answer questions.
- 4.4 Explain the importance of keeping conditions the same in an experiment.



- 4.5 Describe how comparisons may not be fair when some conditions are not kept the same between experiments.
- 4.6 Formulate instructions and communicate data in a manner that allows others to understand and repeat an investigation or experiment.
- 5.4 Identify one or two variables in an experiment.
- 5.6 Explain why results of an experiment are sometimes different (e.g., because of unexpected differences in what is being investigated, unrealized differences in the methods used or in the circumstances in which the investigation was carried out, and because of errors in observations).

**Standard: Scientific Ways of Knowing**

K-2 Benchmark B: Recognize the importance of respect for all living things.

- 2.3 Describe ways in which using the solution to a problem might affect other people and the environment.

3-5 Benchmark C: Explain the importance of keeping records of observations and investigations that are accurate and understandable.

- 3.2 Keep records of investigations and observations and do not change the records that are different from someone else's work.
- 4.2 Record the results and data from an investigation and make a reasonable explanation.
- 4.4 Explain why keeping records of observations and investigations is important.
- 5.5 Keep records of investigations and observations that are understandable weeks or months later.

**MATHEMATICS**

**Standard: Data Analysis and Probability**

- 1.2 Collect and organize data into charts using tally marks.
- 3.1 Collect and organize data from an experiment, such as recording and classifying observations or measurements, in response to a question posed.
- 3.5 Match a set of data with a graphical representation of the data.
- 4.5 Propose and explain interpretations and predictions based on data displayed in tables, charts and graphs.



## **SOCIAL STUDIES**

### **Standard: Geography**

K-2 Benchmark A: Identify the location of the state of Ohio, the United States, the continents and oceans on maps, globes and other geographic representations.

2.1 Read and interpret a variety of maps.

2.3 Name and locate the continents and oceans.

3-5 Benchmark A: Use map elements or coordinates to locate physical and human features of North America.

3.5 Identify the location of the Equator, Arctic Circle, Antarctic Circle, North Pole, South Pole, Prime Meridian, the tropics and the hemispheres on maps and globes.

### **Standard: Citizenship Rights and Responsibilities**

3-5 Benchmark A: Explain how citizens take part in civic life in order to promote the common good.

- 3.1 Describe how people help to make the community a better place in which to live including:
- a. Working to preserve the environment;
  - b. Helping the homeless;
  - c. Restoring houses in low-income areas;
  - d. Supporting education;
  - e. Planning community events;
  - f. Starting a business.