

Octopus: Undersea Alien

Ohio Academic Content Standards: Grades 6-8

Science:

6th Life Science:

Diversity and Interdependence of Life

Describe how organisms may interact with on another

7th Life Science:

Diversity and Interdependence of Life

Investigate how organisms or populations may interact with on another through symbiotic relationships and how some species have become so adapted to each other that neither could survive without the other

Language Arts:

6th - 8th Acquisition of Vocabulary

Conceptual Understanding

Identify analogies and other word relationships, including synonyms and antonyms, to determine the meaning of words.

Tools and Resources

Determine the meanings and pronunciations of unknown words by using dictionaries, thesauruses, glossaries, technology and textual features, such as definitional footnotes, or sidebars.

Research

Identify appropriate sources, and gather relevant information from multiple sources

Identify important information found in sources and paraphrase the findings in a systematic way

Communication: Oral and Visual

Listening and Viewing

Demonstrate active listening strategies

Technology

6th Technology and Communication Applications

Use of Communications

Investigate assigned topics using online learning resources

7th Technology and Communication Applications

Use of Communications

Acquire and disseminate information by participating in virtual learning activities

Technology and Information Literacy

Evaluating Sources

Compare multiple sources (online encyclopedia, Web site, online magazine database, print source) to check accuracy of information

Pre-Activity:

Goal: To gain background knowledge of cephalopod's, specifically the octopus

Objectives: The students will be able to:

1. Understand what a cephalopod is
2. Understand some of the characteristics of a cephalopod
3. Understand some of the characteristics of an octopus

Materials Needed:

- Books (Encyclopedia, Books about Cephalopods, Books about Octopi)
- Computer (Internet, Electronic Encyclopedia, Science Software)

Pre-Activity:

- Research cephalopods (List 2-3 items per category)
 - What they are
 - Characteristics
 - Role in the aquatic food web
 - Adaptations
 - Environment
 - Ecosystem
- Research the octopus (List 2-3 items per category)
 - Characteristics
 - Role in the aquatic food web
 - Adaptations
 - Environment
 - Ecosystem

Distance Learning:

Goal: To learn about the octopus and about its importance in their ecosystem

Objectives: The students will be able to:

1. Understand new terminology
2. Understand behaviors of an octopus
3. Understand how an octopus fits into its environment

Distance Learning:

- Morphology
 - Internal
 - External
- Behavior
 - Intelligence
 - Problem Solving
- Importance within the environment

Post Activity:

Goal: To use the information learned about cephalopods and octopi to complete the post activities.

Objectives: The students will be able to:

1. Identify facts that are either true or false in a story
2. Compare an octopus and a squid using a Venn diagram
3. Understand the purpose of certain physical characteristics of a squid

Materials Needed:

- Fictional story about an octopus
- Chart Paper
- Markers
- Kit for dissecting a squid

Post Activity:

- Discussion about what they learned
- Read a fictional story about an octopus then create a fact or fiction chart based on what you know about an octopus in real life
- Create a Venn diagram comparing an octopus and a squid
- Dissect a squid and label external/internal adaptations
- If possible: visit other Zoo's and Aquariums for further observations of cephalopods

Suggested Readings:

The Octopus: Phantom of the Sea

Mary M. Cerulo. Cobblehill Books, 1997.

Beneath Blue Waters: Meetings with Remarkable Deep-Sea Creatures

Deborah Kovacs and Kate Madin. Vikings, 1996.

Web Links:

The Cephalopod Page

<http://is.dal.ca/~ceph/TCP/index.html>

Ocean Link

<http://oceanlink.island.net>

SeaWorld Animal Information Database

<http://www.seaworld.org>