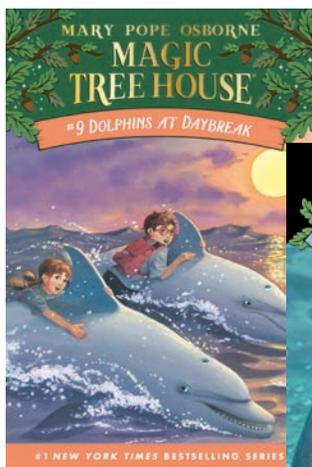


# EDUCATORS' GUIDE

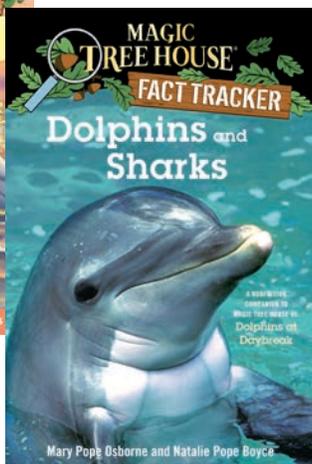
# MAGIC TREE HOUSE®

## ***Dolphins at Daybreak*** and ***Dolphins and Sharks:***

*A Nonfiction Companion to Dolphins at Daybreak*



PB: 978-0-679-88338-8  
EL: 978-0-375-89426-8  
Grades: 1-4  
F&P: M • Lexile: 350L



PB: 978-0-375-82377-0  
EL: 978-0-307-97527-0  
Grades: 2-5  
F&P: Q • Lexile: 730L

### **ABOUT *Dolphins at Daybreak***

Jack and Annie are off in the Magic Tree House again, this time to a whole new world under the ocean. Complete with a giant octopus, a hungry shark, and dolphins to the rescue, this Magic Tree House book delivers an underwater adventure kids can dream about.

### **ABOUT *Dolphins and Sharks:***

*A Nonfiction Companion to Dolphins at Daybreak*

How fast can some dolphins swim? What is the biggest shark? Why do sharks attack? Find out the answers to these questions and more in this Fact Tracker! Includes an illustrated gallery of dolphins and sharks, information on the ocean, dolphin communication, how sharks hunt for food, ocean exploration, and lots more!

## **ACTIVITIES FOR *Dolphins at Daybreak***

### **Create an Underwater Scene**

Jack and Annie are amazed to find colorful mountains, valleys, caves, and sea planets on the sandy bottom of the coral reef waters.

Have students compile animal, plant life, and topographical data about this underwater location using information in *Dolphins at Daybreak* and other library and Internet resources. A large sheet of roll paper offers a perfect palette for a jointly created underwater landscape mural of coral shapes and swaying grasses done in tempera.

**CURRICULUM:** Art • Science

## If I Could be an Ocean Animal

When Jack and Annie dive into the ocean in their mini-sub, they enter a strange new world filled with many unusual sea creatures. Have students list the different ocean animals that Jack and Annie encounter on their undersea adventure. Ask them to choose which of these sea creatures they would like to be for a day. In explaining and justifying their choices, have students address the following aspects of that animal's life in a short composition to be read aloud:

Undersea environment	Shelter/protection	
Physical characteristics	Predators/prey	Friends

**CURRICULUM:** Art • Language Arts • Science



## ACTIVITIES FOR *Dolphins and Sharks:* *A Nonfiction Companion to Dolphins at Daybreak*

### Getting Started

Using a map or a globe, locate and name each of the four oceans on our planet. Using Internet or library resources, invite students to find out how large each of the four oceans is, listing from largest to smallest. Have students compare the size of each ocean with the size of the United States to demonstrate how vast these bodies of salt water are.

Ask students to name and share what they know about some of the millions of creatures who make their homes in the ocean. Discuss how, in the ocean, larger and stronger animals eat smaller and weaker ones, creating a food chain. Ask them to guess, which among these sea creatures are called predators given their place at the top of the food chain.

Have students ever seen dolphins or sharks at an aquarium, sea show, or in their natural habitat? What were their impressions? What famous fictitious dolphins and sharks (such as Flipper or the shark in *Jaws*) have they heard of? Indicate that the information they gather about dolphins and sharks through the following activities will help to distinguish the reality of these spectacular creatures from the myths that surround them.

### How Deep Is the Ocean?

Oceans are wide, covering almost 140 million square miles of the earth's surface, but they are also deep, some going as far as six miles down. Using a large shoebox, have students create their own ocean diorama showing the three layers of the ocean and some of the different creatures who live in each zone. Students can paint the back of the inside of the box different shades of blue to show light variations at each layer. They can use browns to create the ocean floor on the bottom.

Then, have students draw and color or cut out pictures of undersea creatures and suspend them with string of different lengths to hang in their appropriate zone. Pipe cleaners can be used to fashion coral and seaweed; glitter can be used to add the right touch of underwater sparkle.

**CURRICULUM:** Science Art

### The Art of the Bone

Introduce students to the term scrimshaw, the craft of carving designs into bone, practiced by the whalers in the 1800s and learned from many native peoples. Whalers would use the teeth or jawbones of the whales to create elaborate carvings. Discuss how this technique can be done with other materials, without harming animals.

Supply each with a paper and pencil, a large bar of soap (such as Ivory) with the name scraped off to create a smooth surface, a plastic knife, and black water-based paint with brush. Have students draw outlined images of one or more dolphins or sharks they have become acquainted with. Lay outline on soap and trace into surface using the plastic knife. Remove paper and go over lightly with black paint. After drying for a few minutes, lightly run water over soap to remove excess paint, allowing color in carved areas to remain and enhance their images.

**CURRICULUM:** *Research • History Art*

### Sidewalk Predators

A great white shark may grow to 21 feet and weigh as much as 7,000 pounds. A hammerhead shark may grow as much as 20 feet and weigh in at 1,000 pounds. Go outside with chalk (if you have a driveway or a large blacktop area close by). Using tape measures or rulers, measure out the length of the predators and approximate their sizes in life-size outline chalk drawings. Then stand inside each drawing, estimating how many times larger each shark predator is.

**CURRICULUM:** *Math • Art*

### Cetacean Songs

The language of marine animals in the group known as Cetacea includes various clicks and whistles that often sound musical to the human ear. Most striking is the song of the humpback whale. Download and have students listen to the song of this majestic creature of the deep. How does the music sound? Like an instrument? Like a cry? What feelings do these songs evoke? Ask each student to write a free-verse poem about the song of the humpback whale, describing how it makes them feel. Complete this musical adventure by singing “Baby Beluga” by Raffi.

**CURRICULUM:** *Music • Science • Language Arts*

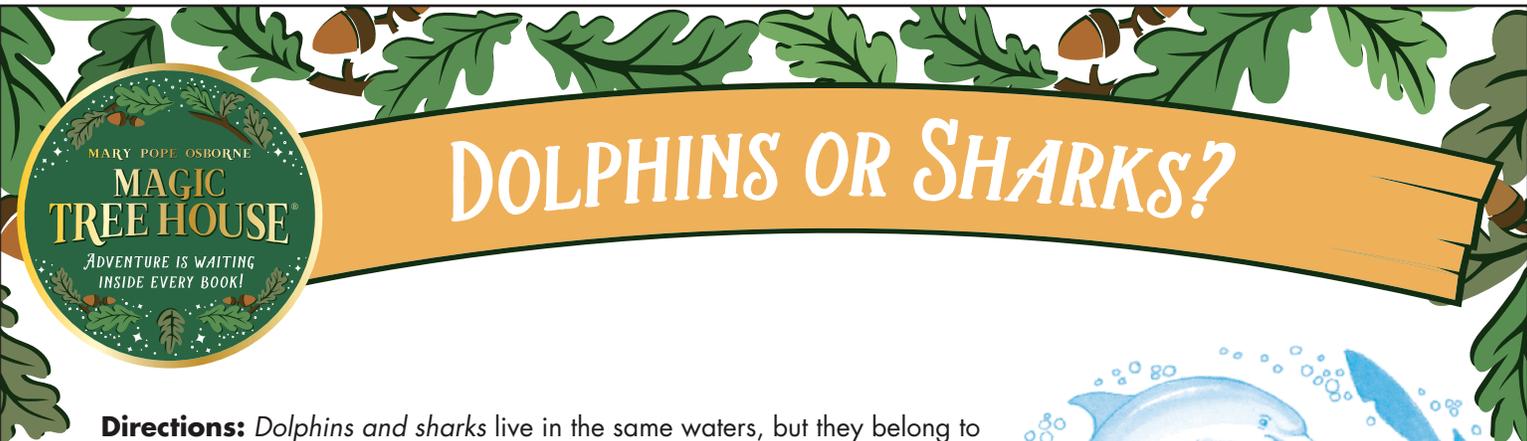
### Shark Bytes

Using Internet or library resources, have students further research the unique attributes of each introduced in this guide, including their abilities to hear, smell, see, swim, sleep, find and eat food, and protect themselves.

**CURRICULUM:** *Research Science • Art*

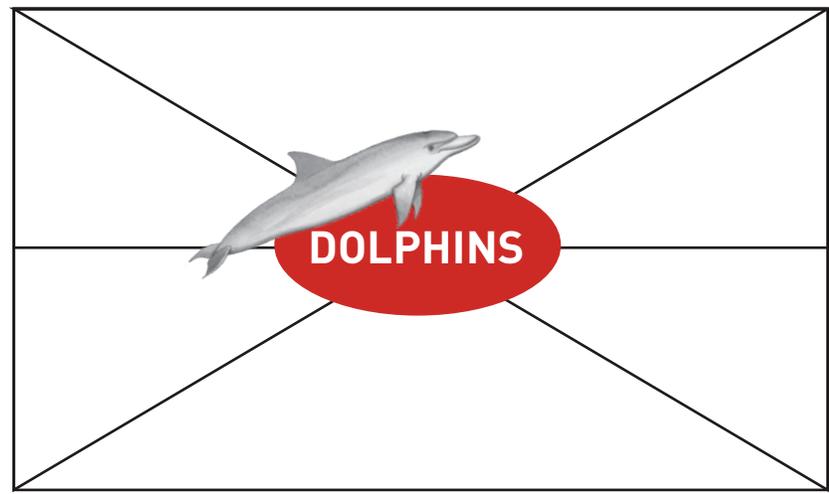
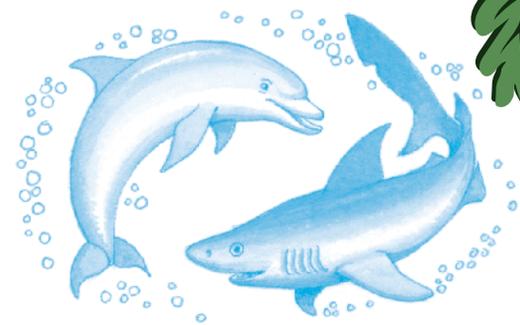
*Teaching ideas by Rosemary B. Stimola, Ph.D., former professor of children’s literature at City University of New York, and Dr. Peggy A Sharp, a national children’s literature consultant.*



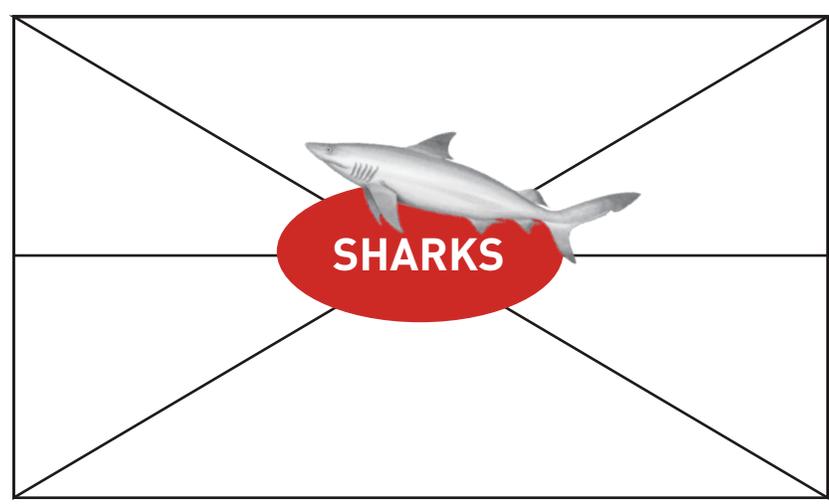


# DOLPHINS OR SHARKS?

**Directions:** Dolphins and sharks live in the same waters, but they belong to different animal groups with very specific attributes. Complete the following dolphin and shark webs by choosing those attributes typical of their animal groups.

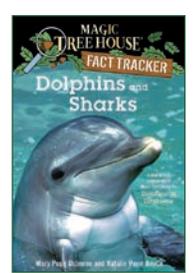
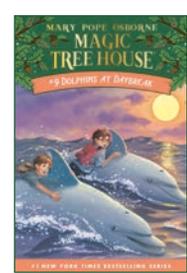


All dolphins \_\_\_\_\_



All sharks \_\_\_\_\_

- Drink milk
- Are cold blooded
- Have lungs
- Have live babies
- Have lots of teeth
- Have rough skin
- Are mammals
- Are warm blooded
- Have gills
- Are Chondrichthyes
- Have a cartilage skeleton
- Use echolocation
- Are Cetacea



Activity for *Dolphins and Sharks: A Nonfiction Companion to Dolphins at Daybreak* by Mary Pope Osborne and Natalie Pope Boyce.

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# DOLPHINS OR SHARKS?

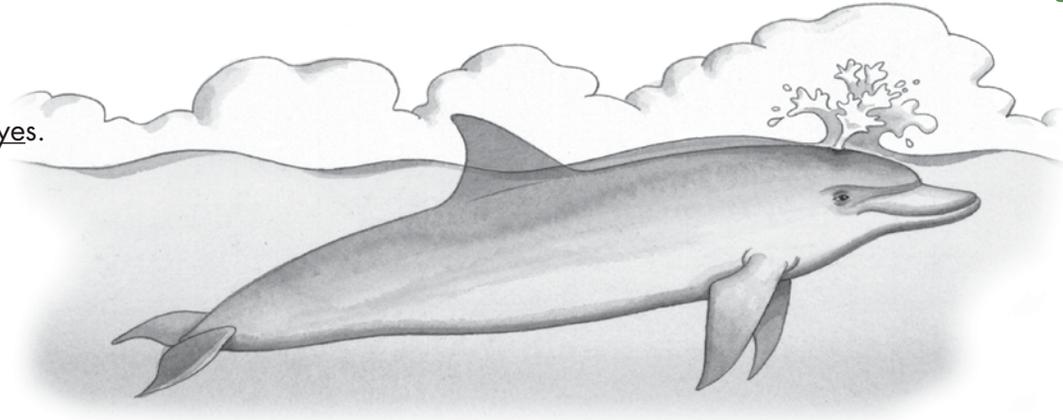
## Answer Key

All dolphins are Cetacea.

All sharks are Chondrichthyes.

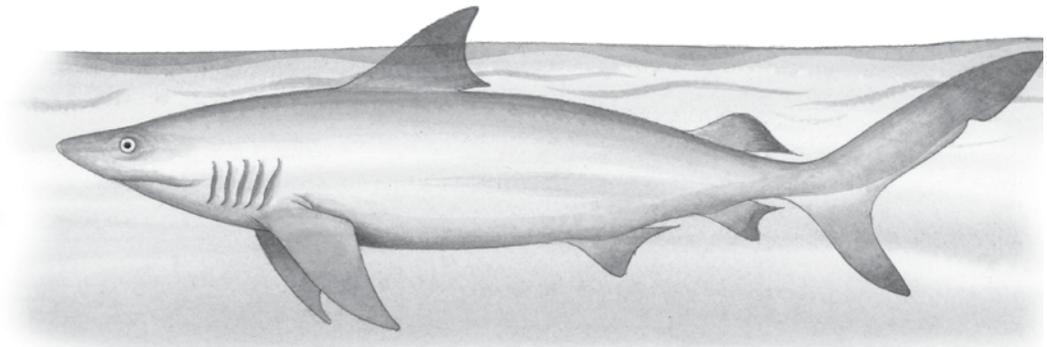
### Dolphins

- drink milk
- have lungs
- have live babies
- are mammals
- are warm blooded
- use echolocation



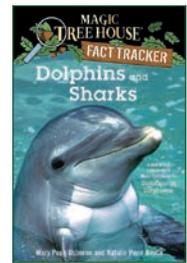
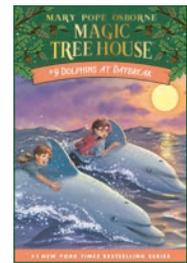
### Sharks

- are cold blooded
- have lots of teeth
- have rough skin
- have gills
- have a cartilage skeleton



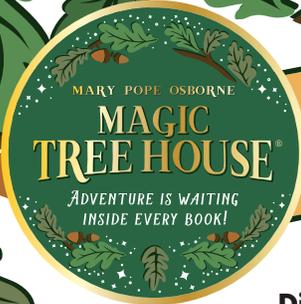
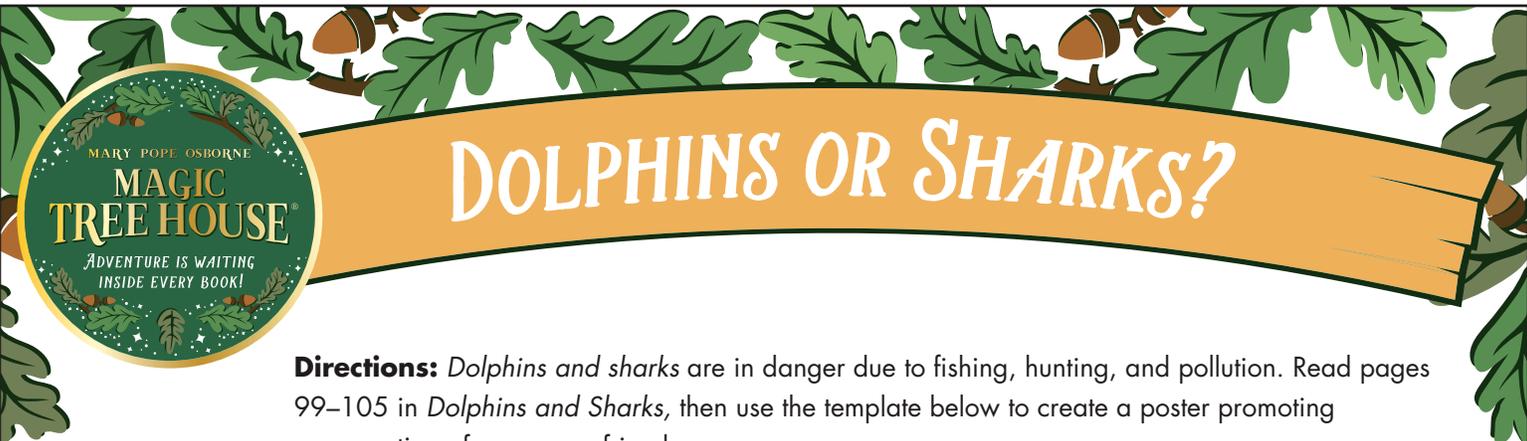
### Page References

Drink milk . . . . .	p. 30
Are cold blooded . . . . .	p. 61
Have lungs . . . . .	p. 30
Have live babies . . . . .	p. 30
Have lots of teeth . . . . .	p. 64
Have rough skin . . . . .	p. 65
Are mammals. . . . .	p. 29
Are warm blooded . . . . .	p. 30
Have gills . . . . .	p. 67
Are Chondrichthyes . . . . .	p. 63
Have a cartilage skeleton . . . . .	p. 64
Use echolocation . . . . .	p. 36
Are Cetacea . . . . .	p. 28



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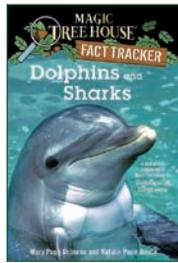
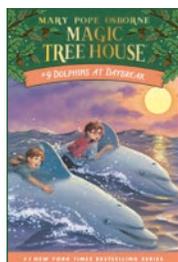


# DOLPHINS OR SHARKS?

**Directions:** *Dolphins and sharks* are in danger due to fishing, hunting, and pollution. Read pages 99–105 in *Dolphins and Sharks*, then use the template below to create a poster promoting conservation of our ocean friends.



**SAVE OUR DOLPHINS AND SHARKS!**



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Activity for *Dolphins and Sharks*: A Nonfiction Companion to *Dolphins at Daybreak* by Mary Pope Osborne and Natalie Pope Boyce

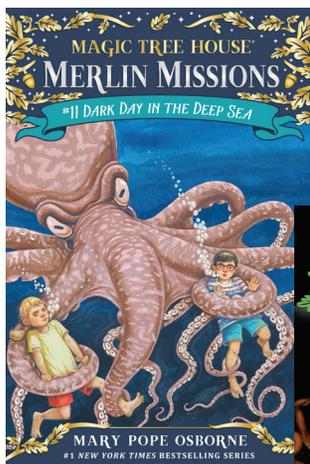
# EDUCATORS' GUIDE

## MAGIC TREE HOUSE<sup>®</sup>

# MERLIN MISSIONS

### ***Dark Day in the Deep Sea* and *Sea Monsters:***

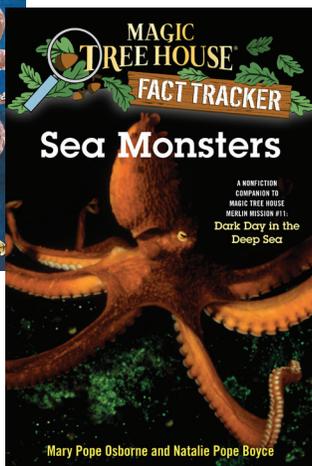
*A Nonfiction Companion to Dark Day in the Deep Sea*



PB: 978-0-375-83732-6  
EL: 978-0-375-89461-9  
Grades: 2–5  
F&P: N • Lexile: 520L

#### **ABOUT *Dark Day in the Deep Sea***

Jack and Annie continue their quest for the secrets of happiness—secrets they need if they're going to save Merlin. But when the magic tree house leads them to a tiny deserted island in the middle of the ocean, they're not sure who needs help more—Merlin or themselves! The brother and sister team are soon rescued by a ship of explorers and scientists. But the crew isn't looking for the secrets of happiness. The crew is looking for . . . a sea monster!



PB: 978-0-375-84663-2  
EL: 978-0-375-98328-3  
Grades: 2–5  
F&P: R • Lexile: 720L

#### **ABOUT *Sea Monsters:***

*A Nonfiction Companion to Dark Day in the Deep Sea*

How are an octopus and a squid different? What kinds of creatures live in the deepest abyss of the ocean? What do scientists say some legendary sea monsters really are? Find out the answers to these questions and more in this Fact Tracker.

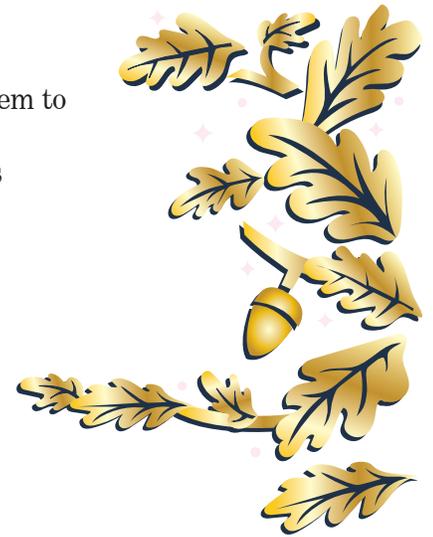
### **ACTIVITIES FOR *Dark Day in the Deep Sea***

#### **Thesaurus**

Have the class create a thesaurus for words used in *Dark Day in the Deep Sea*. Some of the commonly misunderstood words are listed below, and there are a few options as to how to present this task to students:

**SIMPLE:** Prior to reading, give students the basic words on the left. Have them work in groups to list at least three thesaurus entries to go along with each starter word. (You can have students actually use a thesaurus if this is difficult to do based on prior knowledge.) While reading *Dark Day in the Deep Sea*, point out the more complex words (sorrow, gawking, etc.) and have the students record them with the starter words.

**MORE COMPLEX:** Prior to reading, give students the basic words on the left. Allow them to list as many thesaurus options for the simple words. Challenge them to find complex words in *Dark Day in the Deep Sea* that could be added to the thesaurus they've started. This can be broken down into more manageable parts by doing this one chapter at a time.



<b>BASIC WORD</b>	<b>COMPLEX WORD USED IN THE BOOK</b>
Sadness	sorrow
Stare	gawking
Humor	wit
See	glimpse
Allowed	permissible
Trip	expedition
Walk	strode
Speech	lecture
Confused	baffled
Change	converted

### **Glossary**

Create a class glossary to define the following words used in *Dark Day in the Deep Sea*: dredging, grudgingly, capsize, vigorously, nausea, species/specimen, squall, wardroom, scurvy, and harpoon.

To add complexity, offer to let students define these words using context clues instead of defining the words for them. Have students check their context-clue guesses with the actual definition of the words above.

### **Personification**

Highlight the uses of personification in *Dark Day in the Deep Sea*. Have students find more examples of personification in the text or in other reading material. Give them the opportunity to find and illustrate the personification examples. This could be an illustration of the waves rising and falling, or a wave actually holding a hammer. . .

**EXAMPLES FROM *Dark Day in the Deep Sea*:**

“The wind was screaming.” (p. 60)

“but the waves kept hammering him.” (p. 62)

### **DISCUSSION QUESTIONS/Writing PROMPTS**

Jack and Annie learn to conquer fear through knowledge, or through compassion. Give an example of how you have conquered fear through knowledge. Give an example of how you have conquered fear through compassion. Do you think one way to conquer fear is better than the other?

What do you think would have happened if Jack had not been seasick during the storm?

## **ACTIVITIES FOR *Sea Monsters*:** *A Nonfiction Companion to Dark Day in the Deep Sea*



### **Vocabulary**

Here are words to teach before students read *Sea Monsters* or to highlight while they are reading: carnivore, nocturnal, marine, prey, hoax, and legend

### **DISCUSSION QUESTIONS/WRITING PROMPTS**

#### **Knowledge**

How do giant squids propel themselves?

What have we yet to discover about the colossal squid?

What causes trenches in the ocean floor?

#### **Comprehension**

How do scientists find out about marine animals that are no longer living?

How did Dr. William Beebe record what he saw when he was in the bathysphere?

What is Jacques Cousteau remembered for?

What animals use bioluminescence? What do they use it for?

What is a legend?

#### **Application**

Are there any other animals or machines that propel themselves through the water like a giant squid?

#### **Analysis**

Compare and contrast a squid and an octopus. (Students could use a Venn diagram to organize points.)

How can we tell if the stories of sea creatures from the past are reputable—that we should believe them—or not?

What criteria should be used when making these kinds of decisions?

Do you think sea monsters actually exist? What reasons do you have to support your opinion?

#### **Synthesis**

Give an example to support or refute Cousteau's quote, "People protect what they love."

#### **Evaluation**

Is it okay to study animals if it causes them to die in the process?

#### **Storytelling**

Explain how rumors begin and grow by telling the story of an imaginary sighting of an unfamiliar animal as a group. Each child adds a sentence to the story aloud. This may be a good point for discussion in the classroom about how people can easily create gossip that may or may not be true.

#### **Math**

As a class, calculate the expenses associated with a deep-sea expedition to find out more about the creatures that live in the ocean. Next create an opportunity for students to test the method used by scientists in measuring the depth of the ocean. To accomplish this, have students create a sort of fishing pole by cutting a long piece of string, tying it to the end of a stick, and tying a small weighted object to the other end of the string. Then ask students to measure the string as closely as possible from the tip of the stick to the bottom of the weighted object. Tip a table

over on its side (it must be tall enough that the people performing the demonstration wouldn't be able to see over it). Set several different boxes on the other side of the table to create different "depths" to measure. To measure each depth, students should lower their poles over the table until they reach the "ocean floor," and then subtract the length of string that stays "above water" (above the table) from the full length of the string. Have students record their measurements on a chart and compare their results to the actual depth measurements, which they can find using a ruler. This activity can be conducted as a teacher-led demonstration, or as a problem-solving puzzle for students to solve on their own.

## Writing

Let students choose one of the following writing activities:

A "sea monster sighting" newspaper

A day in the life of a specific sea creature from the book

A Little Red Riding Hood-type story with a marine creature instead of a wolf. Students should include details on the size of the animal's body and its specialized characteristics. As an extension activity, have students portray these details through a puppet show, an auditory presentation, or a comic-style drawing with speech bubbles.

## Art

Using the descriptions provided in *Sea Monsters*, set the students to task creating their own 3-D version of a sea creature. You may choose to require students to create animals to scale, or add their imagination to the task, as not all animals are well known, even to aquatic explorers and scientists.

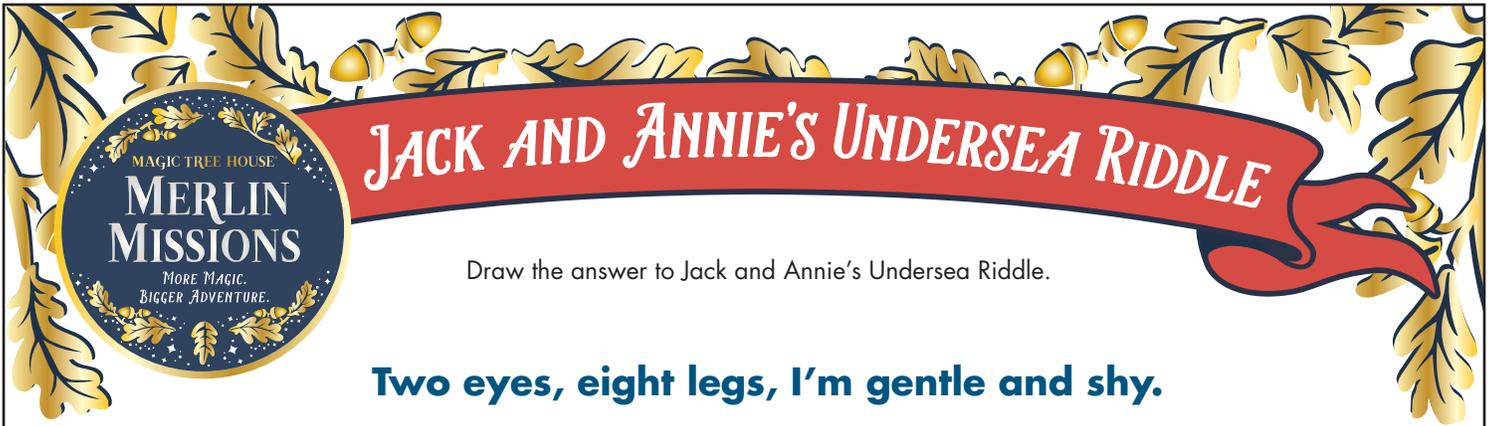
The piecemeal information we know about sea creatures often leaves us feeling like Picasso. Using images of Picasso's work, challenge the students to create a sea monster in the spirit of Picasso on paper.

## QUESTIONS FOR FURTHER EXPLORATION

- What defines a reptile?
- What do we call mapmakers? Is there a fancy name for their job?
- How exactly do scientists measure the depth of the ocean?
- Four hundred years ago, people drew what they thought the ocean floor looked like. Based on that drawing, make an educated guess: what ocean might they be mapping? Do you think any of the items shown on the map actually exist?
- Why do different animals live at different depths of the ocean?
- Do people swim in the ocean today like Jacques Cousteau did years ago?
  - How do scientists hear underwater animals?
  - How does a python consume its prey?
  - Are there other uses for water propulsion besides what is mentioned in the book?
  - How do diving and snorkeling differ?

*Teaching ideas provided by Beth Fawley, the 2006 Magic Tree House Educator of the Year, who is the K-12 Gifted and Talented Coordinator at Columbia Heights Public Schools in Minnesota.*





# JACK AND ANNIE'S UNDERSEA RIDDLE

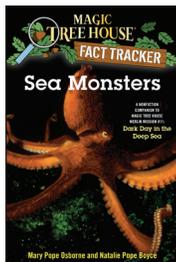
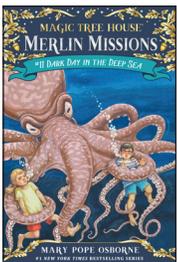
Draw the answer to Jack and Annie's Undersea Riddle.

**Two eyes, eight legs, I'm gentle and shy.**

**But if you scare me enough, I'll squirt in your eye!**

**What am I?** \_\_\_\_\_

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Activity for *Sea Monsters*: A Nonfiction Companion to *Dark Day in the Deep Sea* by Mary Pope Osborne and Natalie Pope Boyce

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