

# COUSTEAU *kids*

EXPLORING NATURE AND SCIENCE AROUND THE WORLD

## March/April 2010 Teacher's Guide



In this issue of *Cousteau Kids*, students will read about:

- ▶ the penguin
- ▶ Jacques Cousteau in Antarctica
- ▶ penguins in trouble
- ▶ the spiny lobster
- ▶ the elephantnose fish
- ▶ a 13-year-old who started an anti-littering campaign

# PENGUINS: Birds in Suits

## Key Words:

**success:** a result or end that is positive or good, accomplishing something or reaching a goal

**countershading:** a form of camouflage that helps an animal blend in

## Before reading:

To test prior knowledge, have students complete the following True or False quiz before reading. You can let students know ahead of time that exactly three sentences are false. Ask students to check their own answers after they read and to rewrite any false sentences so they are correct.

## TRUE or FALSE?

All penguins have black and white feathers. **F (Penguins have light and dark feathers.)**

Penguins spend most of their lives in the water. **T**

All penguins live in cold climates. **F (Penguins live in warm and cold climates.)**

Some penguins lay their eggs in piles of penguin poop. **T**

A penguin's fancy feathers are only used to attract a mate. **F (Penguins also use them for protection.)**

Penguins have good eyesight in the water and on land. **T**

Penguins are excellent swimmers. **T**

## During reading:

A penguin's feathers are specially-designed to help it survive in its environment. To set a purpose for reading, have students color in the box before each sentence if it describes a special characteristic that helps a penguin live *successfully* in its environment. [Answers provided]

- A penguin has dark and light (usually black and white) feathers.
- Penguins like to swim.
- Penguins are good swimmers, thanks to their "chubby" torpedo shape.
- Some penguins have yellow eyes.
- Penguins have feathers that overlap, or are packed in tight.
- Penguins have webbed feet.
- A Chinstrap penguin has a stripe across its chin.
- A penguin's feathers are covered in oil.
- Penguins have a patch of skin above their feet.
- The pupil, or dark round center, of a penguin's eye can change shape.
- Penguins are related to flamingos.

## After reading:

Group students and use yard and meter sticks or tape measures to explore penguin sizes. Ask groups to compare the average height of the Emperor penguin (4 feet) and the Fairy penguin (16 inches) to the following: a classroom desk, a door, a teacher, the height of a regulation-sized basketball goal (10 feet)

## Standard 5

Understands the structure and function of cells and organisms  
Knows that animals have distinct structures that serve specific functions in growth and survival

**Standard 6**  
Understands the relationship among organisms and their physical environment  
Knows the basic needs of animals (air, water, light, nutrients, food, or shelter)

# THE ELEPHANTNOSE

## Key Words:

**electrolocation:** a special ability that uses electric pulses to find food

**distorted:** changed or different from its original form or shape

## Before reading:

To set anticipation, ask students how animals find food. Different animals have different strategies, but they almost all use the 5 senses. Here's how it works: Animals can *smell* their food. They *look* for food by hunting. They can *hear* food coming. They can *feel* it coming by setting a trap. They can even *taste* it. (Poisonous foods get spit out right away!) The elephantnose fish has a special way of finding food to eat. It works a lot like a metal detector.

*Teaching note:* See if you can borrow a metal detector to show kids how this tool works. Hide coins in a special area outside or in the playground beforehand.

## During reading:

Be sure students write down jot down the facts below as they read. Tell students they'll need to know these numbers for a fun activity they'll be doing later.

How many electric sensors does an elephantnose fish have? \_\_\_\_\_

How much does one of its electric pulses measure? \_\_\_\_\_

How many electric pulses does it make in 1 second? \_\_\_\_\_

## After reading:

Remind students they read that an elephantnose fish makes 80 electric pulses in 1 second. For a kinesthetic approach to learning, ask students to clap 80 times while you time the activity. (Warn kids not to clap too hard or their hands will hurt!) Compare your class's clap time to the elephantnose fish's. To introduce a ratio, ask students how many pulses an elephantnose fish could make in the same amount of time.

Use clapping to simulate *avoidance jamming* done by a group of elephantnose fish. Have one half of the class clap very quickly and the other half clap very slowly. (A round robin of the song "Row, Row, Row Your Boat" would also be a good example.)

Makes and confirms simple predictions about what will be found in a text (e.g., ideas presented in text, illustrations, titles, and clues)

# SEA QUERIES

## Key Words:

**silky:** smooth or soft

**mucus:** a sticky, slimy substance found in the nose, lungs, gills, and other body parts

**airborne:** carried by the air or wind, sent through the air by a force

**ancient:** old, dating back to an earlier time in history

## Before reading:

Provide one line from each Q&A and ask students to draw a funny picture that illustrates the sentence. After reading, have kids compare their pictures to the illustrations by Kelly Kennedy.

## After reading:

For a fun follow-up art activity, have kids use real sandpaper to make their own sharks. (Provide a shark cut out if possible.) Allow kids to paint the sandpaper sharks using gray paint. Provide students with index cards so they can write about why a shark's skin is so rough. Have students use the facts they learned from the first Q&A on page 22, but be sure they use their own words.

Write to Cousteau Kids at:

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Chesapeake, VA 23320



Standards

Content Knowledge: A Compendium of Standards and Benchmarks for K-12 Education, 4th Edition Mid-continent Research for Education and Learning (McREL) and Association for Supervision and Curriculum Development  
[www.mcrel.org/compendium/browse.asp](http://www.mcrel.org/compendium/browse.asp)

New York State Math, Science & Technology Standards, The University of the State of New York, The State Education Department [www.emsc.nysed.gov](http://www.emsc.nysed.gov)

Name \_\_\_\_\_

Date \_\_\_\_\_

# COUSTEAU CONCENTRATION

Find a partner and use this page to help you study all of the new words you learned in this issue. **Directions:** Carefully cut out each of the boxes from the chart below. Mix up the squares and turn them over. Take turns turning over squares to find each match. As you find each matching pair, remove the word and their definition from the game.

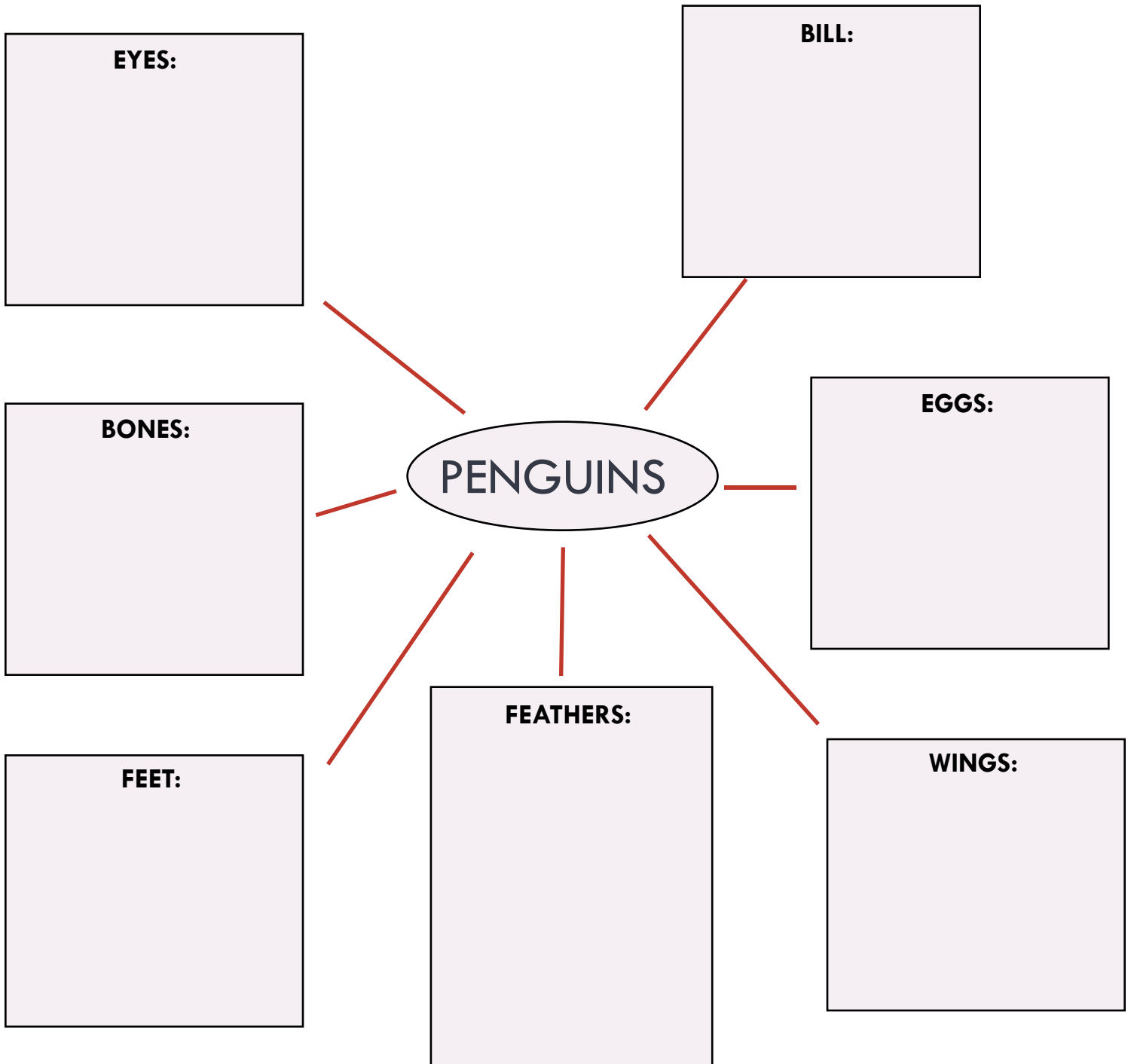
<b>sardines</b>	<b>counter-shading</b>	easily passed from one to another	<b>archenemy</b>
rough scales on a shark's skin	<b>pyrite</b>	<b>crest</b>	how penguins clean their feathers
feathers on the head	hardened	<b>preening</b>	<b>pupil</b>
tiny shrimp-like crustaceans	food eaten by African penguins	<b>berried</b>	a yellowish-colored mineral
<b>calcified</b>	a main enemy	dark center of the eye	<b>contagious</b>
<b>krill</b>	<b>dermal denticles</b>	a female lobster carrying eggs	a dark and light form camouflage

Name \_\_\_\_\_ Date \_\_\_\_\_

# THE PENGUIN

Penguins may look like they're wearing tuxedos, but these birds are dressed for success. Penguins may not fly, but they have special body parts that make them super swimmers and ways to survive in cold or warm climates.

Directions: Read about penguins and then fill in one fact about them in each box below.



Name \_\_\_\_\_ Date \_\_\_\_\_

## CREATURE CLOSE-UP: The Elephantnose Fish

Use this page to help you organize all the new information you'll learn about the elephantnose fish. Check the correct word that best completes each sentence while you read the article on page 19.

1. The extra-long part on an elephantnose fish's face is really its:

- nose
- lower jaw
- vacuum hose

2. Elephantnose fish use the extra-long part of their mouth to:

- slurp food
- sniff food
- find food

3. An elephantnose fish's electric organ can make an electric pulse that measures less than:

- one volt
- one bolt
- one zolt

4. Elephantnose fish use their lower jaw to find:

- a mate
- lost treasures
- food

5. The ability to use electricity to find objects is called:

- echolocation
- electrolocation
- superduperlocation

6. Elephantnose fish don't have good:

- eyesight
- friends
- noses

7. Elephantnose fish can change the number of electric pulses they make when they are:

- hunting
- hiding
- happy

Name \_\_\_\_\_ Date \_\_\_\_\_

# SEA QUERIES T or F?

Take this True or False challenge before you read the Sea Queries in this issue and then check your answers after you read. Color in one fish for each correct answer. (See bottom of the page.)

**Directions:** Color or shade in the letter T for True and the letter F for false.

1. Shark skin was once used as sandpaper.  T  F
2. A silky shark's skin is smooth because it has no scales.  T  F
3. Parrotfish sleep in their own slimy mucus.  T  F
4. Every night, parrotfish make new mucus to sleep in.  T  F
5. Flying fish can fly from New York to Florida.  T  F
6. Flying fish can glide at about 40 miles per hour.  T  F
7. Hagfish are not fish.  T  F
8. Hagfish are so long they can tie themselves in a knot.  T  F

**CORRECT ANSWERS:**

