COUSTEAU kids

November / December 2005 Teacher's Guide

In this issue of *Cousteau Kids* students will:

- learn about penguins and their habitats
- read about past Cousteau expeditions to Alaska
- learn about Alaskan languages
- get information about how much garbage is produced in the United States each year
- read a collection of facts about seas in a new feature called "It's a CK Fact!"
- view zoom photographs of bryozoans and hydrozoans (tiny animals that look like lights)
- recycle the pages of *Cousteau Kids* to use as wrapping paper
- unscramble words in a polar puzzle
- perform a *Cousteau Kids* experiment
- acquire a lists of recyclable and non-recyclable items
- get news about levees in New Orleans, a Toxic Frogs update, and bottlenose dolphins in *The Maritimes*

Key Words in Context

Many of the advanced words in Cousteau Kids feature context clues—surrounding words, phrases, and sentences in a passage that provide clues to help determine the meaning. This Teacher's Guide provides key words and phrases used in the November / December 2005 issue for each article. Before reading each article, write the key words on sentence strips and post them on the chalkboard. Ask students to predict the meanings and then use context clues to determine them while reading. Point out that clues to the meaning of new words are often found within commas. Instruct students to underline a key word once, and the clues to its meaning twice.

[Pages 4-5]

Standards and Critical-Thinking Skills

- knowledge: describing a geographic area; identifying traits of Alaska; quoting Alaskan words from the article
- comprehension: reading informational text and maps for meaning
- analysis: reading a map according to language groups
- evaluation: comparing languages; explaining why Alaska is a "great land"; summarizing previously read information

Key Words in Context:

native: living or growing naturally in a particular region or area
Juneau: capital city of Alaska
Denali: the tallest mountain in Alaska (also called Mt. McKinley)
Inuit: northern and eastern Alaskans
Yuit: western Alaskans

Getting started:

Before reading the article with your class, write the phrase below on the chalkboard or chart paper. Ask students to complete the phrase by providing a missing word. Compare students' phrases to the title and subtitle of the article.

ALASKA
The "_____ Land"

Discussion Questions:

Do you agree that Alaska is a "great" land? Why or why not?
What did you learn about Alaska that you didn't know already?
How do you feel about the meaning of Alaska's name?
What surprises you about Alaskan languages?
The Cousteau team visited Alaska three times. What can you conclude about how they felt about Alaska? (Possible responses: *The Cousteau team liked Alaska. Alaska is large stated that needed follow-up visits.*)

Extension Activities:

1. Have groups outline Alaska on a world map and then compare it to an outline of Washington, Oregon, Idaho, Montana, Nevada, and North Dakota (combined). Have students create models using clay.

2. Compile a "Top Ten" list about the state of Alaska. Start at "10" using one of the facts from the article.

3. Have students research Alaska and their own state to complete a comparison chart. (See Student Activity 1.)

4. Alaska's nicknames are "The Last Frontier" and "Land of the Midnight Sun." Have groups research these nicknames to learn the origins.

[Pages 6-7]

Standards and Critical-Thinking Skills:

- knowledge: examining a size chart
- comprehension: comparing and contrasting penguin species
- analysis: classifying penguins by specific body traits
- synthesis: equating penguin sizes; measuring classroom objects for comparison

Key Words in Context:

dorsal: relating to or situated near or on the back especially of an animal
ventral: of or relating to the belly
countershading: a form of animal camouflage that uses dark and light coloration
equator: an imaginary circle around the Earth (or a other celestial body) that divides it into northern and southern hemispheres and is equally distant from the two poles

climates: places on Earth with certain weather conditions
recognizable: taken notice of in a sure way
reducing: making smaller in size, amount, extent, or number

Getting Started:

Before beginning, ask students to share three things they know about penguins.

Set a Purpose for Reading:

Here's a True or False questionnaire to provide to students before reading the article. Have students read the article to confirm their answers.

True or False?
1. Penguins have webbed feet.
2. All penguins are covered in black and white feathers.
3. Penguins only live in cold climates.
4. Some penguins have colorful feathers on their heads.
5. Penguins are birds that don't want to fly.
6. Penguins spend most of their lives in water.
7. Penguins are very good parents.
8. All penguins lay white eggs.

Answers:
1. True 2. False 3. False 4. True 5. False 6. True 7. True 8. False

Discussion Questions:

What part or feature of a penguin's body seems to be the most useful? Explain your reasoning.
What do you think when you first see a photograph of a penguin?
What word would you use to describe a penguin?

Follow-up Activities:

1. Measure the height of the smallest and largest penguin species. (Emperor and Fairy penguins, respectively.) Compare the heights of these penguins to classroom objects, such as the door and a textbook.
2. Have students write humorous short stories entitled "My Life as a Penguin" to share aloud.

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Garbage
What a Waste!

Standards and Critical-Thinking Skills

- knowledge: identifying types of garbage items
- comprehension: examining and interpreting percentages
- application: computing garbage amounts (statistically)
- evaluation: assessing individual behavior towards "garbage"
- synthesis: speculating on the types and amounts of garbage generated by Americans each year

Getting Started:

Remove the contents of the classroom trash bins (regular and recyclable). Determine the largest quantity among the types of garbage in each classroom bin: paper, plastic, mood, metal, food, yard, rubber/leather, or "other."

Set a purpose for reading:

Before reading the article, ask students to predict how many pounds of garbage one person generates in one day (about four pounds).

After reading:

Have students compute the amount of garbage generated by the class in a day, week, and month. For example: At a rate of 4 pounds of garbage per student each day, a class of 20 students will generate 80 pounds of garbage in a school day, 400 pounds per school week, and 1,600 pounds of garbage each month. (That's at least 16,000 pounds of garbage produced by just one class in one school year!)

Discussion Questions:

Why is the current paper situation in the United States such a problem?
Of the eight things you can do to help reduce paper, which do you think is the easiest to do?
How many of the eight things do you already do?
What other environmental issues does using so much paper affect? (i.e., deforestation, habitat loss, overcrowded landfills)

Follow-up Activity:

1. Allow each student to gather all the paper in their desk and weigh the total. Add each students' value to calculate a class total.
2. Have each student take a "Paper Pledge" that they will try to use less paper, recycle what they have used, and use both sides. Here's a pledge your students can say aloud. Challenge students to write a second verse.

Paper Pledge

Today I'm taking a "paper pledge"
to write on a piece from edge to edge.
I will recycle lined pages every day,
put my colored scraps in a tray,
save whatever leftovers I may,
and just try to throw less of it away.

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Standards and Critical-Thinking Skills:

- knowledge: acquiring vocabulary
- comprehension: reading for meaning; distinguishing between characteristics of seas
- analysis: making inferences regarding the use of the phrase "Seven Seas"
- evaluation: focusing on a specific type of body of water

Getting Started:

Write the phrase "The Seven Seas" on the chalkboard and then ask students to list the names of seas. (Display a world map to ensure that students list more than seven.) After your class has compiled a decent list, ask: *So why do people always say there are seven seas?*

Here's a few explanations: Long ago, ancient civilizations used the phrase "seven seas" to describe bodies of water. But that phrase only referred to the seas and bodies of water they knew of at the time. For instance, ancient Romans called the lagoons near the city of Venice the *septem maria,* which means "seven seas." It wasn't until explorers began traveling the ocean in the fifteenth century that the lists grew. Some historians are not even sure that ancient peoples thought there were exactly seven seas. That's because in ancient times the word "seven" was an indefinite number, similar to the word "several" (meaning many). Historians still debate which seas made up the initial "seven," but many lists included most of these bodies of water: Indian Ocean, Black Sea, Caspian Sea, Adriatic Sea, Persian Gulf, Mediterranean Sea, and the Red Sea.

Set a Purpose for Reading:

Three of the seas mentioned in the "It's a CK Fact" article have a color in the name. There are actually five seas with a color in the name. Before reading, ask students to name as many seas with a color in the name as they can. [ANSWERS: Yellow Sea (Pacific Ocean), Black Sea (Mediterranean Sea/Atlantic Ocean), Red Sea (Indian Ocean), *and* White Sea (Arctic Ocean). Students might also suggest the Greenland Sea in the Arctic Ocean.]

Follow-up Activities:

1. Assign students other seas and gulfs, including the Coral Sea, Caribbean Sea, and the Persian Gulf. Have them create their own entries for "It's a CK Fact!"

Student Activity Page 2 "A Sea Near Me"

Possible Answers:
Aleutian Islands, Alaska: Bering Sea
Caracas, Venezuela: Caribbean Sea
Barcelona, Spain: Mediterranean Sea
Port Sudan, Sudan: The Red Sea
Hong Kong, China: South China Sea

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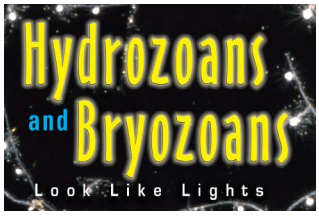

Standards and Critical-Thinking Skills:

- knowledge: reading to acquire new information
- comprehension: comparing and contrasting hydrozoans and bryozoans
- analysis: using visual abilities to analyze informative illustrations
- evaluation: discriminating between similar-looking things (sea creatures)

Before Reading:

Ask: What would you see at the deepest depth of the ocean? Nothing. It is absolutely dark. Sunlight doesn't reach past 1,000 meters (3,280 feet). Beyond that, it is pitch black. So how do animals get around, communicate, lure prey, and attract a mate without flashlights? Some animals make their own light!

Set a Purpose for Reading:

Tell students that in this article they will read about animals that look like lights. (Some even make their own light!) Ask: What do you think these animals are called?

After Reading:

Challenge students to name other animals that make light, including fireflies, glow worms, laternfish, octopuses, squid, fungi, and plankton.

Discussion Questions:

How are hydrozoans related to jellyfish and corals? (Answer: they have stingers)
What do hydrozoans produce? How do they do it?
How are bryozoans different from hydrozoans, jellyfish, and corals?
What are some reasons why animals produce light?

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Standards and Critical-Thinking Skills:

- knowledge: examining written works; identifying literary techniques
- comprehension: interpreting symbolism; using mentor text
- application: determining rhyme pattern; writing in response to literature
- analysis: evaluating poetry
- synthesis: composing poetry; using descriptive language; writing to entertain

Before reading (and sending) the card:

Review the poetic devices and terms below with students. Have them provide examples of each from the poem on the card.

Alliteration: The repetition of initial (beginning) consonant sounds
Ex: busy, buzzing bees; big, bushy

Onomatopoeia: the use of words whose sound suggests the sense
Ex: hippity-hop frogs; buzzing

Rhyme: A repetition of the same sound
Ex: things/springs; bees/trees; South/mouth; green/stream; purr/fur; tails/whales; snake/make; sea/me

Rhyme scheme: The sequence in which the rhyme occurs. The first end sound is represented as the letter "a", the second is "b", and so on. This poem is an example of a rhyming couplet, a pair of lines with an end-rhyme expressing one clear thought.
Ex: aa bb cc dd ee ff gg hh

Tone (mood): The feelings or meanings conveyed in a poem *Ex: Joy*

Follow-up Activities:

1. Submit students' poetry to be published in *Cousteau Kids!* Mail the poems to the address below. Or e-mail *Cousteau Kids* at cousteaukids@weeklyreader.com and be sure to include your name, your school's name and class number, a complete address, and why your class chose the name.

    Cousteau Kids c/o Weekly Reader
    200 First Stamford Place
    PO Box 120023
    Stamford, CT 06912-0023

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POLAR PUZZLE

Standards and Critical-Thinking Skills:

- knowledge: defining geographic areas; reading key ideas
- comprehension: comparing facts
- application: solving puzzles
- analysis: recognizing similarities and differences

Getting Started:

Before completing the puzzle, ask students to discuss how the North and South Poles are the same and different.

Follow-up Activities:

1. Ask students to write their own scrambles after researching four additional facts about the each of the poles.
2. Review other definitions of the North Pole: The Geographic North Pole (True North), Magnetic North Pole, The Geomagnetic North Pole, *and* The Northern Pole of Inaccessibility.

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COUSTEAU kids EXPERIMENT

Standards and Critical-Thinking Skills:

- knowledge: reading and following directions; restating outcomes
- comprehension: recording information; understanding the nature of scientific inquiry
- application: exploring properties of matter
- analysis: illustrating the steps in the scientific method, as well as scientific outcomes
- synthesis: designing and implementing follow-up experiments

Before Experimenting:

Complete the experiment at home at least once so you are familiar with the procedures and sure that the correct results are achieved. (For instance, you may need to add more or less air to the balloon.) On the day before, tell students that they will experiment using water, balloons, and marbles. Have the class discuss what they think the experiment will be and how it will work. On the day of the experiment, be sure to review safety rules for with students. Review the scientific method as a class and provide students with experiment recording sheets so they can record their findings.

Getting Started:
Read aloud the list of materials with students, as well as the procedure. Then have students join groups. Before you start, drop the marble into the jar of water and have the class observe what happens. Then ask what will happen if they place the marble in a balloon (without air). CAUTION: DO NOT ALLOW STUDENTS TO BLOW AIR INTO THE SECOND BALLOON. PREPARE TO HAVE ENOUGH OF THE SECOND BALLOONS ALREADY MADE AND HANDED OUT TO GROUPS.

Experiment Explained

Gas bladders act just like the balloons in this experiment. When a gas bladder "inflates," or expands, a fish rises to the surface of the water. When the bladder is completely deflated, a fish will sink to the ocean floor. The balloon that was blown up rises because the air made it bigger, so more water molecules are pushing up on that balloon than on the balloon without air. A fish with air in its gas bladder enlarges and gets a free ride to the water's surface!

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COUSTEAU kids CARE!

Standards and Critical-Thinking Skills:
- knowledge: identifying and matching items
- comprehension: distinguishing between different groups or categories
- application: classifying items
- analysis: arranging objects into sets and groups
- synthesis: collaborating in groups

Getting Started:
As an anticipatory set, place several recyclable and non-recyclable items into a cardboard box or class bin. (Try to have the same number of items as students.) Write "recyclable" and "non-recyclable" on separate sentence strips and tape them to the wall. Place an empty box or bin on the floor below each sentence strip heading. Allow each student to remove an item and place it in the correct box. Read the article to confirm students' choices.

Follow-up Activities:
1. Assign students to illustrate the "10 Recycling Tips" at the bottom of the page on the computer. Have students create posters of the list to hang in the school cafeteria.

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The Maritimes
November/December 2005

Standards and Critical-Thinking Skills

- knowledge: reading for meaning; identifying the attributes of informational text and visual aids
- comprehension: comparing attributes of animals; restating previously read information
- application: using vocabulary reading strategies; comparing temperatures; completing mathematical conversions
- synthesis: composing questions
- evaluation: assessing visual aids (i.e., photographs, charts, diagrams, illustrations, and maps); finding support for the use of visual aids

Article One: LEVEE LESSONS

Getting Started:

Before reading this article, review the events of Hurricane Katrina with students using the 5Ws: Hurricane Katrina: WHO? WHAT? WHERE? WHEN? WHY?(and HOW?).

Set a Purpose for Reading:

Photographs, charts, diagrams, illustrations, and maps are all visual aids. Visual aids are often included with informational text to help readers identify and acquire information. Ask students to answer the following: *Is the photograph included in the* "Levee Lessons*" article a good visual aid? Does the visual aid provide information not provided in the article*? (Have students look closely at the photograph of the Oosterschelde Dam. They should notice windmills in the vicinity of the levees. These windmills may be helpful in generating a bit of energy needed to run the "high-tech" levees.) *Why did the writer or editor include the visual aid?*

Discussion Questions:

Why do levees in New Orleans have to work "overtime"?
Describe a few types of levees. How are they different?
About how much taller was the Hurricane Katrina storm surge than the New Orleans levees?
What will planners do before rebuilding levees in New Orleans? What are some other things you think they should?

Follow-up Activities:

1. Have students predict the height New Orleans levees (4 to 6 feet) using string. Compare this to the height of the water surge (25 feet) and the height of levees in the Netherlands (40 feet). Ask older students to determine how many times larger the Netherlands' levees are than the New Orleans' levees. ANSWER: Between 6 and 10 times bigger.
2. Ask students to scan this and past issues of Cousteau for photographs, charts, diagrams, illustrations, maps, and other visual aids. Discuss why these are helpful when reading.
3. Assign students to photocopy or draw two other visual aids for this article. Try: a map of New Orleans, a bar graph of levee heights; a photograph of other levees, a chart of past hurricanes that shows water surge heights.

Article Two: TOXIC FROGS Update!

Getting Started:

Remind students of the "Toxic Frogs" article from the September/October 2004 issue. Before reading the update, ask students to write down 5 things that can be bad for, poisonous, or toxic to humans. Items can include: animal stings, bites, and venom; liquid cleansers (ammonia and bleach); carbon monoxide; lead (in paints); and pesticides. You may want to ask students about adding cigarettes to the list.

Discussion Questions:

What surprises you about the toxic frogs update?
What is keeping scientists guessing about the Mantella poison frogs of Madagascar?

Article Three: “Sponge MOMS”

Getting Started:

Informational text is often found in textbooks, newspapers, journals, and encyclopedias. This type of text usually includes these characteristics: a central topic, main/major ideas, and supporting details (facts). After reading the “Sponge MOMS” article (and other articles in The Maritimes), ask students to list examples of each of the characteristics. Use the sentence “Some bottlenose dolphins that live in Shark Bay, Australia wear sponges on their snouts.” as a central topic.

Discussion Questions:

Why do the bottlenose dolphins wear sponges on their snouts?
How did the dolphins learn the technique?
Do you agree that the dolphins seem to use the sponges like tools? Why or why not?
Can you share another example of an animal that uses a tool? (e.g., some chimpanzees use rocks to crack open nuts and twigs to scoop up ants from holes; certain crows make at least two sorts of hooks to help them get at food)
What things have you learned from a parent or other adult that you didn’t know when you were younger?

Follow-up Activity:

1. Ask students to list animals that may harm or sting dolphins. Start with: sea urchins, scorpion fish, bristle worms, jellyfish, corals, and even sponges!

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SEA QUERIES

Getting Started:

In this issue, the *Sea Queries* focus on an elephants trunk; the loudest animal on Earth; the differences between ice caps, ice sheets and icebergs; and penguins and other flightless birds. Begin by telling students they will read about these topics. Have them write their own questions before reading the page.

Key Words in Context:

While reading Sea Queries, encourage students to use the picture and context clues to determine the meaning of the following words. Instruct students to underline these bold words once and the clues twice.
extension: something that is spread or stretched out to fullest length
emit: to send or let out; to give off
layering: to place or fold one thing lying over or under another one
ancient: having been around or existed for many years
recorded: an authentic official copy; written evidence of

Did You Know…? [Page 22]

A porcupine’s quills are actually are hardened, hollow hairs. Although it looks a lot like the European hedgehog, the only other place in the world where porcupines live is Africa.

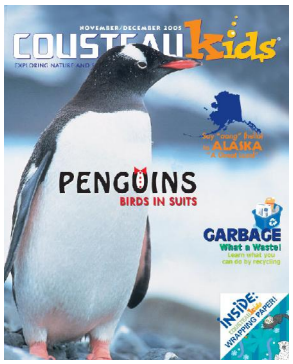
Did You Know…? [Page 23]

Polar bears are not the only animals that favor the left hand (or paw). Others are: badgers, wolves, and bears. Most male horses canter to the left, whereas females lean and move to the right. Lobsters

and some other crustaceans are left-clawed, like hermit crabs (check out their big left pincer in the March/April 2005 issue!)

Follow-up Activity:

E-mail *Sea Queries* to cousteaukids@weeklyreader.com. Or, mail to: Cousteau Kids! Sea Queries c/o Weekly Reader, 200 First Stamford Place, PO Box 120023, Stamford, CT 06912



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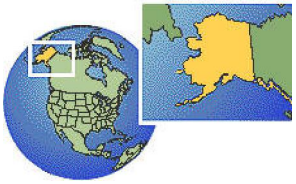
Editor: Melissa E. Norkin

Name _____ Date _____

GREAT STATES



As long as you don't mind glaciers, bears, and months of continual sunlight (even at night), Alaska is a great place to live. In fact, the latest census counted 626,932 people living in Alaska.

Directions: After reading about the Cousteau expedition to Alaska complete the comparison chart below. After, talk with a partner about what Alaska has in common with your state.

	ALASKA	MY STATE .....
Capital and State abbreviation:	Juneau, AK	
Other major cities:	Anchorage, Fairbanks, Sitka, Kenai	
Population:	655,435 people	
Size (land area):	571,951 square miles	
Bordering states and / or bodies of water:	Canada, Pacific Ocean, Bering Sea, and Gulf of Alaska	
Governor:	Frank H. Murkowski (2006)	
Joined United States (date)	Jan. 3, 1959	
Rank:	49th state	
Wildlife:	salmon, bowhead whale, polar bear, bald eagle, seals, caribou, wolves, sea otter, ptarmigan	
National Park(s):	more than 100 parks and reserves covering 3.5 million acres, including Denali, Glacier Bay, Kenai, and Wrangell St. Elias	
State fish: (or other animal)	King salmon	
Nicknames:	"The Last Frontier" "Land of the Midnight Sun"	

COUSTEAU kids

November / December 2005 Activity Page

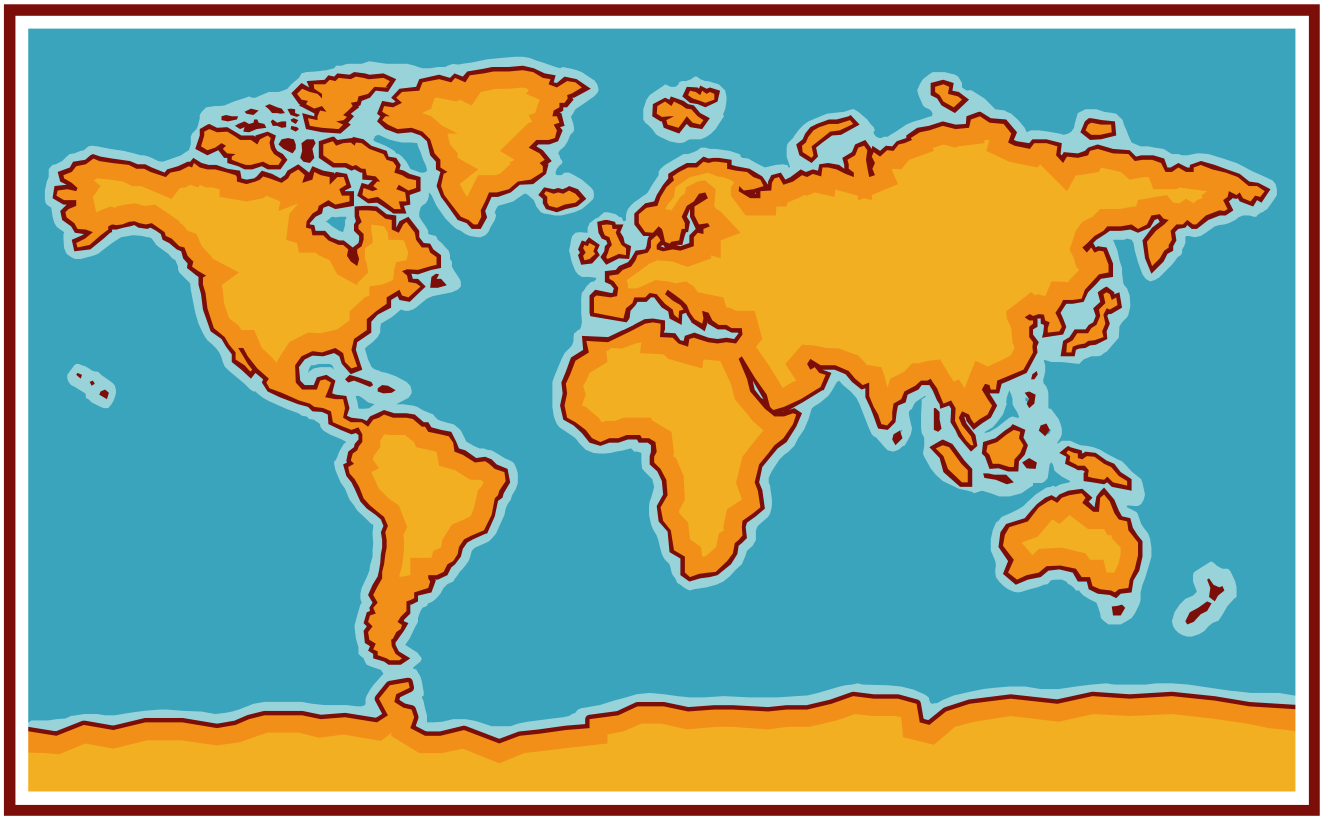
Name _____ Date _____

SEA SEARCH

You may have heard the phrase "seven seas," but there are actually more than 70 seas (including gulfs). A sea is a large body of salt water. It can be part of an ocean, such as the Caribbean Sea, or completely surrounded by land, like the Dead Sea.

Directions: Label the continents on this map, and then as many seas as you can. Use your classroom world map (or one in a book) to help you find at least one sea near the places listed below.

THE WORLD



I'm in the Aleutian Islands, Alaska. A sea near me is: _____

I'm in Caracas, Venezuela. A sea near me is: _____

I'm in Barcelona, Spain. A sea near me is: _____

I'm in the Port Sudan, Sudan. A sea near me is: _____

I'm in Hong Kong, China. A sea near me is: _____