

Environmental Disaster

An Ocean of Oil

More than three months ago, an explosion on an oil drilling platform in the Gulf of Mexico set off what scientists



think may be the worst environmental disaster we have ever faced in the United States. The oil that leaked into the ocean is still killing sea animals, plants and birds.

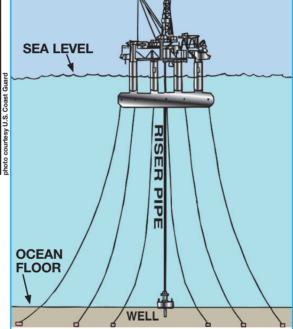
But officials hope this catastrophe will push Americans to work harder for our environment.

This week, The Mini Page talks to an expert about the oil spill, its effects, and how kids can make positive changes for our future.

What happened in the Gulf of Mexico?

Oil is a **fossil fuel**. Fossil fuels were made from fossils, or the remains of animals and plants that lived hundreds of millions of years ago. When ancient animals and plants died, they became buried underground and crushed by heat and pressure for millions of years. This turned them into liquid or gas.

These important fossil fuels may be miles under the surface of the Earth. In the case of the Gulf of Mexico well, the oil was two miles under the ocean floor.



When people drill to find oil, they often also find explosive natural gases, such as methane.

Experts think that on April 20, a bubble of gas moved about 5,000 feet up the oil platform's

"riser pipe." When it got near the platform, it probably came into contact with a spark or a flame. This set off an explosion that killed 11 workers on the oil platform.

Oil began spilling into the ocean from two places in the riser pipe.

Oil and water don't mix

If you've seen pictures of the thick oil in the water, you may wonder why it doesn't sink in the ocean. Oil is less **dense**, or has less weight for a certain amount, than water.

31-1 (10)

Experts say tiny bits of oil naturally seep into the ocean all the time. **Microbes**, microscopic life-forms, living in the ocean break down these little bits of oil. But microbes are overwhelmed by such a big oil spill.

Nature helps get rid of the oil in other ways. Some of it will **evaporate**, or become part of the air. Some will be broken down by water and light.

Some of the oil from the well will eventually attach to other particles in the water and settle on the bottom of the sea.

Try this: Fill a drinking glass with water, then drop a teaspoon of vegetable oil into the water. Even though the



oil seems thicker, it floats on the surface of the water.

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Stopping the Oil

Experts say once oil is spilled, it's hard to clean up. Since the accident on April 20, many different methods have been tried to clean up the oil.

Break it up

Scientists have tried using **dispersants** (dis-PURS-ants) chemicals that do sort of the same thing as natural microbes. Dispersants break up oil into small droplets that attach to other things in the water, such as plants and animals. But these chemicals also make it harder for people to "capture" the oil.

Burn it off

Workers have also tried burning the oil off the surface of the ocean. This method is difficult because of weather and tides putting out the fires. Also, the fires can add to air pollution.

Skim it off

A **skimmer** moves across the water surface and sucks up the oil floating there. But usually it gathers much more water than oil.



Yellow booms in the water surround a piece of land where brown pelicans land.

Protect wetlands

For oil floating on the surface, scientists use **booms**, floating bumpers with "skirts" hanging into the water, to protect certain areas where oil could do the most harm. They may use a series of booms, one inside the other. The inside ring may be a **sorbent boom**, which attracts oil. Outer rings keep oil out.

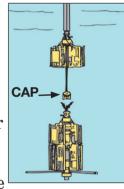
In the gulf spill, booms may not be very effective because so much oil is rising up from the ocean floor.

What about the leaks?

The company that owns the oil well and scientists are working hard to stop the leak at the bottom of the ocean. You have probably heard news reports about many different ideas they've tried.

Experts say the only sure way to stop the leak is to drill a new well, called a **relief well**, close to the damaged one. They will use the new well to pump a special heavy liquid into the broken well, followed by cement, shutting off the leaking oil. But this will take months.

In the meantime, in early June a funneltype structure called a **containment cap** was lowered over the leaking well. A pipe leading up to container ships collects some of the oil, but the cap isn't a tight fit, so some



of it is still spilling into the ocean.

rom The Mini Page © 2010 Universal Uclick from The Mini Page © 2010 Universal Ucli Basset Brown **Ready Resources** TRY 'N The News Ocean of Hound's Words that remind us of the oil spill are hidden in the block below. Some words The Mini Page provides ideas for are hidden backward or diagonally, and some letters are used twice. See if you can find: ANIMALS, BIRDS, BOOM, BURN, DISPERSANT, ENERGY, ENVIRONMENT, FOSSIL, FUEL, GAS, GULF, LEAK, MEMBRANE, MEXICO, websites, books or other resources that will OIL, PIPE, PLANT, PLATFORM, RENEWABLE, RISER, SARGASSUM, help you learn more about this week's topics. SKIM, WELL, WETLAND. S RΕ Ρ R On the Web: S D R Т A LET'S WORK V Ω W В E 0 S E • www.nwf.org/oilspill/kids FOR CLEAN R С S Ν Е Α Κ Ν G N **ENERGY!** • www.nwf.org/rrgreenzone Е Ζ Е Е D \// G Ε D • www.ifitwasmyhome.com/ G U R Р W А Х Μ S А G Е В At the library: Κ Ο В S Н Ρ B E ΥM U • "Oil Spill!" by Melvin Berger S F RUEC JC S S \cap R R Ο ΟΜΤΝΕΜΝΟΒΙΥΝΕ

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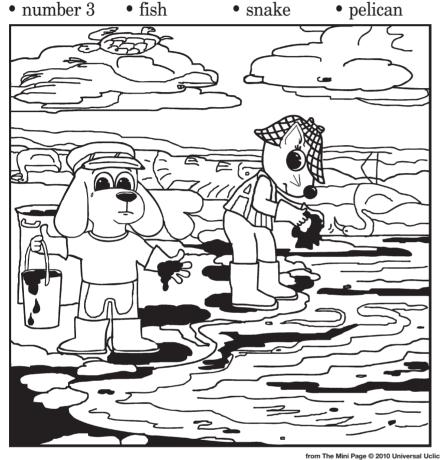
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Mini Spy



Mini Spy and Basset Brown are helping to clean up the wetlands in the Gulf of Mexico. See if you can find:

- question mark word MINI
- heart
- turtle
- duck • letter A
- dog's face • banana • egret • canoe
- pelican • snake



The Mini Page[®] Book of States

The Mini Page's popular series of issues about each state is collected here in a 156-page softcover book. Conveniently spiral-bound for ease of use, this invaluable resource contains A-to-Z facts about each state, along with the District of Columbia. Illustrated with colorful photographs and art, and complete with updated information, The Mini Page Book of States will be a favorite in classrooms and homes for years to come.

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You'll need:

- 1 cup dates, chopped
- 1 cup dried apricots, chopped
- 1 cup dark chocolate vogurt raisins
- 1 cup sunflower seeds
- 1 cup walnuts, chopped

What to do:

- 1. Mix all ingredients in a large bowl.
- 2. Transfer to plastic bag or bowl for storage. Makes 5 cups.

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Meet Jackie Chan



Jackie Chan plays Mr. Han in the movie "The Karate Kid." He has starred in many movies. He was the voice of Monkey in "Kung Fu Panda." He was his own voice in the animated series "Jackie Chan Adventures."

His birth name was Kong-sang Chan. He grew up in Hong Kong. When he was 6, he began going to drama school. There he trained in martial arts, acrobatics and music. His first jobs after school

were as an acrobat and stuntman in movies.

When he was an adult, co-workers in Australia nicknamed him Jackie, which was easier for them to pronounce.

He is also a singer and has performed many of the theme songs in his movies.

Jackie supports many charitable causes, especially for kids and the elderly. His causes also fight against animal abuse and pollution. He is a UNICEF Goodwill Ambassador. from The Mini Page © 2010 Universal Uclick



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Looking Ahead

A long-term problem

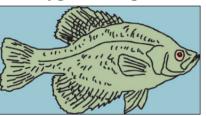
Even after the leak is stopped, the effects of the oil spill in the Gulf of Mexico are expected to continue for years or even decades.

Oil and animals

Experts say the poisonous oil gets through the thin outer surface, called the **membrane**, of fish eggs.

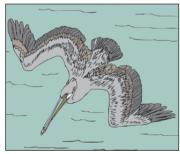
Fish breathe oxygen through their

gills. The sticky oil clogs the gills and makes it impossible



for them to breathe.

Brown pelicans dive into the ocean to catch fish. When they dive through the oil, it coats their feathers.



Pelicans and gulls try to **preen**, or clean their feathers, but end up swallowing the oil. In the

nest, oil may rub off their feathers onto their eggs, poisoning them.

Birds also may die of

hypothermia, or becoming too cold, because their oil-soaked feathers can't insulate them from the cold ocean water.

When many animals die, it affects the food chain. Larger fish, birds or other animals may starve without smaller fish to feed on.



Oil and plants

Sargassum (sar-GAS-um) is an important marine plant in the Gulf of Mexico. It provides food and habitat for young yellowfin tuna, crabs and other marine life. Experts believe the oil is killing the sargassum in the gulf.

Wetlands are low-lying areas

with lots of watery soil, plants and animals. They are all around the mouth of the



Mississippi River, which empties into the gulf. Scientists are worried about how the oil will affect the plants and animals that live in wetlands, such as crayfish and grassy plants called **sedges**.

The Mini Page thanks Dr. Doug Inkley, wildlife biologist with the National Wildlife Federation, for help with this issue. Dr. Carl Safina of the Blue Ocean Institute examines a tarball from the oil leak in the Gulf of Mexico during a recent visit to coastal Louisiana.

This type of oil on human skin can cause burning, redness and swelling.

photo courtesy Dubinsky Photograph for the Gulf Restoration Network

What can we do?

Kids may feel overwhelmed about the oil spill. It is a huge problem.

But you may be more powerful than you think.

Kids can encourage adults to find

easier and less harmful ways to get energy, such as solar and wind energy. These are called **renewable** energy sources. For instance, you might write a letter about clean energy to your representative in Congress.



You can also learn more about endangered or threatened species close to your home and work to help them. You might clean up a stream or a park to make it safer for animals and people.

Next week, The Mini Page is about going back to school.

The Mini Page Staff

Betty Debnam - Founding Editor and Editor at Large Lisa Tarry - Managing Editor Lucy Lien - Associate Editor Wendy Daley - Artist

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(Note to Editor: Above is camera-ready, one column-by- $3^{1/2}$ -inch ad promoting Issue 31.)

release dates: July 31-August 6

from The Mini Page © 2010 Universal Uclic The Mini Page **Standards Spotlight:** An Ocean of Oil Mini Page activities meet many state and national educational standards. Each week we identify standards that relate to The Mini Page's content and offer activities that will help your students reach them. This week's standard: Students understand the characteristics of renewable, nonrenewable and flow resources. (Geography: Environment and Society) **Activities:** 1. Draw a picture of people helping animals in the oil spill. Write a sentence about the animals. 2. Find three stories about renewable energy. Explain how they can help with our energy problems. 3. In a journal, collect news stories about the oil spill and the effects on wetlands and shores. 4. What has been used to (a) trap oil in the water, (b) break oil into small parts, (c) remove oil from the water, and (d) stop the oil from escaping from the well? 5. Use the Internet to learn how people have handled earlier oil spills. Write a paragraph about your findings.

(standards by Dr. Sherrye D. Garrett, Texas A&M University-Corpus Christi)

(Note to Editor: Above is the Standards for Issue 31.)

Gus Goodsport's Report Supersport: Bryce Harper



Birthdate: 10-16-92 Hometown: Las Vegas, Nev.

If Bryce Harper lives up to the amazing hype, the 17-year-old prodigy will blossom into one of baseball's next superstars. The Washington Nationals selected him first overall in the

June draft, creating another resounding buzz in the nation's capital.

Harper hits with eye-popping power and has a cannon for an arm. He once blasted a 502-foot home run in Tampa Bay's Tropicana Field, the longest shot ever recorded in that big-league park.

Harper enrolled early at the College of South Nevada, where he slugged 31 homers, drove in 98 runs and hit .443 in 66 games with a wooden bat. In one power show, he hammered four home runs, a double and a triple in six at-bats.

Now he will face much tougher pitching and also have to adjust to life away from his parents and his peers, most of whom are still in high school. But stay tuned. Baseball experts expect him to swing his way to stardom.

(Note to Editor: Above is copy block for Page 3, Issue 31, to be used in place of ad if desired.)

31-5 (10)