



## TEACHER GUIDE

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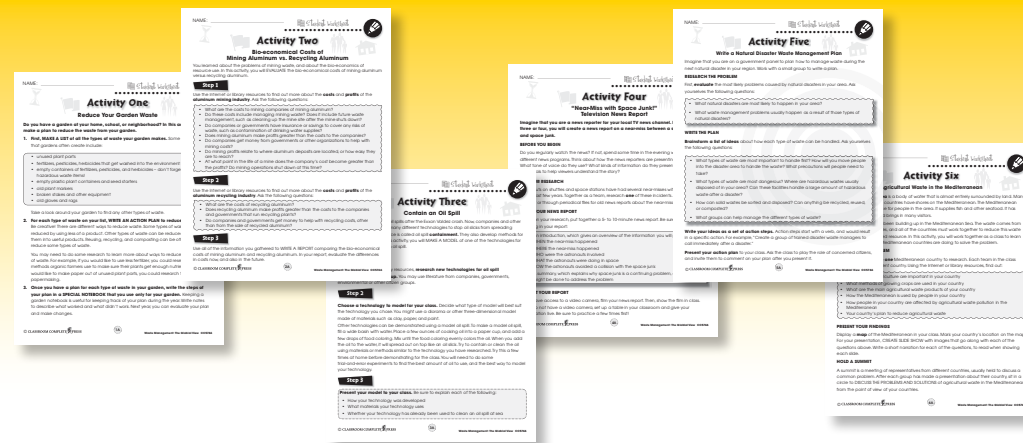
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**FREE!**

## 6 Bonus Activities!

### 3 EASY STEPS to receive your 6 Bonus Activities!

- Go to our website:  
[www.classroomcompletepress.com/bonus](http://www.classroomcompletepress.com/bonus)
- Enter item CC5766
- Enter pass code CC5766D





# Oil Spills



1. When you are at home, fill a bowl with water. Then, pour a small teaspoon of cooking oil into the bowl. Describe what happens.

\_\_\_\_\_  
\_\_\_\_\_  
\_\_\_\_\_

2. Based on what happened to the oil in the bowl of water, what do you think happens to oil when it is spilled in the ocean?

\_\_\_\_\_  
\_\_\_\_\_  
\_\_\_\_\_

3. Use a dictionary to look up the term ECOSYSTEM. Write the definition on the lines below.

The definition of **ecosystem** is:

\_\_\_\_\_  
\_\_\_\_\_  
\_\_\_\_\_

# Oil Spills



**What is the effect of oil spills?**

**O**il is shipped around the world by huge tankers. When tankers have accidents at sea, large amounts of oil can spill out. Oil floats on top of water, creating a film called an **oil slick**. The oil slick can travel on the surface of the water until it reaches the shore. When it does, the oil can cover places where animals live and have young.



Oil is very difficult to wash out of an environment. It sticks to soil and rocks. When oil covers birds, it sticks to their feathers and makes them unable to fly. Oil sticks to fishes' gills and makes them unable to breathe. Oil can kill eggs and young of many types of animals. Oil kills tiny floating plants called **phytoplankton**, which provide energy for all of the animals in the ocean ecosystem. An oil spill can be one of the worst disasters ever to happen in an ocean or near-shore habitat.



**Describe the meaning of the term oil slick.**

\_\_\_\_\_  
\_\_\_\_\_

**What is the Exxon Valdez oil spill?**

In 1989, an oil tanker called the *Exxon Valdez* hit a reef off of the coast of Alaska. It spilled 11 million gallons of oil onto the water. The oil covered 1,300 miles of shoreline that was home to great numbers of wildlife, including bald eagles. The area of ocean covered by the spill was home to many types of fish and ocean mammals, including salmon, orcas, seals, otters, and whales. Huge numbers of animals were killed by the oil spill.

People worked hard to clean the area of oil. They washed oil off beaches with fire hoses. They cleaned off birds and mammals that they found still alive. But animals were killed in huge numbers, and it took many years for their populations to return to normal. Some species are still not back to the levels they were at before the spill. People suffered, too. The communities in the area depended on fishing, hunting, and tourism to make money. After the spill, none of these activities could take place for years. People estimate that the local economy lost almost 3 billion dollars. Many families lost their livelihoods.



# Oil Spills



1. Fill in each blank with the correct term from the list below.

- |               |             |              |              |
|---------------|-------------|--------------|--------------|
| feathers      | gills       | surface jobs | Exxon Valdez |
| phytoplankton | oil tankers |              | bald eagles  |

- a) When \_\_\_\_\_ have an accident at sea, a lot of oil can spill out.
- b) An oil slick travels on the \_\_\_\_\_ of the ocean.
- c) When oil sticks to birds' \_\_\_\_\_, the birds cannot fly.
- d) Fish cannot breathe when oil sticks to their \_\_\_\_\_.
- e) \_\_\_\_\_ provide energy for all the animals in the ocean ecosystem.
- f) The tanker \_\_\_\_\_ spilled millions of gallons of oil on the Alaskan coast in 1989.
- g) The Exxon Valdez oil spill caused many fishermen to lose their \_\_\_\_\_.
- h) The shore where the Exxon Valdez oil spill reached was home to birds such as \_\_\_\_\_.

2. On the lines below, list **five** animals that were harmed by the Exxon Valdez oil spill.

\_\_\_\_\_  
\_\_\_\_\_  
\_\_\_\_\_  
\_\_\_\_\_

# Oil Spills



3. Explain why an oil spill is so harmful to animals. Give examples to support your reasoning.

\_\_\_\_\_  
\_\_\_\_\_

4. Explain how people can be harmed by oil spills.

\_\_\_\_\_  
\_\_\_\_\_

## Extension & Application

5. Learn more about the lessons people learned from the Exxon Valdez oil spill. Choose **one** of the topics below, or write your own topic. If you write your own topic, show it to your teacher before you start your research. Possible topics:

- How have laws that govern oil shipping changed since the Exxon Valdez spill?
- What did people learn about how to care for birds during an oil spill?
- What did people learn about how to care for ocean mammals during an oil spill?
- What new technologies did people develop to stop oil spills from spreading?
- What new technologies did people develop to make oil tankers safer?
- What did people learn about how to help habitats recover from an oil spill?

Use the Internet or library resources to find the answers to your questions. CREATE A POSTER to share the information you learned. Your poster should contain:

- A brief title that explains your topic
- Pictures or diagrams that explain your topic
- A short written answer to your topic question

Present your poster to the class, and explain what you learned during your research. Display the posters around your school.





# Zero Waste School Plan

Write a plan to help your school to become a **zero waste** community.

### RESEARCH YOUR SCHOOL'S WASTE

TAKE A SURVEY of your school's waste. Walk around the school grounds, and visit each of the buildings. In each area, note the following:

- litter
- the main types of waste in trash bins
- the location of recycling bins, what materials can be collected in the bins, and whether they are being used

### WRITE YOUR ZERO WASTE PLAN

SUMMARIZE the main types of waste being thrown away at your school. Note any problems with certain kinds of waste becoming litter. Evaluate how well recycling programs are working.

BRAINSTORM a list of ideas about what students, teachers, and staff can do to help lessen the waste that is thrown away at school. Ask the following questions:

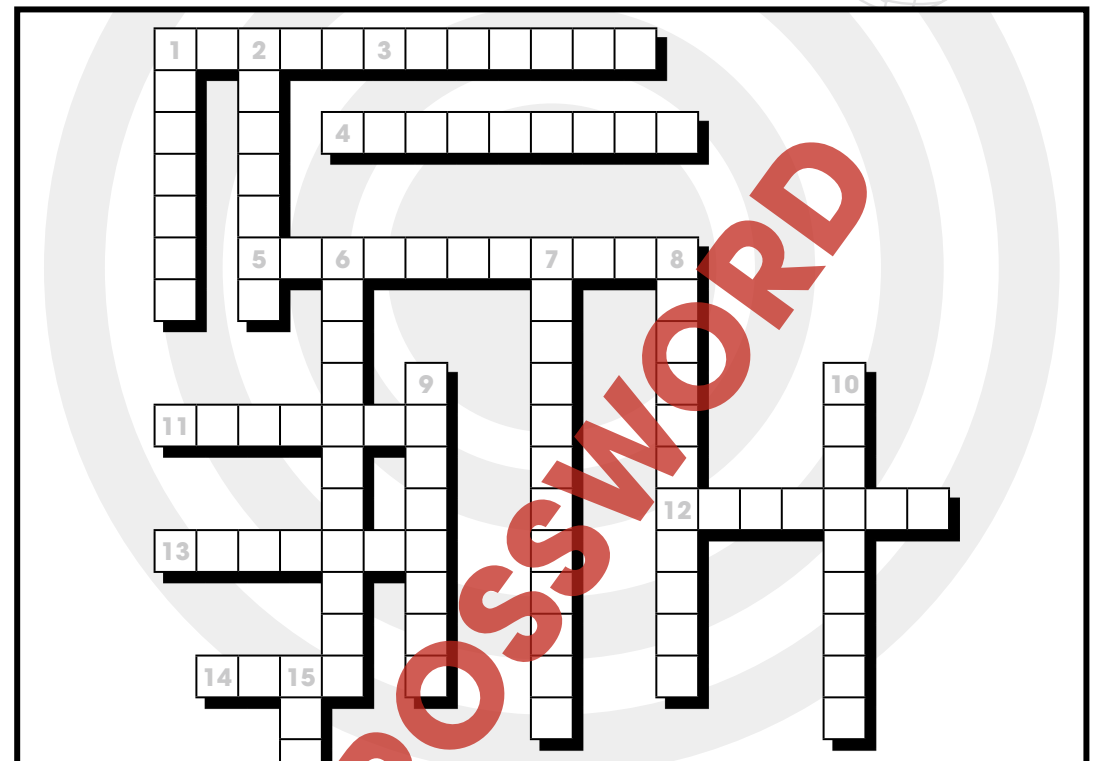
- How can people substitute reusable containers and items for disposable ones?
- What can be done to make sure all recyclable materials are placed in the correct recycling bins instead of in the trash?
- What can be done to lessen food waste?
- How can students reuse materials in the classroom?

Write your ideas as a set of ACTION STEPS. For example, "Assign students to help pick up litter in the cafeteria after lunch."

Present your zero waste school plan to students, teachers, and your principal.



# Crossword Puzzle!



### Across

1. the study of the costs of using natural resources
4. a substance used to kill insects
10. broken down organic matter
11. tidal wave
12. made by breakdown of food waste
13. fuel made from corn waste
14. place where rock is taken from the earth
16. space junk is in \_\_\_\_\_ around Earth

### Down

1. plant waste that can be used to make fuel
2. farming method that doesn't use harmful pesticides
3. valuable mineral
6. to get into
7. activities related to farming
8. waste that releases harmful energy
9. result of an oil spill (2 words)
10. goal of sending nothing to a landfill (2 words)
15. a hurricane is a \_\_\_\_\_ disaster



### Part C

# Comprehension Quiz

Answer the questions in complete sentences.

1. Describe **two** ways that farmers can lessen agricultural waste. 2  
\_\_\_\_\_  
\_\_\_\_\_
2. Describe **two** types of mining waste and **compare** the amount of harm each type of waste can cause. 4  
\_\_\_\_\_  
\_\_\_\_\_  
\_\_\_\_\_
3. Explain why an **oil spill** can be so harmful to a shoreline environment. Give examples to support your answer. 3  
\_\_\_\_\_  
\_\_\_\_\_  
\_\_\_\_\_
4. Describe **two** ways that hazardous waste can be released in a natural disaster. 2  
\_\_\_\_\_  
\_\_\_\_\_
5. Compare the **bio-economical cost** of throwing away food waste to composting food waste. 2  
\_\_\_\_\_  
\_\_\_\_\_  
\_\_\_\_\_

SUBTOTAL: /13

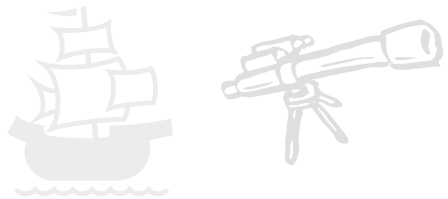
# Waste from Hurricane Katrina (New Orleans 2005)





NAME: \_\_\_\_\_

After You Read 



# Oil Spills



3. Explain why an oil spill is so harmful to animals. Give examples to support your reasoning.

\_\_\_\_\_

\_\_\_\_\_

\_\_\_\_\_

4. Explain how people can be harmed by oil spills.

\_\_\_\_\_

\_\_\_\_\_

\_\_\_\_\_

## Extension & Application

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3. Answers will vary

11

4. Answers may include loss of jobs

12

5. Answers will vary

13

Answers will vary

10

14



# EASY MARKING ANSWER KEY