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Technical Quality

Oil Spill

Task with Student Directions

Contributed by: Kentucky Department of Education (KDE)

PERFORMANCE TASK STUDENT RESPONSE FORM

TASK: S1 - Oil Spill
Grade 8

Student Name: _____

School Name: _____

School Code: _____

GENERAL INSTRUCTIONS:

Write your name, school name, and school code on the lines above. **Do not open this test until the directions tell you to do so.**

The purpose of this task is to clean up an oil spill using the absorbent products provided. You will have a total of 45 minutes to complete this task. You may use up to 20 minutes to complete the group work, found on the first two pages of this form. When you finish the group activity, someone from your group should tell the facilitator. Then you may go onto the individual work found on pages 3 and 4. You may not talk while you are working on those pages.

Your group should have the following materials:

- Oil/water mixture (240 mL per student) in a pan
- one 250 mL beaker for each student
- absorbent products: feathers, yarn, sponge, styrofoam
- paper towels
- styrofoam cups
- pencils

GROUP ACTIVITY:

1. Divide up the task of testing each absorbent product among members of your group. You must develop a method to separate the oil from the oil/water mixture with each material. Separate as much oil from the mixture as you can.
2. Pour the remaining mixture into the beaker and estimate how much oil was separated. Remember that you began with 240 mL in a ratio of 3:1 water to oil.

- Use the table below to record the results (data and observations) of your experiments. Share and collect data concerning all the materials with members of your group. Discuss the effectiveness of each absorbent material.

Record information from your group's tests in this chart.

EFFECTIVENESS OF ABSORBENTS

Absorbent	Data	Observations
Feather		
Styrofoam		
Yarn		
Sponge		

When you are finished with the work on this page, one member of the group should tell the facilitator that your group has finished its group work. Then go on to the individual activity. Remember that you must work alone on those pages. You may not discuss the questions or share information.

INDIVIDUAL ACTIVITY

- As a scientist, which one of the four tested materials would you rate best for absorbing oil? Why?

- As a citizen/consumer, would you agree or disagree with the scientist's recommendations about using such a material to clean up a large-scale oil spill? Why?

6. Identify absorbent material(s), both those tested as well as any others, that may not be appropriate for clean up of a large-scale oil spill. Explain why the materials are not appropriate.

7. Using your knowledge as well as information you have collected in this task, devise a way to clean up a real large-scale oil spill. Be certain to include as much detail as possible concerning materials as well as reasons for choosing the materials you've chosen. You may use drawings to help describe your method.
