

Group Members _____ Date _____

Problem: Imagine you are this magnificent pelican. You find your food in the ocean. You swoop down for dinner, but are greeted by a thick substance that is black as a night without a moon. In spite of repeatedly dipping in the water, it doesn't seem to wash off. You don't know what to do! You can't swim, fly, or get your dinner.

Oil spills occur more often now that oil is in such high demand. If an oil spill occurred in the ocean, how might people go about cleaning up the mess? Would it be a fairly easy task? Why or why not?

Hypothesis: *Which material will be most successful in cleaning up an oil spill and why?*

Materials List the materials that you use in today's lab:

Procedure (and guiding questions):

How might oil get into an ocean? _____

Use magnifying glass to examine the feather.

What does the feather's structure look like? Be specific. _____

Suppose a bird needs to get fish for dinner, and dives into the ocean. Dip the feather into the oil and water.

Describe what the feather looks like after being dipped into the oil and water. _____

Why might it be difficult to clean off the feather? _____

Try to spoon out the oil in a few scoops. Is it challenging to get all of the oil out? _____ Why or Why not? _____

- Choose a cotton ball, piece of cotton fabric, and/or a coffee filter (B and C on chart) and attempt to get the rest of the oil out (in a few attempts)
- Record observations on data sheet.
- Record the level of difficulty on the graph and describe the cleaning process on attached sheet; 5 is very difficult to get all oil out; 1 is very easy to get all oil out.
- See teacher for the mystery powder.
- Put powder into your pan and describe what happens for material “D” on the attached sheet; wait five minutes; record what it now looks like.
- NOW, try to remove oil using a spoon after the mystery powder has had 5 minutes to work; record process on attached sheet.

Difficulty Scale-Can you get all of the oil out?

5
Extremely
difficult

4
difficult

3
somewhat
difficult

2
fairly easy

1
easy

Data

Material **Level of Difficulty** **Describe process of cleaning the oil up**

A: Spoon

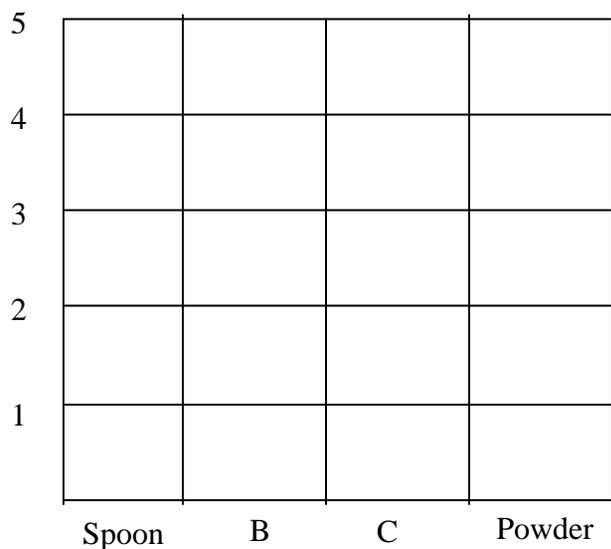
B:

C:

D: Mystery
Powder

After five minutes

RESULTS: *Make a Bar Graph using the Level of Difficulty for each material used*



Analyze the Results and Draw Conclusions

Why might it be challenging to clean up birds after an oil spill? _____

Which material was the **most** successful in removing the oil? _____

Which material was the **least** successful? _____

Was your hypothesis correct? Why or why not? _____