**Part II: Choose an Order of Problems**

Now that you have tested the materials and know the effectiveness of each, your team must make a plan for cleaning up a simulated marine oil spill. You must first select which of the problems below is of the most importance and develop your clean-up plan accordingly. For either plan you are to determine the effectiveness by calculating % absorption of the oil in your “ocean” (quantitative data). You may also want to consider water loss due to various clean-up methods.

*Explain how you will calculate % absorption of the oil? Water loss?*

**Problems:** *(Think how you will create 3 independent variable levels of each problem set)*

* + - 1. **Cost:** Your plan must help your team determine the optimal cost required to clean up your “ocean”. You will have a **maximum** available budget of **$200.00**.
         * Determine at minimum, 3 levels of the independent variable that you will test in your plan.
         * You will have **ONLY** 3 minutes to test each level of the independent variable.

**Price list:**

|  |  |  |  |  |
| --- | --- | --- | --- | --- |
| **Item** | **Cost** |  | **Item** | **Cost** |
| Spoon | $25 each |  | Pipettes | $25 each |
| Paper towels (6cm x 6cm) | $15 each |  | Cotton balls | $10 each |
| Sponges | $25 each |  | Twine (6” piece) | $15 each |
| Straws | $25 each |  | Dish detergent pipette | $10 each |

* + - 1. **Time:** Your plan must help your team determine how long it may take to completely clean up an oil spill. You will have a **maximum** clean up time of **10 minutes**.
         * Determine at minimum, 3 levels of the independent variable that you will test in your plan.
         * You will have a **maximum** available budget of **$50.00**.
      2. **Methods:** Your plan must help your team determine what method (skimming, absorbing, containing, or dispersing) would be best to clean up a marine oil spill with a fixed budget. You will have a **maximum** available budget of **$50.00**.
         * Determine at minimum, 3 levels of the independent variable that you will test in your plan. You are allowed **ONLY** 2 different materials for each level of independent variable.
         * You will have **ONLY** 3 minutes to test each level of the independent variable.

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