Sample Investigation Using the Inquiry Based Model

Question: What will the rate of resource depletion be at six hummingbird feeders deployed within the same general area?

Materials
- hummingbird feeders (6)
- window hangers
- pure cane sugar (white)
- milliliter measuring cups
- water
- data sheet

Controls
- sugar water solution
- feeder type
- feeder location remained constant
- frequency of solution changes (every 5th day)

Methods
- Fill each feeder with 400 mL of sugar-water solution every five days.
- Measure volume of solution remaining in each feeder before each refill.

Data Sheet

<table>
<thead>
<tr>
<th>Date</th>
<th>F1</th>
<th>F2</th>
<th>F3</th>
<th>F4</th>
<th>F5</th>
<th>F6</th>
</tr>
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<td>400</td>
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<td>162.65</td>
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<td>221.08</td>
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</tr>
</tbody>
</table>

Observations
- Feeders 3, 5, & 6 had the greatest resource depletion rates.

Independent variables that could be affecting outcome
- location of feeders
- sun/shade exposure (effect on evaporation)
- proximity to flowers
- human foot traffic
- presence of other animals
- human activity near windows
- hummingbird species

Follow-up Research
- What effect do the various independent variables have on the resource depletion rate?