Lesson 5: Campus Debris Survey

Name: _____ **Date:** _____

Explore

1. Hypothesis: We predict that the most common type of debris found on campus will be

   _____

   _____

2. Use the data table on the next page to record items that you collect in the NUMBER column.

   Use blank rows (create more if necessary) to count additional items, and the NOTES column to record any interesting observations.

   It is easiest to use tally marks so you can record data as you go.

   You will fill in the CLASS TOTAL column when you return to class.

Name: _____ **Date:** _____

Campus Area: _____

ITEM	NUMBER	CLASS TOTAL	NOTES
Food Wrappers & containers			
Plastic or glass bottles			
Plastic caps/lids			
Straws/stirrers			
Cigarette butts			
Plastic bags			
Cans			
Utensils , cups & plates			

Name: _____ **Date:** _____

Explain

3. Complete the CLASS TOTAL section of your table. Then, calculate the total number of items collected by your group and by the class and record them below.

4. Was your hypothesis supported or unsupported? Use data to support your conclusion.

5. What was the most frequently collected item? Least frequent?

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6. Which areas of campus had the most items? Why?

_____

_____

_____

_____

_____

_____

7. On graph paper or a separate sheet of paper, create a double bar graph to represent your results and the class results.

Elaborate

During a heavy rainfall, you have probably observed water flowing down the edges of roads. Where do you think that water goes? Rain that falls on the land goes to a few different places. Some of it is absorbed into the soil, where it can flow into plant roots or be stored.

Sometimes rain falls too fast and it cannot be absorbed resulting in flowing water. Water that flows along earth's surface is called **runoff.** The runoff flows downhill until it reaches a body of water, e.g., stream, river, bay, or ocean. Every body of water has an area of land that drains into it, a **watershed.**

Nearly all watersheds on earth eventually lead to the ocean. If you live near the coast, the water flows into local harbors or bays, and out into the sea. For those located inland or uphill, runoff flows into streams or creeks, *kahawai*. Streams flow into rivers and plains, and eventually flow into large lakes or the ocean. Native Hawaiians understand the important connection of mountains to sea, *uka* to *kai.* In fact, in traditional Native Hawaiian culture, land was divided into areas that stretched from the mountain to the sea, called an *ahupua'a*.

As runoff flows along the land, the water picks up materials. These materials can include loose soil, oil dripped into our streets, chemicals applied to plants, or litter. Next time it rains, pay attention to the runoff. You will probably observe some examples of human-produced materials flowing downhill. Picture these materials, such as the oil or litter, affecting animals such as seabirds.

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8. Where (into which bodies of water) do you think your local watersheds lead?

9. Based on what you know about watersheds, why does the traditional Hawaiian practice of *ahupua‘a* land division make sense?

10. What are some ways to take care of, *mālama*, the ocean, by preventing litter, such as the items you collected, from entering the ocean?

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Evaluate

11. Create a public outreach message to teach the community about your study of litter and marine debris and ask them to take action.

- Consider using creative means to get your message across. These might include:
  - Artwork
  - A short video "commercial"
  - A podcast
  - A brochure
  - A billboard
  - A poster

- Be sure that your product is professional, i.e., neat, uses correct spelling and/or grammar, etc.

- Be sure to include:
  - an attention grabber
  - a specific action that you are asking your audience to do
  - scientific reasons for taking action
  - scientific data to support your idea

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Criterion/ Score	4	3	2	1
Attention Grabber	Product includes an excellent attention-grabber that is well-aligned with the message and scientific data.	Product includes a good attention grabber that is aligned with the message and scientific data.	Attention grabber is unclear or not well-aligned with message.	Attention grabber is missing or inappropriate.
Action	Product includes a clear and specific call to action well-aligned with scientific data.	Product includes a call to action well-aligned with scientific data.	Call to action is unclear or could be better aligned with scientific data.	Call to action is missing or inappropriate.
Supporting Reasons	Product includes several clear supporting reasons for the call to action.	Product includes clear supporting reasons for the call to action.	Product includes reasons for the call to action.	Supporting reasons missing or inappropriate.
Scientific Data	Product includes clear, scientific data that clearly support the proposed call to action.	Product includes scientific data to support the call to action.	Some scientific data is provided.	Scientific data are missing or inappropriate.
Creativity, Message, and Professional Quality	Very creative product includes a clear, well-organized message. Product is very professional using excellent language, grammar, spelling, neatness, etc.	Creative product includes clear message and is professional, using appropriate language, grammar, spelling, neatness, etc.	Product includes some problems in professionalism, such as grammatical or spelling errors or problems with neatness or organization.	Product is not creative or professional for grade level.