

## Lab Set up For Lab Blog 4

### In each lab bin

Plastic bag with 4 containers of food coloring

Rag

2 bricks

Handout in plastic

Plastic container (half containers from cafeteria work great)

### Separate bin on Desk

4 crayons each of yellow green blue and red

4 glue sticks

### Separate and ready near sinks

Cooler with ice

Box of straws 40

Pitcher filled with water. Helped to have 2 pitchers filled with water

Paper towels

Towel on side of sink for rinsed bricks and containers

*Add large pieces of ice for best effect!*



# Warm Up



- Put **EVERYTHING** except a pencil in backpack and hang it on your chair
- Answer this question with table group:  
**Why are glaciers important to our hydrosphere?**  
**Do you think plastics are found in and around glaciers?**

Home / Earth / Environment



1 AUGUST 16, 2019

# Arctic sea ice loaded with microplastics

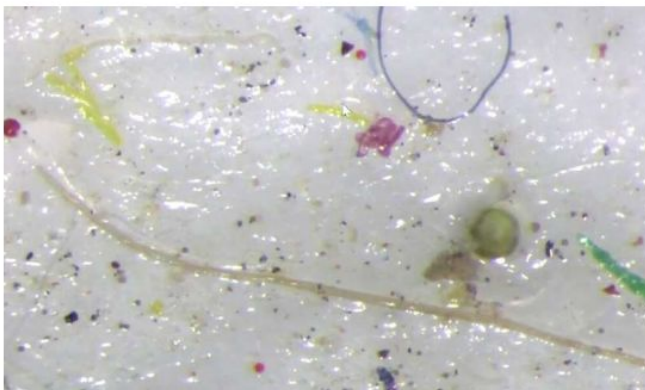
by Marlowe Hood

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Scientists who collected the Arctic sea ice were shocked at the amount of plast...

## Plastic pollution: Arctic sea ice contains huge quantity of microplastics, reveals new analysis

Scientists say study shows 'howhere is immune'

Josh Gakkar Science Correspondent | @josh\_gakkar | Tuesday 24 April 2019 10:30



Pollution

This article is more than 1 month old

### Microplastics 'significantly contaminating the air', scientists warn

Discovery of pollution in snowfall from the Arctic to the Alps leads to call for urgent research on potential human health impacts

Damian Carrington Environment editor

@dpcarrington

Wed 14 Aug 2019 14:00 EDT



2,033



Team reinventing the wheel? We can help.





# Plastic waste across the world

**Plastic waste across the world: in pictures**



## Learning Target



- I can conduct research (collect and analyze data) to answer a scientific question
- I can make a claim supported by evidence identifying how trash got to Kamilo Beach, Hawaii.

What does  
Marguerite  
Think

WHO dumped  
the trash?

How did it get  
here?

## Who Did It? Blog Entry 3





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### Blog Entry 3

We immediately searched the beach for more clues. Someone must be dumping their trash here.

We first thought it might be a lazy person who lived on Kamilo Beach and who has been dumping their trash on the beach for years. But there were too many water bottles and tooth brushes for this to be the work of one person or family.

We next tried to find out if a nearby town was illegally dumping their trash here. Since all the roads leading into Kamilo Beach are not paved and are filled with pot holes, we decided that no truck would be able to get through.

“Wait, I think I know what happened,”, exclaimed Marguerite very excitedly.

## BLOG #3- continued

"I don't think the trash got to the beach by land. I think it came by water! And I think I can find out who is dumping the trash if we do a simple experiment!"



A map of global gyres.  
Can you spot Hawaii on  
this map?

FACTS (Things that I know are true)	HYPOTHESES (Educated guesses)
LEARNING ISSUES (Questions that I have that can be answered from a book, an experiment, or the internet)	



## Who Did It? Blog Entry 3



### FACTS

(Things that I know are true)

### HYPOTHESES

(Educated guesses)

### LEARNING ISSUES

(Questions that I have that can be answered from a book, an experiment, or the internet)

What does Marguerite Think happened?

What is her hypothesis?

# Marguerite's Investigation

Did the garbage wash ashore from the ocean and if so, what caused it?

To answer the experimental question, run an investigation to consider if wind or currents may have caused the garbage to float ashore?

Remember to compare your experimental results to your control

Control has no \_\_\_\_\_ and \_\_\_\_\_.

EQ: Did wind or current bring the trash to Kamilo Beach?

Control: Trash in water with NO  
CURRENT and NO WIND

MODEL: Ocean, Island, trash, currents and wind

CONTROL



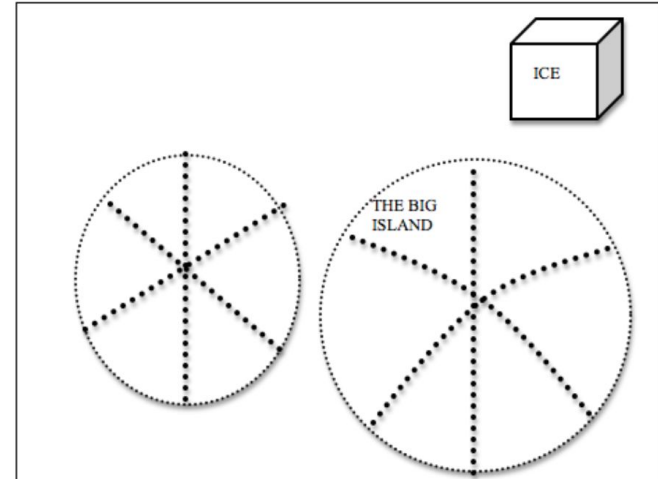
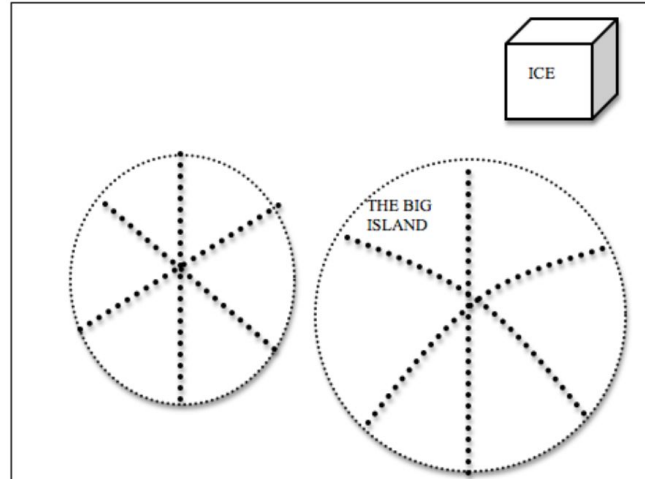
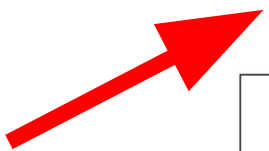
## Control Setup:

No Wind & No Temperature change

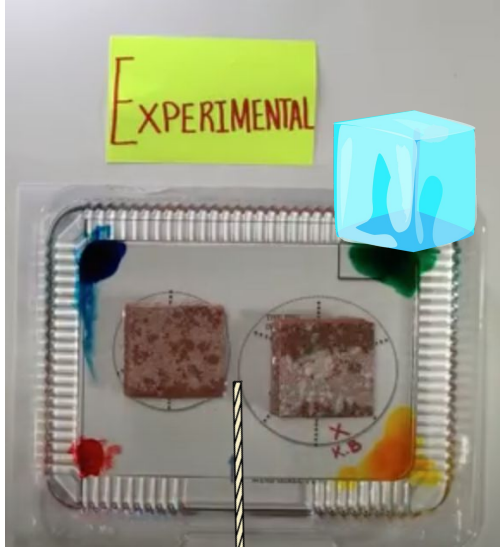
What is your Hypothesis? What will happen to the food coloring?

1) My hypothesis is that the food coloring in the control will...

2) My hypothesis is that when wind and ice are added to the model, food coloring will...





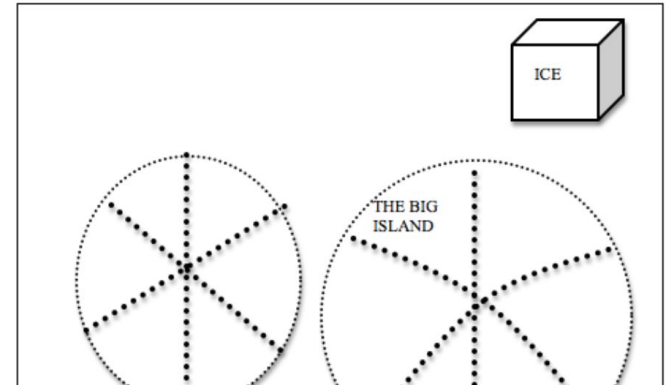
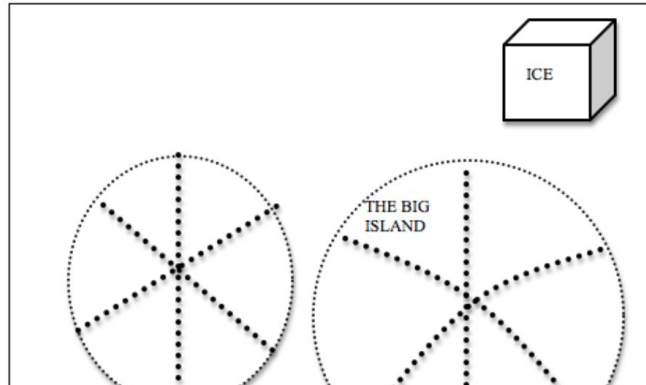


## Experimental Setup: Add Wind & Temperature

What is your Hypothesis? What will happen to the food coloring with wind and temperature change?

1) My hypothesis is that the food coloring in the control will...

2) My hypothesis is that when wind and ice are added to the model, food coloring will...



# Margarite's investigation into the Mystery at Kamilo Beach

What represents

- Ocean water?
- Pollution or Garbage?
- Land?
- Wind?
- Current?



# Lab EXPECTATIONS & Safety!

1. Follow Directions!
2. Do not mess with water.
3. Use straw appropriately...
4. Be careful with the food dye
5. Stay at your own table
6. Wipe up any spills
7. **\*\*\*\*\* ONLY 1 Drop of each food coloring!!!!!!!!!!**

Run Lab



Is there any safe place in  
the ocean to pollute?

Why or why not? What is your evidence?