859 **Cut Your Hair and Save the Ocean** What hair type is more useful in absorbing oil waste? **Cristian Zhou**

Introduction

Oil spills occurs when people spill oil waste on the ocean surface by leading to several environmental damages. When the marine fauna gets in contact with oil spills, animals can be choked to death or lead to many diseases. Volatiles are hurt when their plumage and fur mix with the oil spills, in their attempt getting rid of the oil, many volatiles swallow the oil and die. In many cases instead, the fauna affected by oil spills become blind.

Scientific Background



Dog hair at the microscope

Dog hair absorb oil Fish scales absorb oil waste because there are waste because there are es that are big flakes on the hair small flakes on the d from the hair body, however they are scale's body, however dy. Due to these not very detached. Due they aren't very kes, the surface area to these flakes, the detached. Due to these hich allow the surface area increase flakes, the surfaces are ir to better absorb the which allow the hair to increases by a little better absorb the oil which allow the hair to waste absorb oil waste

Fish scales at the microscope

luman hair have low

nimal protein in their Dog hair have a more air which is a proteir animal protein in their nat coats the hair, hair which is a protein uilding another layer, that coats the hair, by herefore, it is easier for building another layer. uman hair to absorb oil Therefore, it is harder for dog hair to absorb oil waste

Hypothesis & Experimental Design

Hypothesis	Hypothesis: If human absorbs more oil faster than the other types, then more oil will found on those hair because the flakes of the human hair are bigger and more detached from its body, increasing the surface area.				
IV	Dog Hair	Human Hair	Horse hair		
trials	2	2	2		
DV	Amount of oil waste in ml				
Controlled Variables	Amount of Water	Amount of Water	Amount of Water		
	Amount of the hair	Amount of the hair	Amount of the hair		

Experimental Design

Materials

- Oil Waste water
- 6 socks
- 6 Tanks with a shorter diameter than the stick
- 6 sticks
- Human hair
- Dog hair
- Fish Scales

Procedure

- 1. Place enough hair to fill 60% of the sock volume
- 2. Use the scissors to make a small hole on top of the sock 3. Stick a stick through the hole
- 4. Get the bowl/ tank
- Fill it with 700ml of water
- 6. Pour 30 ml of oil waste on the water
- Place the stick on the on the water surface 7
- 8. Wait and record the data
- 9. Repeat the experiment for each hair type
- 10. To calculate the remaining oil: measure the height of the oil on the water surface- and subtract by the height of the oil on the water surface after the hair absorbed.







Safety procedures Wear gloves

Wear goggles

Results

Amount of oil waste that each type of hair absorbs Data Table

Hair Type	Amount of oil waste absorbed (ml)			
	Trial 1	Trial 2	Average	
Dog	18	20	19	
Human	28	25	26.5	
Fish				
Scales	12	10	11	
Controlled	0	0	0	

Data Graphs



Hair Type



Human hair absorbs more oil waste compared to other hair types



Controlled Variable

Conclusions









Thrial 2







Major findings

The data shows that human hair is the best hair type to filter oil spills over dog hair and fish scales. It absorbs about 88% of the oil waste.

Explanation of results

Human hair is the best hair type to filter oil spills because the flakes of the human hair are bigger and more detached from its body. therefore it creases the surface area and the amount of oil waste it can absorb

Conclusion

Instead of using artificial solutions to clean up oil spill, human hair is a natural resource that can be used to filtrate oil spills.

Further research

Now that we have established that human hair is the best type, I'm curious in investigating the different hair colors and also the type of human hair such as curly, straight and wavy.



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