



Hand Sanitizer Effectiveness

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Researched by Team 6-1 Science with
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How can we reduce the spread of the Cold and Flu?

Now you will learn a new way to prevent sickness

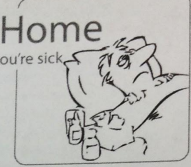
Things To Do To Prevent The Flu

Avoid
close contact



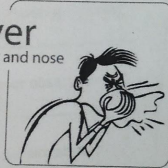
When you are sick, keep your distance from others to protect them from getting sick too.

Stay Home
when you're sick



You will help prevent others from catching your illness.

Cover
your mouth and nose



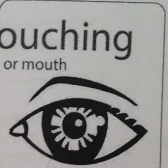
Cover your mouth and nose with a tissue or sleeve when coughing or sneezing.

Wash
your hands



Washing your hands often will help protect you from germs.

Avoid Touching
your eyes, nose or mouth



Our hands carry lots of germs which can enter our bodies if we touch our eyes, nose, or mouth.

Practice
other good health habits



Get plenty of sleep, be physically active, manage your stress, drink plenty of fluids, and eat nutritious food.

Hypothesis

If hand sanitizer is used every day by the students at Brooks before eating in the lunchroom, the number of kids who get the cold or flu this winter will decrease because the hand sanitizer will kill germs that could cause a cold or flu.

Lincoln and Hatch Experience

- At Lincoln, hand sanitizer was used often.
- At Hatch, hand sanitizer was all over the school and hand washing was encouraged.

Spread of Disease Experiment

In class we experimented with the spread of the disease “Ebola.”

We did an epidemiology study to try to determine which student was responsible for spreading the disease.

DANNY	<u>J A I D E N</u>	<u>E M M A</u>	M A R I A B.	<u>E V E L Y N</u>	M A R I A D.	K A L I Y A	R A C H E L
TREY	EMMA	J A I D E N	R A C H E L	M E E H A N	D U N C A N	D A N I E L L E	M A R I A B.
ESTABAN	E V E L Y N	K A L I Y A	J A Y L A	J A I D E N	L A I N E	E M M A	V I N C E
J A L E N	D A N N Y	M A R I A B.	E M M A	M A R I A D.	E V E L Y N	R A C H E L	K A L I Y A



Disease can spread very easily and quickly



Procedure

1. We researched using the worldwide web.

PERIOD	INCREASE COLDS + FLU	DECREASE COLD + FLU	NO CHANGE IN COLD OR FLU
1	1		
2	11		
6			
7	11		
8	111		
TOTAL	17	58	27

Procedure

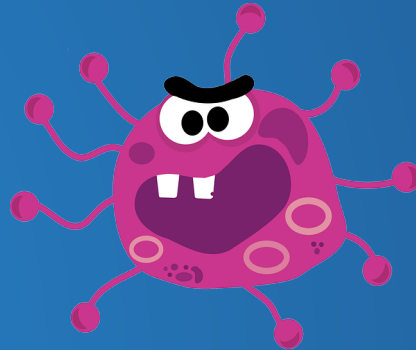
2. We data mined to find repeats and false data.
3. We did a recount of all the data from Team 6-1

PERIOD	INCREASE COLDS + FLU	DECREASE COLD + FLU	NO CHANGE IN COLD OR FLU
1	I		
2	II		
6			
7	II		
8			
TOTAL	12 3	58 4	27 6

Analysis of Data

Hand Sanitizers **Increase** Colds and Flu

1. Hand sanitizer that is used lowers your immune system.
2. Hand sanitizers protect against bacteria and colds are caused by a virus.
3. Hand Sanitizers weaken the immune system and kill brain cells.



Analysis of Data



Hand Sanitizers **Decrease** Colds and Flu

1. Essential oils from plants in the hand sanitizer are more effective than soap and water
2. Alcohol in hand sanitizers is anti microbial and that kills bacteria.
3. Medical studies have shown that hand sanitizer is a very effective tool for decreasing colds and flu.
4. Hand sanitizers with Benzalkonium Chloride kill some bacteria.

Analysis of Data



Do **Not Change** number of Colds and Flu

1. Alcohol is the main germ-killing ingredient in hand sanitizer, but alcohol evaporates after killing the germs in the first layer of your skin, leaving germs deep in your skin that can regroup.
2. The ingredient Triclosan in non-alcoholic hand sanitizers does not protect people against viruses and can be dangerous to your skin.
3. Hand sanitizers are not a substitute for washing hands with soap and water.

Analysis of Data

Do **Not Change**
number of Colds and Flu
Caveat:



1. Wiping hand sanitizer off before it dries will not kill germs.
2. Hand sanitizer cannot kill bacteria if there is dirt, blood, grime or other body fluids blocking it.
3. Hand sanitizers only work if you use the right amount.

Could some of the “No Change” data turn into “Decrease” data with proper education about how to use hand sanitizers?

PERIOD	INCREASE COLDS + FLU	DECREASE COLD + FLU	NO CHANGE IN COLD OR FLU
1	I	IIIIII IIII	
2	II	IIII IIII	IIII IIII IIII
6	IIII	IIII IIII	IIII
7	II	IIII IIII IIII	IIII
8	III	IIII IIII IIII IIII	IIII
TOTAL	12 3	58 4	27 6

Helpful Facts

- Many kids carry around hand sanitizer to prevent themselves from getting sick.
- Using hand sanitizer is more efficient and saves time than washing your hands.
- A good amount of hand sanitizer is a quarters worth
- Make sure to rub in the hand sanitizer properly for it to be effective.

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