What Makes Ice Melt Faster?

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PURPOSE & HYPOTHESIS

- Purpose:
  - To determine which added material will make ice melt faster (salt, sugar, sand).

- Hypothesis:
  - My hypothesis is that the salt will make the ice melt faster.

RESEARCH

- These are some experiments I have done with my family:
  - Coke and mentos
  - Lava lamp
  - Volcano explosion
  - Separating fluids (water, syrup, oil)
- I became interested in doing an experiment with ice because:
  - I looked at science books
  - I looked at science websites
  - I spoke to mom and dad

MATERIALS

- Four saucers
- 12 ice cubes (same size and shape)
- ½ (half) teaspoons of salt
- ½ (half) teaspoons of sugar
- ½ (half) teaspoons of sand
- Measuring spoon
- Timer
- Graduated cylinder
- Measuring cup
- Funnel

EXPERIMENT

- First: I got my materials
- Second: I set the four plates on top of the table
- Third: I set the ice cubes in a triangle shape (making sure the corners touched)
- Fourth: I sprinkled ½ a teaspoon of salt,sugar and sand on top of the ice cubes, the fourth plate I didn’t sprinke anything on it.
- Fifth: I put the plates inside the refrigerator, then waited until the first ice cubes melted half way
- Sixth: After one hour I noticed one of the ice triangles were melted half way

EXPERIMENT

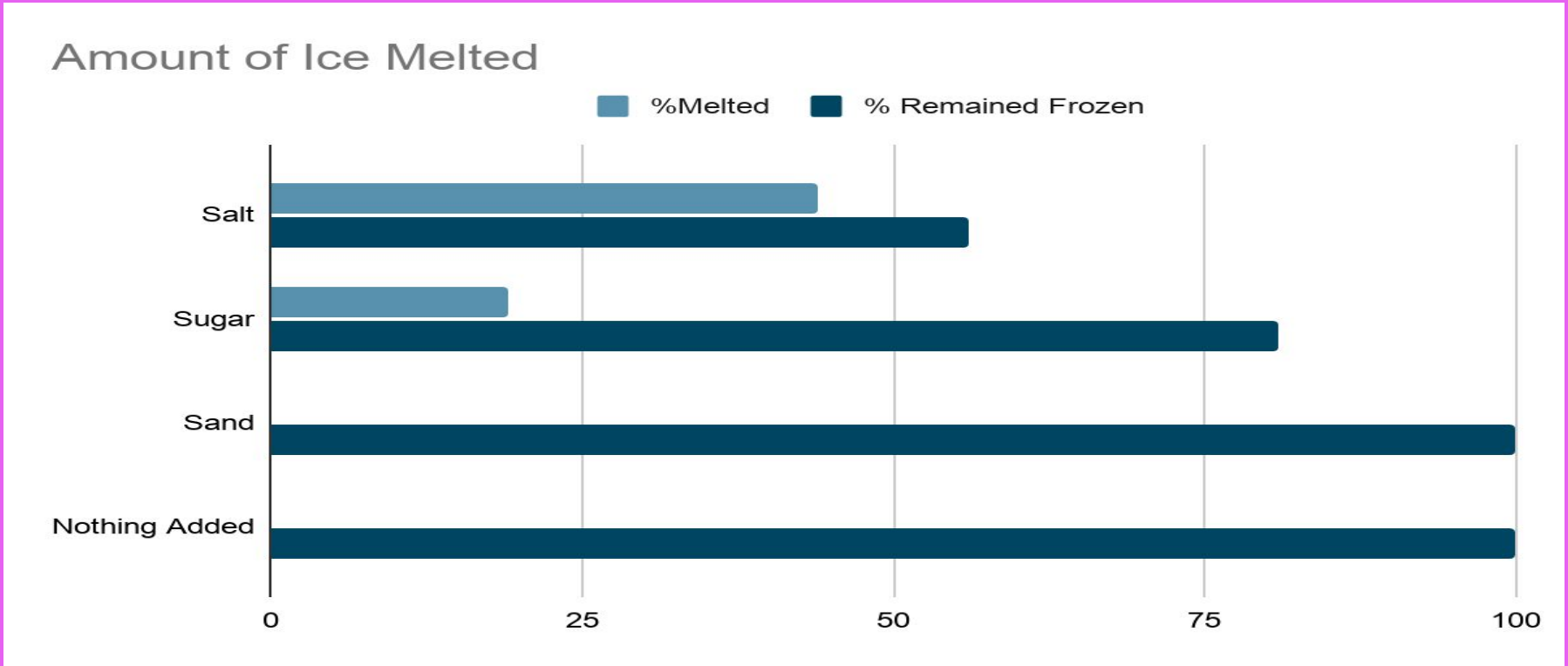
- Seventh: I measured the amount of fluid that was on each plate.
- Eight: I left the plates to sit out of the refrigerator to finish melting.
- Ninth: I measured the amount of liquid that was left in the plates.
- Tenth: I filed out the chart and wrote the amount melted, the amount remaining, the total amount and the percentage melted.

Substance	Amount Melted	Amount Remaining	Total amount	Percentage Melted
Salt	17 milliliters	22 milliliters	39 milliliters	44%
Sugar	7 milliliters	30 millilitres	37 milliliters	19%
Sand	0 milliliters	29 milliliters	29 milliliters	0%
Nothing	0 milliliters	37 milliliters	37 milliliters	0%

Plates inside the refrigerator

After the first hour the pink plate (salt) melted half way.

ANALYSIS


Amount of Ice Melted
%Melted
% Remained Frozen
Salt
Sugar
Sand
Nothing Added
0
25
50
75
100

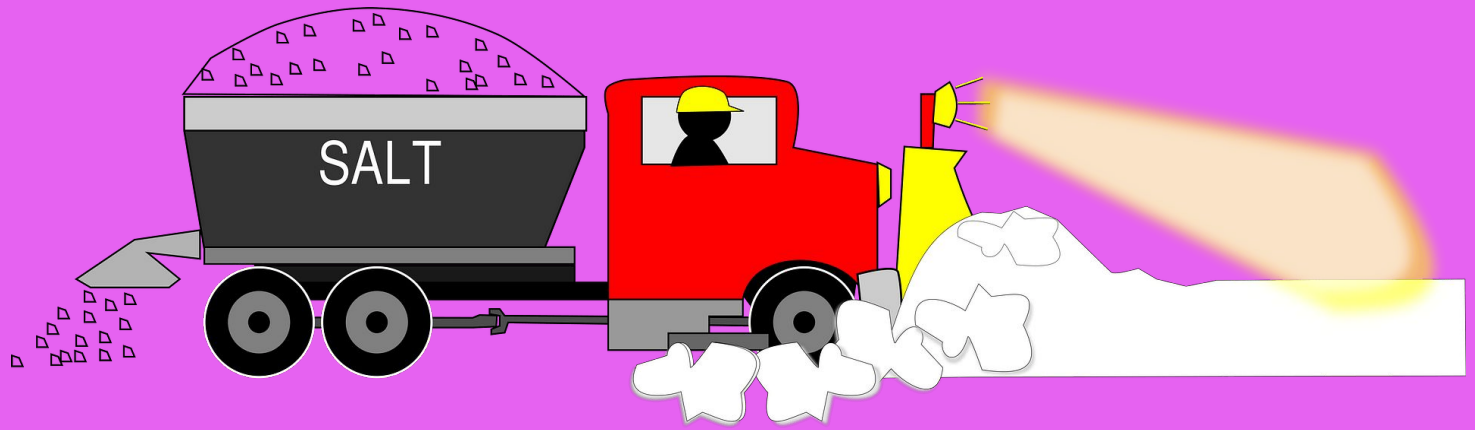
CONCLUSION

- My hypothesis was correct. Salt does melt ice faster.

- During my research I learned:
  - That when salt is added to ice it dissolves in the film of liquid water that is always present on the surface
  - That salt lowers the freezing temperature of water
  - Adding the salt creates a new solution that lowers the freezing point.

REAL WORLD CONNECTION

We found out that salt makes ice melt faster. It is important to the world because we can add salt to wet roads in cold environments to prevent them from freezing and creating unsafe driving conditions for people.



WORKS CITED

- Dad's Book of Awesome Science Experiments
  - By: Mike Adamick
- Ask a Scientist
  - By: Robert Winston
- Science Buddies
  - www.sciencebuddies.org