Skittles Color Pattern Experiment

Question

Which color of Skittle dissolves fastest in water?

Variables

Independent variable: Skittle color.

Dependent variable: time it takes the Skittle color to dissolve.

Controlled variables: the liquid, liquid temperature, amount of time to dissolve.

Background

We chose to do this project because we all love candy, especially Skittles! We thought it would be fun to learn if water has an effect on specific colors of candy.

Research

Water are made out of tiny building blocks called molecules. Sugar is made out of sugarcane and sugar beets. Skittles are made of a sweet chewy inside and a hard colorful outside. No single color in Skittles dissolves faster.

Hypothesis

If we put red, orange, green, and yellow Skittles in water, then all the Skittles will dissolve at the same rate, because they are colored with food coloring and made with the same amount sugar. The sugar and food coloring dissolve due to a process called affusion.

Materials

Skittles (orange, red, green, yellow)

Water

Timer

Paper Plates

Procedures

Step 1: Get a plate.

Step 2: Get the bag of Skittles.

Step 3: Place the Skittles in a circle on each plate.

Step 4: Pour water on each Skittle.

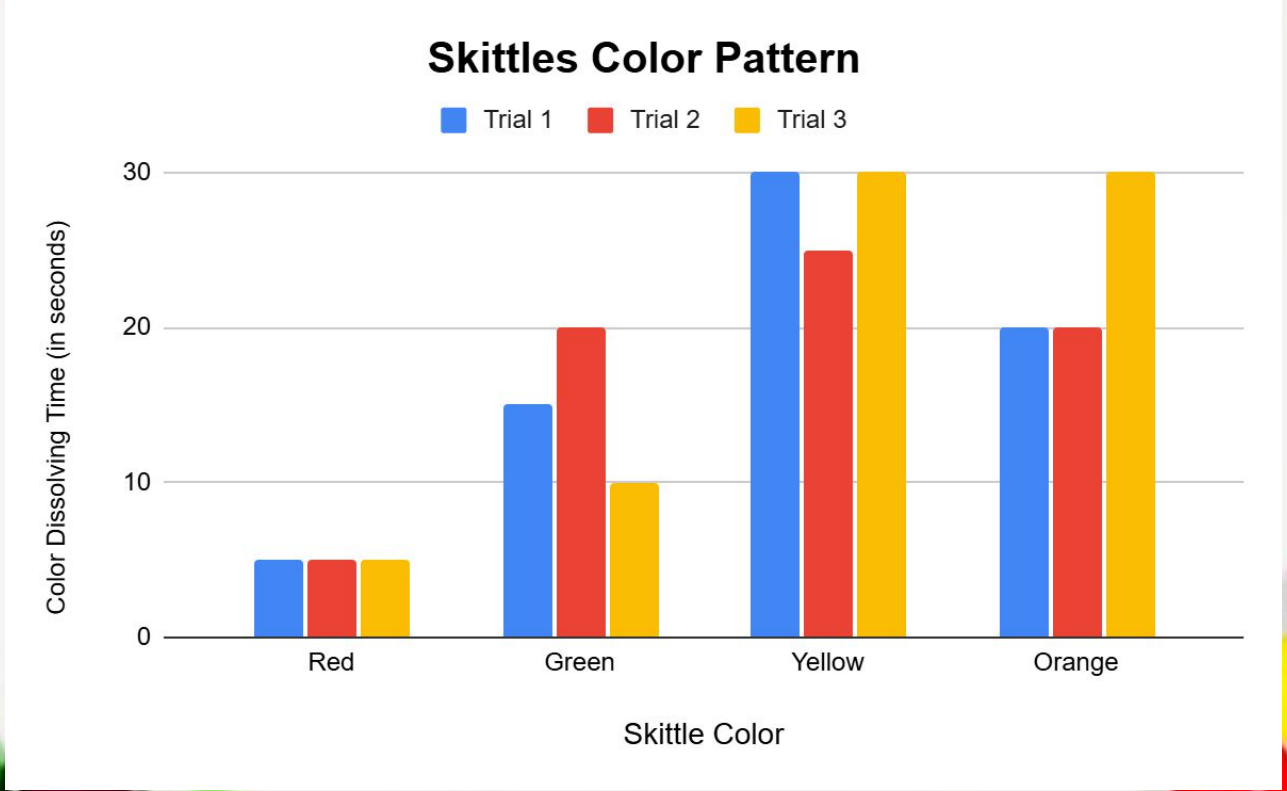
Step 5: Wait for 2 minutes for each plate then record which Skittle color dissolved the most.

Data Table

Skittle Color	Trial 1	Trial 2	Trial 3
Red	5	5	5
Green	15	20	10
Yellow	30	25	30
Orange	20	20	30

Color Dissolve Rate (in seconds)

Graph


Skittles Color Pattern
Trial 1
Trial 2
Trial 3
30
20
10
0
Color Dissolving Time (in seconds)
Red
Green
Yellow
Orange
Skittle Color

Observations

Observation 1. Red is dissolving the fastests.

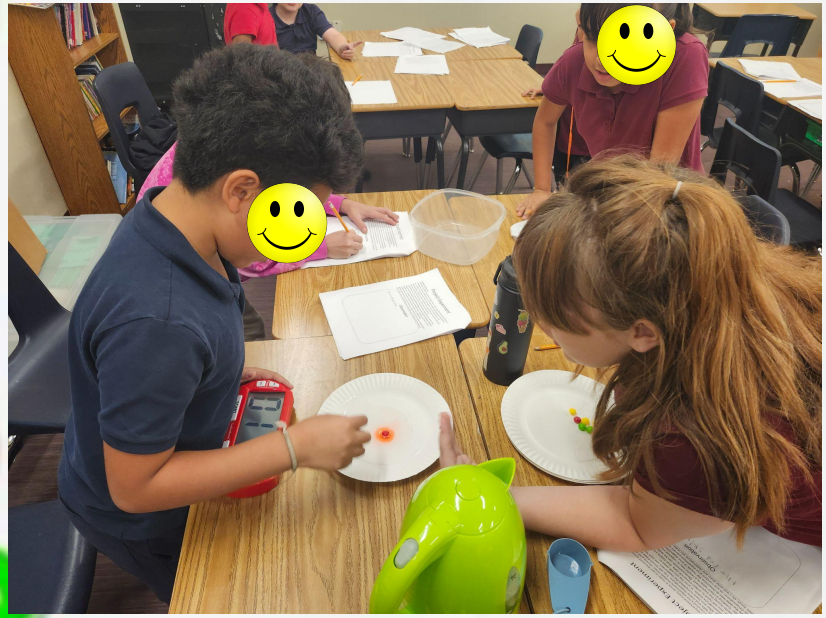
Observation 2.Orange is dissolving the second fastest.

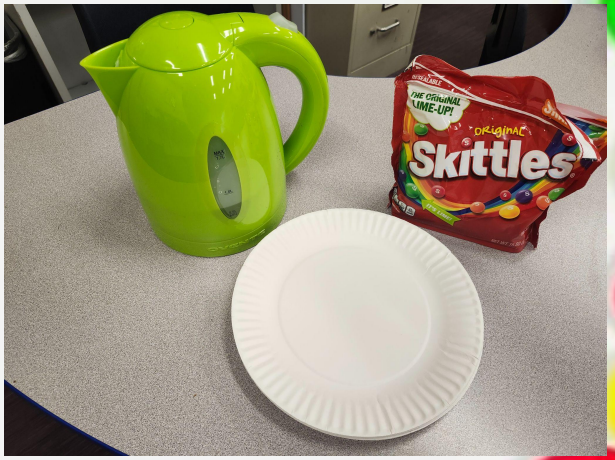
Observation 3. Green is going the third fastest.

Data Analysis

Red dissolved the fastest. Orange and green dissolved second, and yellow dissolved the slowest.

Pictures





Conclusion

In conclusion, the red Skittle color dissolved the fastest. The yellow Skittle color dissolved the slowest. Green and orange dissolved a little faster than the green but still slower than the red. Our hypothesis was incorrect. The colors did not dissolve at the same rate.

Further Research

If we do this experiment again, we will try more colors and use a different liquid.

References

https://omsi.edu/explore/art-science-with-skittles/

https://partner.projectboard.world/oas/project/the-study-of-skittle-color-coating-dissolution-rates-rvjqej