

Inquiry Approaches

Initial Inquiry

What colours make up a rainbow?

A rainbow is composed of red, orange, yellow, green, blue and violet.

Describe what a rain cloud looks like.

Rain clouds look very similar to regular clouds, except they are darker.

What shape is a snowflake?

While the exact shape of snowflakes varies, snowflakes are usually six-sided and symmetrical.

What are some similarities and differences between rain and snow?

Rain and snow are formed at different temperatures. Additionally, snow is a solid while rain is a liquid. Some similarities are that both snow and rain fall from clouds and both are composed of water in some form.

What types of weather have you experienced?

Students will have probably experienced rain, snow, sun, wind, cold, heat and thunderstorms.

Experimental Procedure Inquiry

How does the CD create a rainbow? How is it similar to a raindrop?

A CD creates a rainbow by dispersing white light into its composite colours. A raindrop also disperses light to create a rainbow.

Why are the smoke particles important for the formation of the cloud?

The smoke particles are important because they provide a nucleation site, allowing the cloud to form. This process is similar to what happens in actual cloud formation, where tiny particles such as dust act as a nucleation site.

What causes a change in wind speed in the presence of city buildings?

Wind speed increases when wind blows between two tall buildings or hills because the air is compressed between the two obstacles.

What phenomenon causes the liquid to travel up the homemade thermometer?

As the liquid is heated, it expands. Since the bottle is sealed, the only place the liquid can go is up the straw.

What does squeezing the plastic bottle do to the cloud inside and why?

Squeezing the bottle increases the pressure inside of the bottle, which leads to an increase in temperature. The increase in temperature causes the water inside of the bottle to evaporate, so the cloud disappears. When the bottle is released, the pressure inside decreases and the cloud reappears.



a WOW Lab

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Weather Station - Inquiry Approaches

In-Depth Inquiry

When is it most likely that a rainbow will be seen in the sky?

A rainbow can be seen when the sun is shining right after it has rained and there are still water droplets in the sky.

How can changes in the weather affect your own environment?

Changes in weather affect temperature and humidity. Weather systems and extreme weather events can impact the ecosystem. Floods and forest fires can destroy habitats and affect wildlife.