Objective

By the end of this lesson, the student will be able to understand the science behind hail storms, including how they form and the conditions necessary for their occurrence.

Materials and Prep

- Pen and paper
- Internet access for research
- Access to a weather website or app

Before starting the lesson, the student should have a basic understanding of weather patterns and the water cycle.

Activities

- Research: Ask the student to research and find information on hail storms. They can use books, websites, or other resources to gather information about the formation and characteristics of hail storms.
- Observation: Have the student observe the weather conditions outside. Ask them to look for signs that may indicate the possibility of a hail storm, such as dark clouds, thunder, or strong winds.
- Experiment: Set up a simple experiment to demonstrate how hail forms. Fill a container with water and place it in the freezer. After a few hours, check the container and observe the ice formations. Discuss how the process is similar to the formation of hailstones in the atmosphere.
- Reporting: Ask the student to create a report or presentation summarizing their research on hail storms. They can include information on how hail forms, the size of hailstones, and any interesting facts they discovered.

Talking Points

- **Hail formation:** "Hail forms when there are strong updrafts in a thunderstorm that carry raindrops upward into extremely cold areas of the atmosphere. These raindrops freeze into ice pellets, and as they are carried by the updrafts, additional layers of ice are added, making the hailstones larger."
- **Hailstone size:** "Hailstones can range in size from small pebbles to as large as a baseball. The size of a hailstone depends on the strength of the updrafts and the amount of moisture in the storm cloud."
- **Hailstorm conditions:** "Hailstorms are most common in areas with strong thunderstorms, where there are powerful updrafts and abundant moisture. They are more likely to occur in spring and summer when the atmosphere is unstable."
- **Hail damage:** "Hail can cause damage to crops, vehicles, and buildings. The larger the hailstones, the more potential for damage."
- **Safety during hailstorms:** "During a hailstorm, it is important to seek shelter indoors or in a sturdy vehicle to avoid being hit by hailstones. If caught outside, protect your head with your hands or a helmet."