

Objective

By the end of this lesson, the student will understand how hurricanes form, the conditions necessary for their development, and the stages of a hurricane's lifecycle. The student will also be able to explain the impact of hurricanes on the environment and communities.

Materials and Prep

- Notebook and pencil for note-taking
- Access to a computer or device with internet for research (if applicable)
- Whiteboard or large paper for drawing diagrams
- Colored markers or crayons
- Printed images of hurricane stages (optional)

Before the lesson, ensure the student has a basic understanding of weather patterns and storms. Familiarize yourself with the terminology related to hurricanes, such as "tropical storm," "eye," and "wind shear."

Activities

- **Hurricane Diagram:**

Have the student draw a diagram of a hurricane, labeling its key parts (e.g., eye, eyewall, rainbands). This visual representation will help them understand the structure of a hurricane.

- **Research Project:**

Assign the student to research a famous hurricane (e.g., Hurricane Katrina) and present its formation, path, and impact. This will help them connect real-world events to the science behind hurricanes.

- **Role Play:**

Engage the student in a role-play where they act as a meteorologist explaining hurricane formation to a news audience. This will boost their confidence in presenting information.

- **Weather Conditions Experiment:**

Conduct a simple experiment using a bowl of water and a heat source (like a lamp) to demonstrate how warm water is essential for hurricane formation. The student can observe how heat affects water movement.

Talking Points

- "Hurricanes form over warm ocean waters, typically when sea surface temperatures reach at least 80°F (27°C)."
- "The process begins with a tropical disturbance, which can develop into a tropical depression and then a tropical storm."
- "A hurricane is classified as a tropical cyclone with sustained winds of 74 mph (119 km/h) or

higher."

- "The eye of the hurricane is a calm area at the center, surrounded by the eyewall, which contains the most intense winds and rain."
- "Hurricanes can cause significant damage to coastal areas, leading to flooding, wind damage, and storm surges."
- "Understanding how hurricanes form helps us prepare for and respond to these powerful storms."