Lesson: Weather Patterns

Florida Benchmark:
SC.5.E.7.5 – Recognize that some of the weather-related differences, such as temperature and humidity, are found among different environments, such as swamps, deserts, and mountains.

NGSS Standard:
MS-ESS2-5 – Collect data to provide evidence for how the motions and complex interactions of air masses result in changes in weather conditions.

A. GRADE LEVEL: 5th Grade
B. SUBJECT: STEM/Science
C. DATE: [Insert Date]
D. DURATION: 60 minutes
E. LESSON FOCUS: Understanding how air masses and environmental conditions affect weather patterns in different locations.
F. MATERIALS:

- PowerPoint presentation (to introduce the lesson)
- Printed "Weather Scenario Cards"
- Student worksheets (data table + reflection questions)
- Chart paper
- Colored pencils or markers
- Large classroom map or globe
- Sticky notes

G. LESSON OBJECTIVES:

- Students will identify how weather conditions vary across different environments.
- Students will simulate and analyze how air masses affect local weather.
- Students will describe how environmental factors such as landforms and bodies of water influence temperature and humidity.

H. PROCEDURES:

1. INTRODUCTION:
The teacher will begin the lesson with a **PowerPoint presentation** to introduce the topic of weather patterns. The presentation will cover the following:

- What weather is and how it changes
- The impact of factors like **elevation**, **proximity to bodies of water**, and **air masses** on local weather patterns
- Overview of different environments such as deserts, swamps, and mountains and how their weather conditions differ

After the presentation, the teacher will lead a brief class discussion with guiding questions like:

- "What is weather?"
- "Why do some places experience different weather?"
- "What factors do you think influence weather the most?"

2. ACTIVITY (Weather Scenario Simulation):
Students will work in groups. Each group will receive a **Weather Scenario Card** describing a fictional town's environmental features (e.g., "High elevation, near a lake, surrounded by forests").
The groups will:

- Analyze their town's features and predict the **type of air mass** (e.g., warm or cold) and **weather conditions** (e.g., high temperature, high humidity) that might occur in that location.
- Record their predictions in a **data table** on their worksheets and create a drawing or diagram of the weather in their environment using **colored pencils or markers**.

3. OBSERVATION:
Each group will present their **weather scenario and predictions** to the class. The other students will vote on whether they agree or disagree with the group's predictions by placing sticky notes on the presentation chart.
The class will discuss the reasoning behind each group's predictions and examine how different environmental factors can lead to distinct weather patterns.

4. GENERALIZATION:
After the presentations, the teacher will facilitate a class discussion to identify common patterns:

- "What did we learn about how water affects temperature?"
- "How did elevation influence weather?"
- Discuss how **air masses** move and affect local weather based on the data collected in the scenarios.

5. ASSESSMENT:

- **Group presentations** and participation in the discussion
- **Weather worksheet**: Students will complete their data table and answer reflection questions based on their group's findings.

- **Exit ticket**: Each student will write one sentence answering: "What environmental factor affects weather the most, and why?"

Note 1 (Safety):
This lesson involves classroom-based group activities, and students should be reminded to work cooperatively, respect each other's space, and use materials responsibly. Ensure that students handle classroom equipment, such as colored markers, safely. No hazardous materials or physical experiments are involved.

Note 2 (Accommodations for ELL, ESE, etc.):

- **ELL students**: Provide bilingual weather vocabulary cards with visuals and sentence stems for discussion. Encourage the use of translation tools if necessary.
- **ESE students**: Offer structured scenario cards with simplified text and sentence starters for analysis. Allow extra time for activities and peer support. Provide visual aids and simplify instructions as needed. Students can complete the activity using drawings instead of written explanations if needed.