

Weather and Climate

OBJECTIVES

1. Students will be able to distinguish between weather and climate
2. Students will be able to give examples of weather in their town, and examples of climate in their town

AGE

Grades 7-9.

TIME ALLOWANCE

1-2 hours

MATERIALS

Copies of Jennifer Richards' daily logs for September 7 and 8 aboard the R/V Ronald H. Brown.

Copies of climate maps (usually can be found in atlases)

INSTRUCTION:

1. Have the students in the class read aloud the Science Log portions of Jennifer Richards' daily logs for September 7 and 8 aboard the R/V Ronald H. Brown. At the end of each paragraph, the teacher should ask questions of the students to assess comprehension, and provide additional explanations as necessary.
2. Each log focuses on the research efforts of one of two groups on the ship (Sept 7 – University of California at Santa Barbara, Sept 8- Colorado State University). While the nature of the experiments is quite different, they have a similar goal. Have the students get into groups of 3 or 4 and challenge the groups to determine how the two research projects have a similar goal. They should be able to state that the goal of both projects is to improve the accuracy of climate forecasting.
3. Since the goal here relates to climate, it is important for students to understand what climate is. As a class, ask the students to describe the weather and climatic conditions in their town as detailed as possible. At this point, do not ask them to distinguish between which items refer to "weather" and which items refer to "climate." The teacher, or a student recorder, should write all student responses on the board. Sample responses might

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include “it’s hot in the summer”, “it rained yesterday”, “it never snows”, “it is usually cloudy.”

4. The teacher should use a colored marker to circle everything on the board that relates to climate (long-term, generalized descriptions that are consistent from year to year), and with a different color, circle everything on the board that relates to weather (localized conditions on a daily basis that change frequently- a rain storm today, a tornado last month, a record low temperature tonight, etc.).
5. The students should brainstorm individually on what the difference is between weather and climate, based on how the teacher categorized the items on the board. Each student should write a hypothesis about the definitions of weather and climate.
6. The students should get back into groups once again to compare their hypotheses and come to a consensus. Ask each group to write their agreed-upon definitions of weather and climate on the board.
7. Teacher lead a discussion about how the definitions are different, and explain what the difference is between weather and climate.

EVALUATION / ASSESSMENT

Teacher will ask questions after each paragraph of the daily logs, so assess student understanding and provide additional information, if necessary.

Teacher will circulate among student groups to provide assistance and make sure they are on track

Each student group will generate a group hypothesis about the definitions of “weather” and “climate.”