

Week 4: Temperature Range Investigation

BACKGROUND INFORMATION

The differences in heat gain and loss in soil and water can tell us a lot about weather patterns. Inland areas usually have greater temperature extremes from day to night and from season to season because land absorbs and loses heat energy more quickly than water. Locations near the ocean or other large bodies of water usually have more moderate daily and seasonal temperatures. For this reason, forecasters in southern California often list three daily temperature ranges—ocean, inland, and valley.



THE BIG IDEA

Coastal sites have smaller temperature ranges than inland sites because the ocean moderates the air temperature along the coast.

OVERVIEW OF ACTIVITY (60 minutes)

Students use real-time data from the Southern California Coastal Ocean Observing System (VIMS) site to learn how air and sea temperature ranges vary. They use the data to make graphs and explain how the ocean affects air temperature ranges.

SCIENCE STANDARD

4.5. Students explain the influence that the ocean has on the weather and the role that the water cycle plays in weather patterns.

PERFORMANCE OBJECTIVES

Students will be able to:

1. collect temperature data from a VIMS site.
2. represent and interpret data using graphs.
3. explain why locations near the ocean generally have smaller temperature ranges than inland locations.

RECOMMENDED ASSESSMENT STRATEGY

Use the **CONCLUSION** section and the **UNIT OF LEARNING** discussion to assess conceptual comprehension and investigation strategies.