

Episode 3

Strand 6.3	Standard 6.3.2	Big Idea: There is a relationship between air masses and changes in weather.
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Title Forecasting	Time 3–5 days	CCCs Patterns Cause and Effect	Practices Plan and carry out an investigation.
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Phenomenon:

Gathering

Plan and Carry Out an Investigation

Students will determine if their predictions were correct. Students will revise their predictions and plan how they can collect data for their selected cities to determine if there is cause and effect in the patterns they are seeing. Students will carry out this investigation for 3–5 days. (The longer the investigation, the stronger the evidence.)

Teacher Support: Using the Storm Radar app or another source of your choice, students will need to take data on a small scale for their cities and on a large scale for the entire United States. Small scale data can include temperature, air pressure, humidity, wind speed, etc. Large scale data can be collected by taking screenshots of the United States map using different views: wind, temperature, radar, and fronts.

Reasoning

Analyze Data

Students will analyze the data each day, revise their predictions, and construct explanations using the new evidence.

Argue From Evidence

Students will present ideas and discuss if they can determine a cause and effect in the patterns. Students will use evidence from their data to argue their explanations.

Communicating

Communicate Information

Students will construct explanations for what their predictions are for the next day's forecast using evidence from their data.

Teacher Support: Emphasis is on how air masses flow from regions of high pressure to low pressure, causing weather (defined by temperature, pressure, humidity, precipitation, and wind)

at a fixed location to change over time, and how sudden changes in weather can result when different air masses collide. Emphasis is on how weather can be predicted within probabilistic ranges.

*Repeat **Gathering** and **Reasoning** over several days. As students are investigating, maybe on day 3 or day 4, discuss how landforms, ocean temperature, and ocean currents affect the movement of air masses. Students will use their data to provide evidence for the effects of these variables.*

Assessment: Predictions must be based on data as evidence. Final Prediction—The prediction has been revised correctly based on investigation and uses evidence from their collected data.	Materials, resources, handouts, etc. Graphic Organizer - Table Graphic Organizer - Map Teacher Support Resources Current Wind Maps http://windy.com https://www.wunderground.com/maps/us/WindSpeed.html Current Humidity Map https://www.wunderground.com/maps/us/Humidity.html Ocean and Climate Zones http://oceanexplorer.noaa.gov/facts/climate.html
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