Weather and Seasons
Pre-Post Assessment and Interview

Student-assessment protocol: Project the pre-post assessment so that everyone can see it while you read all of the questions on the assessment aloud. Point to the pictures and read the captions when appropriate. Students should complete the pre-post test individually. Be sure to have a US map visible so you can point out Pomona, Detroit, and Seattle for question 4.

Teacher-student interview: As soon as possible after the assessment, interview each student using the following questions and note their responses on the student's test paper, if possible.

Interview Questions for Assessment Item 1

Note: After the open-ended first question, the remaining interview questions follow the sequence of features in the ideal response for question 1 on the features analysis chart.

1. Tell me about your picture? What did you draw and why?

2. Did you draw a weather pattern in Pomona? What do we mean by a *weather pattern*?

3. Does Pomona's weather pattern change from one month to the next? Give me an example.

4. *[If the student doesn't bring it up, ask:]* How is the weather pattern for Pomona in January different from the weather pattern in September?

5. How do you know that the weather changes like that from September to January?

6. Does Pomona's weather change during the day? If so, how does it change?

7. What is your evidence for that?

8. Is the weather all over the United States like our weather here in Pomona? Give me an example.

9. How do you know what the weather is like here in Pomona? How do you know what the weather is like in a faraway place like _____?

10. *Ask about any of the following items that the student didn't include in his or her drawing or in answers to the questions:*

    - Does temperature have anything to do with weather? Tell me about that.

    - How do we measure temperature?

    - Is it always hot on sunny days? Is it always cool on cloudy days?

Interview Questions for Assessment Item 2a

Ideal response: The weather pattern for this US city is cloudy and snowy. A weather pattern is what the weather is like most of the time. This city had mostly cloudy days, and more than half of the days were snowy. So the weather pattern was cloudy and snowy. *[Some students may say that it's a cloudy weather pattern because the greatest number of days were cloudy. This is a good initial understanding of weather patterns even though it misses the significance of the large number of snowy days.]*

1. Tell me why you circled *x, y, z*. What is your evidence?
2. Can you give me some numbers as evidence to support your answer?
3. There were four sunny days. Why didn't you circle "sunny"?
4. There were three rainy days. Why didn't you circle "rainy"?

Interview Questions for Assessment Item 2b

Ideal response: The city might be Detroit. We made graphs to compare the weather patterns in the three cities, and only Detroit had snow in January. We also found out that it's much colder in Detroit than in Pomona. *[Some students may also choose Pomona because there is snow on Mount Baldy in January.]*

1. Why did you pick *x*? What was your reason?
2. Why didn't you pick *y* or *z*?
3. *If the student doesn't mention the graphs, ask:* Can you give me some evidence to support your choice from our graphs?

Interview Questions for Assessment Items 3a/b

Ideal response: The weather patterns in July and January were very different. My evidence is that all of the temperatures in July were hot and warm, and the temperatures in January were warm and cool, with no hot days. It also didn't rain at all in July, but it rained three days in January.

1. Why did you say the patterns were [*the same/different*]? What was your evidence?
2. Do you think the weather changes from one month to another in Pomona? What is your evidence?
3. *If the student doesn't refer to the class data, ask:* Does any of the data we collected support the idea that weather changes from month to month?