



# Title: Nonattainment Areas: Zoom In Inquiry Teacher Sheet

**Instructions:** Your teacher will display images for the class to observe. With each image, there will be a question. As you observe the images, follow the steps below:

- 1) **Think:** On the chart below, jot down a response to the question that is posted. (1 min)
- 2) **Pair:** Talk with your partner about your response to the question that is posted. (1 min.)
  - Respond with follow-up questions:
    - What makes you say that?
- 3) **Share:** Your teacher will call on 2-3 students to share out. (1 min.)

<p>1. <i>Expected student responses:</i></p> <ul style="list-style-type: none"> <li>• I see different shapes with light gray borders and dark black borders.</li> <li>• I see mostly orange shapes, one pink shape in the center, and parts of two purple shapes on the edges of the image.</li> </ul>	<p>2. <i>Expected student responses:</i></p> <ul style="list-style-type: none"> <li>• I see new colors: dark blue and yellow.</li> <li>• I see more white space.</li> <li>• I see that the pink shape has gotten smaller relative to the regions surrounding it.</li> </ul>	<p>3. <i>Possible Student Responses:</i></p> <ul style="list-style-type: none"> <li>• Students from the New York metro area may recognize Long Island, the Long Island Sound and Connecticut because they are distinguishable shapes in this image.</li> </ul>
<p>4. <i>Expected student responses:</i></p> <ul style="list-style-type: none"> <li>• The colors indicate different numbers of criteria pollutants regulated by the EPA.</li> </ul>	<p>5. <i>Expected student responses:</i></p> <ul style="list-style-type: none"> <li>• The colors indicate the number of criteria pollutants per county that are above the standard set by the EPA.</li> </ul>	<p>6. <i>Expected student responses:</i></p> <ul style="list-style-type: none"> <li>• More than half of the area in the Northeast United States is white meaning that these regions have “attained” air quality standards.</li> <li>• Counties in the NYC metro area are designated nonattainment or maintenance for 4-6 criteria pollutants.</li> </ul>



<p>7. <i>Possible student responses:</i></p> <ul style="list-style-type: none"><li>• The NYC metro area has a concentrated amount of counties that are designated nonattainment or maintenance for multiple criteria pollutants.</li></ul>	<p>8. <i>Expected student responses:</i></p> <ul style="list-style-type: none"><li>• This map is important because it shows the counties where air pollution is worst in the United States. The EPA can then focus its efforts on improving air quality in places where people are most at risk.</li></ul>	<p>9. <i>Answers will vary.</i></p> <ul style="list-style-type: none"><li>• At first I didn't know what the colors represented. But then, I realized that air pollution was worse in the NYC metro area than the rest of the Northeastern U.S. When the map was zoomed out all the way, I realized that counties with larger geographic areas in Southern California are designated nonattainment or maintenance for up to 9 criteria pollutants.</li></ul>
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