

Investigative Case: Beijing Blue

1. Recognize potential issues. List terms or phrases that seem to be important for understanding what the case is about.

2. Brainstorm for connections. Briefly discuss the following with your group.

What is this case about?

What are its major themes?

Where might you use this case in your beginning biology course?

Keep track of major issues and questions that arise with this Know/Need To Know chart.

What do we already know?	What do we still need to know?

Identify one question or issue from the “need to know” list that your group wants to explore.

3. Obtain additional references or resources to help answer or explore questions. These may include print resources, informational articles, data sets, results of simulations, maps, interviews, etc.

List four kinds of resources you think would be important to have available for students, e.g., a you Tube video showing the Beijing air quality issue.

4. Design and conduct scientific investigations relevant to the question. Investigations may be entirely student generated. They could be investigative laboratory experiences that the instructor arranges for the entire class. Sometimes a combination of both works well.

Describe a laboratory or field exercise, simulation, or investigative activity that would be useful for your students to do, that also relates to their questions.

5. Produce materials that support understanding of the conclusions. Students who produce some type of artifacts show the learning resulting from their investigations. These artifacts can take many forms, from traditional papers and scientific reports, to posters, videos, pamphlets, consulting reports, role playing, interviews, etc. It is your decision to have students share their artifacts publicly with peers and instructors or to have students communicate their learning only to you.

What sorts of artifacts might students produce as a result of their investigations of the questions you have identified here?

How might they be evaluated?

6. Be sure to assess all you want students to learn. While it is important to assess the students' knowledge, facts, and conceptual understandings, it is equally important to assess their information management strategies, their ability to identify questions and propose resources for answering those questions, their ability to design and conduct investigations, and their critical thinking about the issues.

Write one question you might ask of students working on this case.

What kinds of skills, problem solving, content familiarity, communication, etc. are you assessing?