Making Water Pollution Visible
Benchmarks

- **SC.6.N.2.3** Recognize that scientists who make contributions to scientific knowledge come from all kinds of backgrounds and possess varied talents, interests, and goals.
- **SC.7.N.1.5** Describe the methods used in the pursuit of a scientific explanation as seen in different fields of science such as biology, geology, and physics.
- SC.7.E.6.6 Identify the impact that humans have had on Earth, such as deforestation, urbanization, desertification, erosion, air and water quality, changing the flow of water.
- **SC.8.N.1.5** Analyze the methods used to develop a scientific explanation as seen in different fields of science.
- **SC.8.N.1.6** Understand that scientific investigations involve the collection of relevant empirical evidence, the use of logical reasoning, and the application of imagination in devising hypotheses, predictions, explanations and models to make sense of the collected evidence.
- **SC.8.N.4.1** Explain that science is one of the processes that can be used to inform decision making at the community, state, national, and international levels.
- **SC.912.N.1.6** Describe how scientific inferences are drawn from scientific observations and provide examples from the content being studied.
- **SC.912.N.1.7** Recognize the role of creativity in constructing scientific questions, methods and explanations.
- **SC.912.N.4.1** Explain how scientific knowledge and reasoning provide an empirically-based perspective to inform society's decision making.
- **SC.912.L.17.15** Discuss the effects of technology on environmental quality.
- **SC.912.L.17.16** Discuss the large-scale environmental impacts resulting from human activity, including waste spills, oil spills, runoff,
- greenhouse gases, ozone depletion, and surface and groundwater pollution.
- **SC.912.L.17.18** Describe how human population size and resource use relate to environmental quality.
- **SC.912.L.17.20** Predict the impact of individuals on environmental systems and examine how human lifestyles affect sustainability.

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Vocabulary Sheet

Bioluminescent: A living organism capable of producing its own light.

Innovative: Using or showing new ways of doing tasks.

Sediment: In this case, the material that settles to the bottom of a liquid (e.g. the Indian River Lagoon). Sediment may be many things, including dirt, sand, shells, and bones.

Toxin: A substance that damages a living organism.

Toxicity: Degree to which a substance can damage a living organism.

Mitigate: In this case, to lessen the impact of pollution on an area.

Ecosystem: A complex set of relationships among the living resources, habitats, and residents of an area.

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Guiding Questions

1. What is Dr. Widder studying? Why is it important?

2. How does FAST (Fast Assessment of Sediment Toxicity) help better understand water pollution?

3. How does Kilroy provide additional information in understanding water pollution in a study area?

4. What additional information is provided when a water sample is taken immediately after it rains?