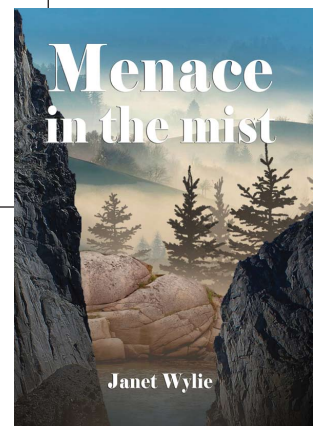


Activities to pair with *Menace in the Mist*

- Find citizen science projects of interest to you at publiclab.org (which was founded by my daughter, Sara, and her colleagues) and at scistarter.org. Are the project examples relevant to your home environment or to someone you know? Follow up on your interest by preparing a presentation for school, or by reading about or talking to people impacted by the environmental problem. Ask questions about what is known, and what is not known about the problem. What is not known is often the most interesting thing.
- If you are interested in biology, find out about our sense of smell. With an adult's permission, boil an egg to dryness. What does it smell like? Why is the nose good at sensing odors like the smells of gas, garlic, skunk, or food that's gone off? Draw a diagram of the pathway involved—maybe make it into a funny cartoon! Why might this sense have evolved?
- People who live near fracking sites may have problems with hydrogen sulfide gas. Explore the citizen science tools that allow people to investigate hydrogen sulfide levels in their air at publiclab.org.
- If you are interested in chemistry and citizen science, find out about chemicals that are known to be toxic to humans and animals like benzene, hydrogen sulfide, lead, and mercury. Concentrate on one chemical. Learn about its structure, and how we know about it. What studies have been carried out to show it is toxic? What is not known about the environmental problems it has created—maybe concentrate on a single example. Never assume that everything is known. You can ask important questions and maybe one day answer them.
- Giles describes the process of fracking in *Menace in the Mist* (page 127). Find a diagram online about the fracking process. Try describing it out loud to yourself to make sure you understand it. Make a simplified version of the diagram. Where does fracking happen in the US? What is good and bad about it?
- If you are interested in geography, find out about contour lines. Why are they helpful? Try drawing a contour map of a valley, a hill, and a cliff. Research a great citizen science-geography project that examines the loss of the wetlands in the Gulf of Mexico due to climate change and oil and gas extraction at scistarter.org.
- If you are interested in oil spills, you can help identify oil spill and damage related to Hurricane Ida in the Gulf of Mexico at scistarter.org.
- In *Menace in the Mist*, Petra decides to buy bottled water for her mom. What is the problem of using plastic water bottles to replace contaminated water supplies? Study the situation in Flint, Michigan at www.nytimes.com.
- Cally spends much of the book trying to get her parents to allow her to have her own phone. Now imagine you have a friend who has a phone for the first time: What would be your advice for usage, safety, apps, fun, and not losing it? Imagine talking to an iPhone designer. How would you change your device if you could?
- Do you think Cally and Giles change or alter their opinions about anything over the course of the story? How so?



Science does not have to be carried out in laboratories. *Menace in the Mist* shows Cally and Giles acting as citizen scientists. The definition of citizen science is the involvement of the public, individual people, in scientific research, whether community-driven or global.



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