

## Assessment Answers

- 1a. individual organism, population, community, ecosystem, biome, biosphere
- 1b. Sample answer: My dance class and my health are interdependent; I need a healthy body to dance and dancing helps me maintain a healthy body.
- 2a. abiotic
- 2b. Biotic and abiotic factors are related in that both are parts of ecosystems. Biotic factors are living; abiotic factors are nonliving.

- 3a. The three methods of ecological research are observing, which is using observations to answer questions about ecology; experimenting, which involves testing a hypothesis in a lab or natural setting; and modeling, which is the use of models, such as mathematical formulas, to answer questions about ecology.
- 3b. Sample answer: Global warming is an ecological problem that could be studied by modeling more easily than by observation or experimentation, because it occurs over a large area and a long period of time.

### PRACTICE PROBLEM

- 4. Answers will vary. Most students will choose experimenting, which would involve testing a hypothesis about whether the water is safe to drink. Some students might choose modeling, which would involve using a model to investigate whether pollutants or organisms could enter the water.

4 could also be **observing**- just perform chemical tests to see what is in the water