

Once students read the three articles assigned to them on the **Biodiversity and Health** student E-Sheet, they will be directed to answer the questions below in their own words in a brief paragraph. Examples of ideas that students might include in their responses are indicated in italic type.

According to the article "Tipping the Scale: The Delicate Balance Between Microbes and Man," what are the benefits of biodiversity?

Examples include: biodiversity assures us of sufficient food and fresh water; provides sources of medicines; provides biological models that help scientists understand how the human body works; warns us of toxins and other environmental hazards; and keeps populations of disease-causing organisms in check.

How can a change in the environment lead to a change in disease behavior?

Examples include: A parasite may switch to a different host, possibly human, when biodiversity is reduced and its natural hosts become rare or nonexistent. When people move into a previously untouched habitat, diseases naturally occurring in wildlife may adapt to be able to infect humans. The habitat change may be more conducive to the spread of a pathogen. Predators that kept the population of pathogens under control may be lost due to habitat change. If the quality of fresh water is altered, the spread of water-borne disease becomes more likely.

What role does human activity play in environmental changes that affect biodiversity?

Human activities are altering the atmosphere, the oceans, and the land at a greater rate than ever before. Human population is growing rapidly and migration patterns also are changing. Warfare disruption also plays a role, including the development of biological weapons. The increase of urbanization and population density provides a favorable environment for the spread of pathogens.