



7th Grade Micro-Life Unit

Unit Overview

By exploring how infectious diseases affect people, students engage in the study of microbiology. Students refine their microscope skills and use the microscope extensively to collect data. Cell structure and function is introduced. Students conduct experiments that demonstrate that cells are alive and perform life functions such as respiration. Classification is also introduced. Throughout the unit, students use various models to simulate processes.

Essential/Unit Questions:

Content

1. What causes infectious disease?
2. Why is the germ theory of disease important in understanding infectious disease?
3. What characteristics do scientists look for when classifying organisms?
4. How is structure related to function in living things?
5. What are some current health practices to help eliminate or reduce the spread of infectious diseases?
6. What trade-offs are associated with health practices used to eliminate or reduce the spread of disease (such as a remaining home when ill)?
7. What are cells?
8. Why is the cell considered the fundamental building block of life? What processes are carried out in cells?
9. Throughout history, what were some of the reasons people believed caused disease? What is the germ theory of disease and why is it important in understanding infectious diseases?
10. How did Pasteur discover that microorganisms cause many diseases?
11. How does the body fight infectious disease?

Process

12. What are the common elements of most scientific investigations?
13. Why is accurate record keeping important in scientific investigations?
14. Why is it important to test only one variable at a time in an experiment? Is this always possible? Why?
15. When different experimental results occur, what should a scientist do?
16. Why are different explanations sometimes offered for the same evidence? Is this acceptable? Why?
17. Why are models useful? How can models be used to learn about processes that we can't normally see?
18. What should scientists consider then choosing a model to represent an object, system or process?
19. How have historical contributions in science influenced history today?
20. Why and how does scientific knowledge or information change?
21. How have advancements in math, science, and/or technology helped scientists understand....