

Lesson Outline**LESSON 3****Exploring Life****A. The Development of Microscopes**

1. The invention of _____ allowed people to see details of living things that cannot be seen with the unaided eye.
2. Two inventors of early microscopes were Anton van Leeuwenhoek and Robert _____.
3. Before microscopes, people did not know that living things are made of _____.

B. Types of Microscopes

1. One characteristic of all microscopes is that they _____ images. Magnification makes an image appear _____ than it really is.
2. Another characteristic of microscopes is _____—how clearly the magnified image can be seen.
3. _____ microscopes use light and lenses to enlarge an image of an object.
 - a. A light microscope that uses more than one lens to magnify an image is called a(n) _____ microscope.
 - b. Light microscopes can be used to view _____ or nonliving things.
 - c. Light microscopes can enlarge images up to _____ times their original size.
4. _____ microscopes use a magnetic field to focus a beam of electrons through an object or onto an object's surface.
 - a. Because objects must be mounted in plastic and then sliced very thin, only _____ organisms can be viewed with an electron microscope.
 - b. _____ microscopes usually are used to study extremely small things, such as the structures inside a cell.
 - c. _____ microscopes usually are used to study the surface of an object.

Lesson Outline continued

C1L3

C. Using Microscopes

1. People in _____, such as doctors and laboratory technicians, often use microscopes. Microscopes are used in surgery, such as cataract surgery and _____ surgery.
2. _____ scientists use microscopes to study evidence from crime scenes.
3. The steel industry examines steel for _____ with the use of microscopes.
4. Jewelers use microscopes to _____ stones.