

 **Activity 8.1.2 Rods, Rounds, and Spirals****Purpose**

Many illnesses are caused by organisms so small they cannot be seen without magnification. Harmful bacteria, fungi, and protozoa are often the culprits. Disease-causing bacteria and protozoa invade the cells of a host, feeding from those cells or excreting a toxin that makes the host ill. Harmful fungi can attack living tissues and may also produce allergy causing spores and toxins in foods. While there are many beneficial or harmless bacteria, fungi, and protozoa, these three organisms are the cause of many diseases and illnesses.

Bacteria exist in three main shapes, cocci, bacilli, and spirilla. Cocci are spherical or egg shaped. Bacilli are rod shaped, and spirilla are spiral or corkscrew shaped. Bacteria are responsible for diseases such as pneumonia, anthrax, and strep. Fungi are commonly found as mold and yeasts. Fungi are responsible for such diseases as ringworm. Protozoa are often parasitic and cause diseases such as malaria.

Identifying microorganisms is necessary in disease identification, treatment, and prevention, but can be a difficult task due to their small size. Microscopes are a useful tool for exploring the world of microorganisms. Can you identify disease-causing agents by observing them under a microscope?

Materials**Per pair of students:**

- Microscope
- Bacteria slide
- Mold slide
- Protozoa slide

Per student:

- Pencil
- *Agriscience Notebook*

Procedure

Work with a partner to identify and sketch several disease-causing organisms. You and your partner will view three slides containing bacteria, molds, and protozoa. Use care and caution when handling the microscope and slides to avoid breaking the slides.

Part One – Bacteria

1. Obtain a bacteria slide.
2. Hold it up against a light background to note the three stained streaks on the slide. Place the slide on the microscope under low power.
3. Locate a stained area, and focus the microscope.
4. Switch to the high-power objective and focus carefully.
5. Identify, sketch, and label the specific bacteria type in that area in Table 1 of *Activity 8.1.2 Student Worksheet*. Use your notes from the *Infectious Disease Causing Agents* presentation to help you identify the bacteria you are viewing.
6. Repeat for the other two stained areas on the slide.

Name: _____

Activity 8.1.2 Student Worksheet

Table 1. *Bacteria*

Section 1	Section 2	Section 3
Type:	Type:	Type:

Table 2. *Mold*

Section 1	Section 2	Section 3
Type:	Type:	Type:

Table 3. *Protozoa*

Sketch 1	Sketch 2