



Pathfinder's Name _____

Microscopic Life

- ❑ 1. List four major types of microscopies. What are some of the characteristics of each? Be able to identify the different types of microscopes from pictures, or visit a laboratory in a university or industry which has these microscopes.

Types of Microscopes

Characteristics

| | |
|-------|-------|
| _____ | _____ |
| _____ | _____ |
| _____ | _____ |
| _____ | _____ |
| _____ | _____ |

- ❑ 2. Be able to identify the following parts of a microscope and explain or demonstrate the function of each:

eye-piece or ocular _____

objective _____

body tube _____

nosepiece _____

stage _____

diaphragm _____

base _____

focus knob _____

arm _____

- ❑ 3. Know how to calculate the magnification of a compound microscope. Calculate the magnification of the microscope you use for this honor.

- ❑ 4. Define the following microscopic terms:

slide _____

coverslip _____

wetmount _____

fixing _____

staining _____

oil immersion _____

unicellular _____

multicellular _____

cilia _____

flagella _____

plankton _____

5. Collect samples of water (from ponds, streams, ditches, gutters, puddles, etc.) And search for living organisms using a microscope with at least 100X magnification. Draw five of these organisms as accurately as possible. As far as possible, identify and label your diagrams (include the magnification used.)

Organisms drawn

1. _____ 4. _____

2. _____ 5. _____

3. _____

6. Draw and label a cell which includes the following parts:

cell membrane

nucleus

cytoplasm.

7. Know the kingdoms that have microscopic life forms and know two members from each.

| Kingdoms | Members |
|----------|----------------------|
| 1. _____ | a. _____ b. _____ |
| 2. _____ | a. _____ b. _____ |
| 3. _____ | a. _____ b. _____ |
| 4. _____ | a. _____ b. _____ |
| 5. _____ | a. _____ b. _____ |

8. Give at least one example of how microscopic life is important for:
- human food _____

- human health _____

- medicine _____

- other organisms _____

9. Give at least three health habits that have been established as a direct result of harmful microscopic life. Put these habits into practice.
1. _____
2. _____
3. _____