



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. _____
- 2. _____
- 3. _____
- 4. _____
- 5. _____

- ❑ 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. _____