

1.1 The cell and cell theory: Review

Directions: Complete the following sentences

1. _____ are the building blocks of all living things.
2. _____ was the first person to see cells.
3. _____ was the first person to observe _____ cells in a drop of pond water.
4. The _____ is one of the major theories in science
5. Use Virchow's ideas to explain why plastic plants and stuffed animals are not alive.

6. List the three parts of the Cell Theory:
 - a. _____
 - b. _____
 - c. _____
7. An individual living thing that carries out the activities of life is called a(n) _____
8. A dog is a(n) _____ organism
9. Bacteria is made up of only one cell, it is called a(n) _____ organism.

10. How do you make a wet-mount slide?

- 1 – Get a clean _____ and _____ from your teacher.
- 2 – Place _____ drop of water in the middle of the slide. Don't use too much or the water will run off the edge and make a mess!
- 3 – Place the _____ of the cover slip on one side of the _____.
- 4 - Slowly _____ the cover slip on top of the drop.
- 5 – Place the slide on the _____ and view it first with the red-banded objective. Once you see the image, you can rotate the _____ to view the slide with the different objectives.

11. List the four characteristics of life. Describe how a chicken has each of these characteristics.

12. Match the root to its meaning (draw a line between the two)

-logy

one who practices

-ory

life

-ist

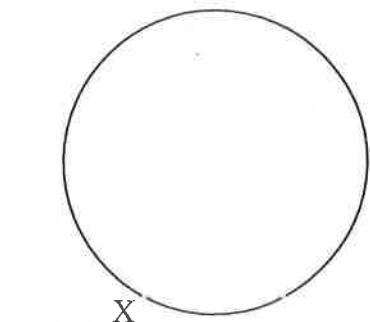
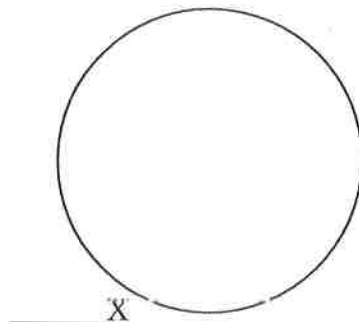
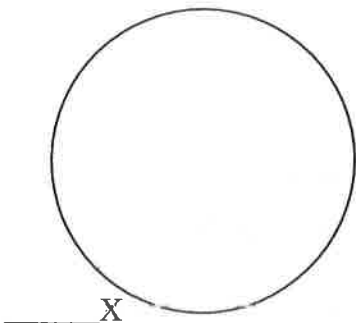
place for

Bio

study of

13. Make a wet mount slide using the pond water provided. Find an organism and draw what you see at different powers of magnification. Label each drawing.

Name of Organism: _____

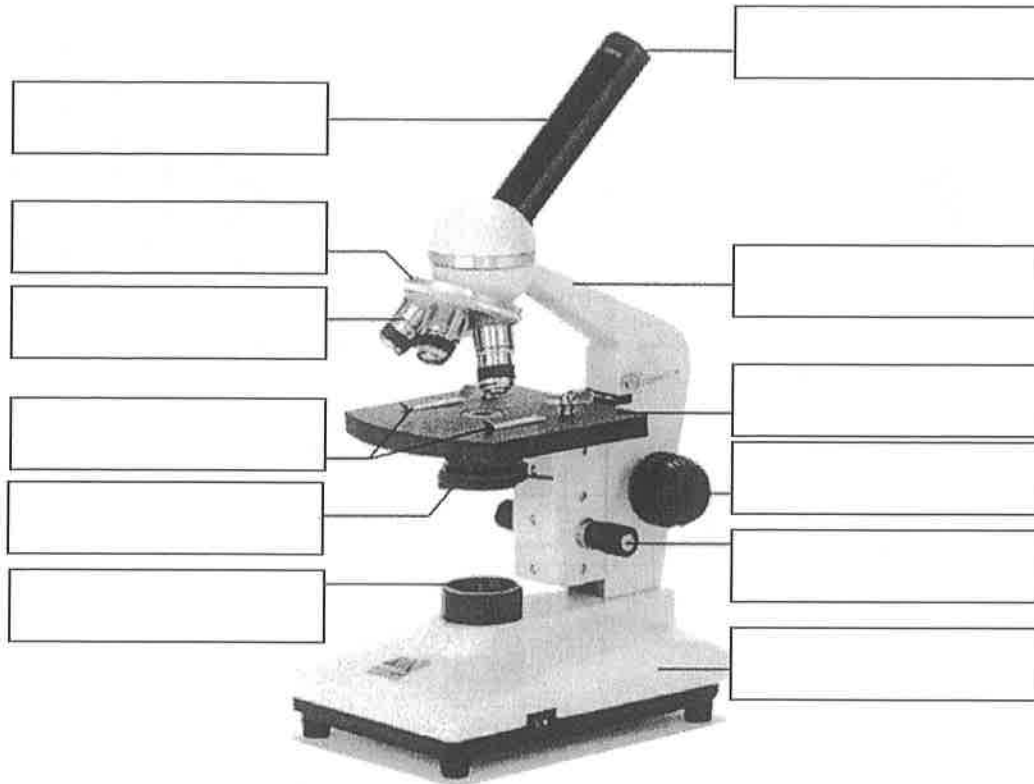


1. Use the word list to help you label the microscope.

Arm
Base
Body Tube
Coarse Adjustment Knob

Diaphragm
Fine Adjustment Knob
Light Source
Nosepiece

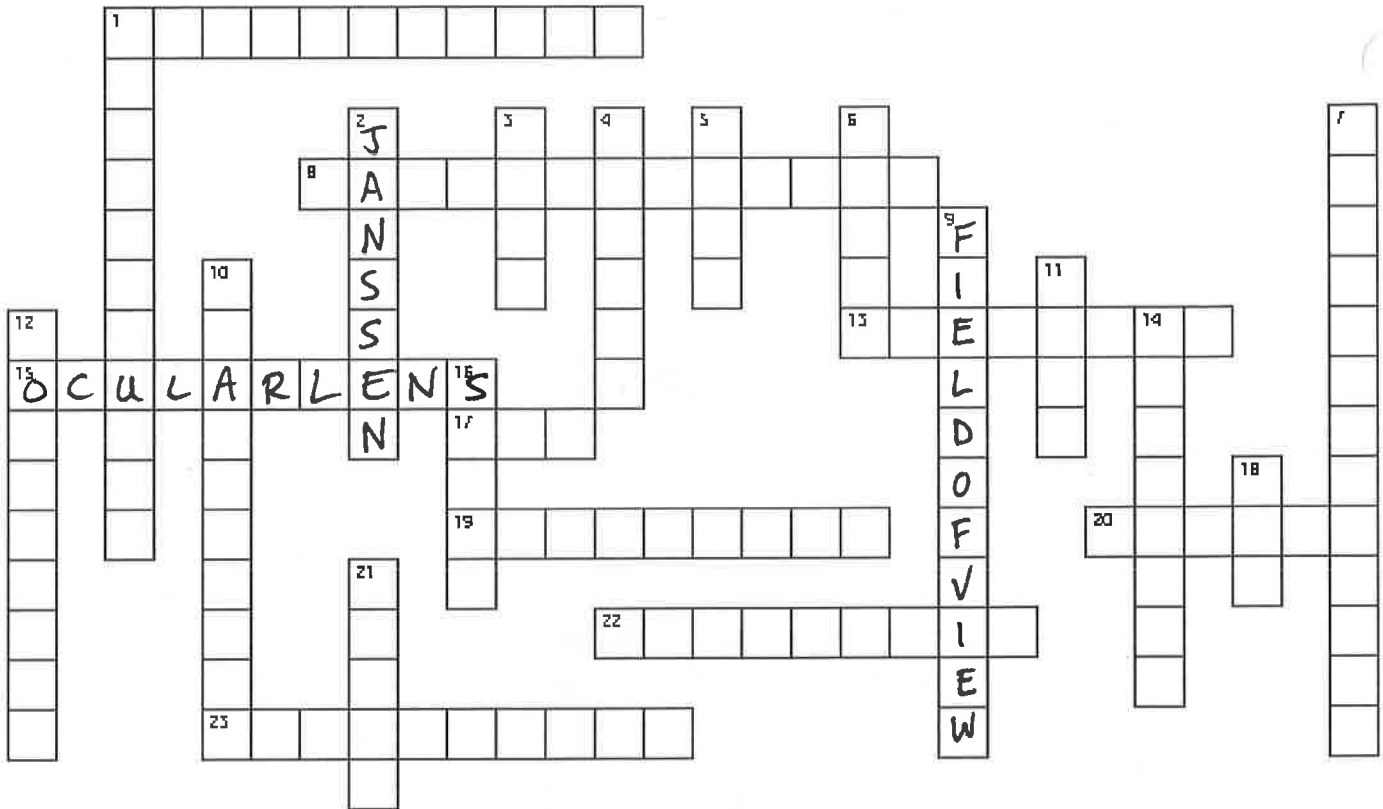
Objective Lenses
Ocular Lens
Stage
Stage Clips



2. Calculate the missing information in the chart using your knowledge of the powers of magnification.

Ocular Lens	Objective Lens	Power of Magnification
10	4	
5		200
	10	120

3. How does the view of a specimen change as you increase the power of magnification?



Puzzle Clues

Across:

- 1. Known as the "Father of Microscopy"
- 8. Refers to the power of a microscope; calculated by multiplying the power on the objective by the power on the eyepiece
- 13. Part of the microscope that contains the ocular lens
- 15. Type of lens found in the eyepiece
- 17. When viewing objects under ___-power, you are able to see a larger field of view, but not as much detail.
- 19. Small disk found under the stage that regulates the amount of light that reaches the specimen
- 20. Large knob on the side of a microscope that should be used first when viewing a slide
- 22. Small glass or plastic piece that is used to cover a water drop on a slide.
- 23. Refers to the type of microscope Leeuwenhoek created with one lens

Down:

- 1. Provides light to allow you to view materials on a glass slide
- 2. Developed one of the first compound microscopes by placing several lenses in a tube
- 3. When viewing objects under ___-power, the field of view is smaller, but you are able to see more details.
- 4. Type of light source that reflects light rays
- 5. Bottom portion of the microscope
- 6. Used a compound microscope to discover that living things are composed of cells
- 7. Found on the nosepiece; range from low to high power
- 9. Refers to the amount of a specimen we are able to see; decreases as the power of magnification increases
- 10. Used to hold a slide in place on the stage
- 11. Small knob on the side of a microscope that helps you focus the microscope
- 12. Part of the microscope that holds the objective lenses and is able to rotate to change magnification
- 14. Type of microscope made up of two or more lenses
- 16. Rectangular glass plate used to view samples of water or other materials
- 18. Part of the microscope that should be used when it is carried
- 21. Part of the microscope that supports the slide being viewed.