

MATERIALS - Microscope, microscope lamp, clean microscope slides, coverslips, and lens tissue.

LETTER e - Obtain a prepared slide with the letter 'e', and view it under low then medium powers.

1. How does the orientation (or direction) of the 'e' differ when viewed under the microscope?

PAPER - Tear off a small piece of paper (such as lens tissue), and place it onto the microscope stage.

2. How does the torn edge of the paper appear under the microscope?

SILK - Obtain a prepared silk thread slide, and view it under low then medium powers.

3. How does a single strand of the silk appear under the microscope?

HAIR - Obtain a hair from your scalp. Place on a clean microscope slide, and cover with a coverslip.

4. How does your strand of hair appear different from the silk?

CORK - Scrape some cork dust and place it on a slide. Add a small drop of water and a coverslip.

5. Sketch a large drawing of 2-3 interconnected cork cells that you can see clearly.
6. What is the name of the cell structure that surrounds each of the cork cells?
7. Are there any gaps or spaces found between the cork cells? Explain why or why not.
8. Explain why there are no cell organelles or structures visible inside the cork cells.

ONION - Cut a small piece of onion, and peel off the thin outer onion-skin. Place only the onion-skin on a clean microscope slide. Add a small drop of iodine stain, and cover with a coverslip.

9. Sketch a large drawing of 2-3 interconnected onion cells.
10. List all cell organelles or structures visible on the inside and the outside of each onion cell.

11. Which cell structures are visible in both onion and cork cells?

12. Which cell structures are visible in the onion cell but not in the cork?

ELODEA - Pinch off an elodea leaf and place on a clean slide. Add a drop of water and a coverslip.

13. Sketch a large drawing of 2-3 interconnected leaf cells.

14. What are the green organelles inside the elodea cell called, and what is their function?

15. When the fine focusing knob is turned slightly, why do different structures become visible?

16. Which cell structures are visible in both leaf and onion cells?

17. Which cell structures are visible in the leaf cell but not in the onion?

CHEEK - Gently rub the inside of your cheeks with a toothpick. Smear these cells onto a clean slide.  
Add a small drop of iodine stain and a coverslip. Dispose the toothpick into the proper container.

18. Sketch a large drawing of 2 cheek cells that are isolated from the other cells.

19. Which cell structures are visible in both cheek and onion cells?

20. What are the differences in the cell structures visible in the cheek and onion cells?

POND WATER - Place a drop (from the bottom of the jar) on a slide, and cover it with a coverslip.

21. Sketch 2 different living organisms  
that are moving in the pond water.  
(Drawings must be at least 1 inch long.)

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| <u>CLEAN UP</u> - (1) Wipe off the microscope stage with lens tissue. (2) Click the low-power lens into position. (3) Return the microscope and lamp to the proper shelf in the cabinet. (4) Clean and dry all the glass slides used. (5) Unplug and retract the electrical cord beneath the lab table. |
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