



CHEEK CELLS AND SKIN CELLS

LESSON 3

OBJECTIVE:

Students will be able to properly prepare a wet slide and view slide using low and medium objective lenses. Students will understand that all living organisms are composed of cell that are usually visible through a microscope and that some organisms are made of a collection of similar cells.

MATERIALS:

Small group set of microscopes
Blank slides
Iodine Solution
Pipettes
Methylene blue
Cover slips
Paper towels
Student Handout (one for each student)
Scissors
Tweezers

PROCEDURE:

1. View the Cell Power Point section on lesson three (last few slides).
2. Demonstrate how to prepare a wet slide using directions on student handout.
3. Demonstrate how to obtain cheek cells. (Student handout)
4. Student Activity; Student handout
5. Clean up
 - * Rinse off your slides and cover slips. Dry them with a paper towel and collect them.
 - * Collect stains and pipettes.
 - * Turn off the microscope.
 - * Click lowest power objective in place; raise the objectives all the way up.
 - * Unplug the microscope and put the cover on it.

CLOSURE:

Discuss answers to questions from Student Handout.

Name: _____

STUDENT HANDOUT: HOW TO MAKE CHEEK CELLS AND SKIN CELLS

Creating your own slides - Cheek Cells: Read the procedure carefully, then go back and follow the procedure carefully.

Procedure:

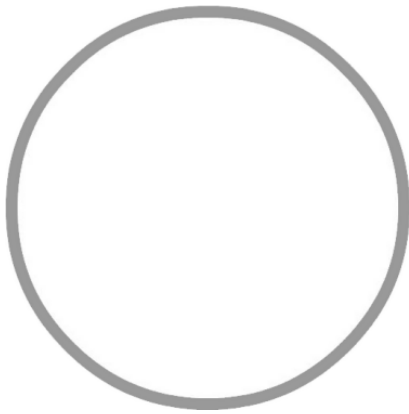
1. Before you begin, make sure your slide and cover slips are clean. You don't want lint or fingerprints on your slide. If the slide is dirty, rinse it off and dry it well with a paper towel.
2. Add ONE drop of Methylene Blue stain to the clean slide. METHYLENE BLUE WILL STAIN YOUR CLOTHES, FINGERS and EVERYTHING ELSE, so WORK THOUGHTFULLY.
3. GENTLY scrape the inside of your cheek with the flat side of the toothpick.
4. CARFEULLY stir the cheek cells from the toothpick in the Methylene Blue stain on the slide.
5. THROW TOOTHPICK AWAY – IMMEDIATELY AFTER USE!!!!
6. Place the cover slip at a 45-degree angle on the edge of the stain/saliva mix. Allow the liquid to spread down the edge of the cover slip. Once it has spread, carefully lower the cover slip over the liquid. PLEASE DO NOT DROP COVER SLIP ONTO SLIDE.
If you have a lot of air bubbles regardless of size, rinse of your slide and **start over**. It's important that you make a good slide.
6. Use the lowest objective to scan for specimen.
7. On low power the cells should be visible, but they will be small and look like irregular shaped objects.
8. Once you think you have located a cell, switch to high power and refocus. (**Remember; DO NOT** use the coarse adjustment knob at this point!)
9. **Written work:** Draw a picture of your cheek cell. Label the cell membrane, cytoplasm, and nucleus.
10. DO NOT RINSE OFF YOUR SLIDE UNTIL YOUR INSTRUCTOR HAS SEEN IT.

Creating your own slides - Plant Cells:

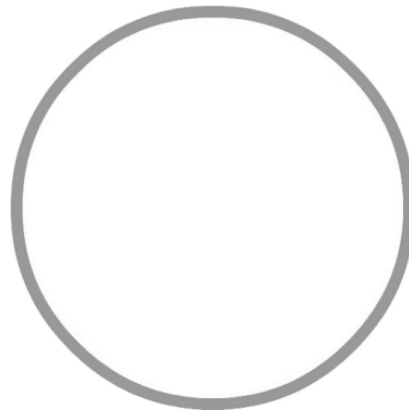
Procedure:

1. Peel a translucent piece of tissue from the onion, the smaller the piece of onion the better. (Translucent means that you can see light through the specimen, but it is not transparent.)
2. Place the piece of onion on a glass slide and add a drop or two of the *iodine solution*.
3. Cover the slide with a cover slip using the same technique that you used for your cheek cells.
4. **Written work:** Observe the onion cell under both low and high power. Draw a diagram of the onion cell. Label the cell wall, cell membrane, cytoplasm, and nucleus.
5. DO NOT RINSE OFF YOUR SLIDE UNTIL YOUR INSTRUCTOR HAS SEEN IT.

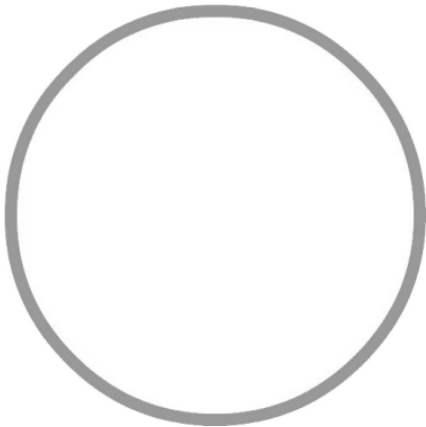
Name: _____



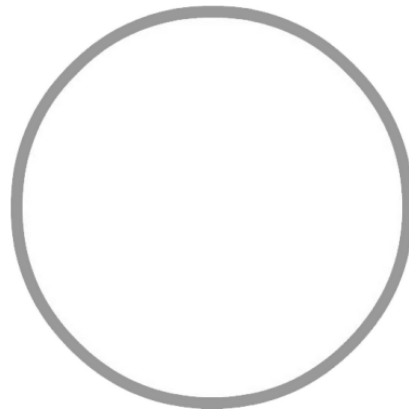
Cheek Cell (Low Power) _____
Total Magnification



Cheek Cell (High Power) _____
Total Magnification



Onion Cell (Low Power) _____
Total Magnification



Onion Cell (High Power) _____
Total Magnification

Read each question carefully. Respond to questions in complete sentences.

1. How were your cheek cells similar to onion cells? How were they different?

2. What structures were present in the onion cells that were not present in your cheek cells?

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3. What other types of cells might have been observed on your cheek cell slide? Explain your answer.

4. What are the purposes of this activity? (Provide at least three.)

5. In your opinion, why does a plant cell have a cell wall and a cell membrane and an animal cell only has a cell membrane.
