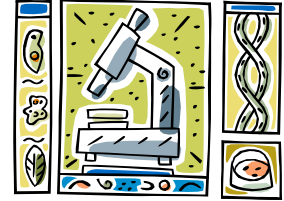
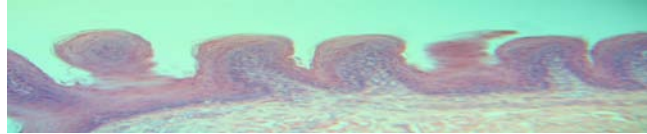


Lab Microscopy, Histology and Tissue Biology



Reading and Research:

- Essentials of Anatomy and Physiology (Seventh Edition) pages 77-94
- SURVEY OF THE TISSUES OF THE BODY @ <http://casweb.cas.ou.edu/pbell/histology/Outline/contents.html>
- TISSUES OF THE HUMAN BODY @ http://www.mhhe.com/biosci/ap/histology_mh/start_histology.html

During this assignment your goals are to:

- Observe histological sections with the compound microscope.
- Survey, compare, and contrast different types of tissues located throughout the body.
- Identify, label, and draw different tissues under the microscope.
- Learn the relationship between tissue types and body organs/parts.

Background:

There are four major tissue types in the human body: Muscle, nerve, epithelial, and connective. Typically, when we think of tissue, we think of organs such as the liver and kidney, or structures such as veins and arteries. It is often difficult to imagine that every body part that physically makes us who we are is composed of a collection of cells. Those same cells work together with other cells to form tissues and those tissues in turn form organs. The organs then allowing us to breathe, move, think, and react. (In essence, allowing us to do an awesome job on this lab!!!)

REVIEW:

Tissue Type	Broad Function
Epithelia	Act as protective linings and coverings . In some locales, absorption and secretion are important functions of these lining and covering cells. As secretory cells, epithelia form most glandular structures of the body.
Connective	Serve as connective and supportive tissues that bind and hold body structures together. Specialized fluid connective tissue types serve as liquid media important in transport, exchange, and body defense .
Muscle	Tissues with the unique capability to contract or shorten. This enables muscle types to be involved in functions of support and movement .
Nervous	Nerve cells are specialized for conduction . Nervous tissues therefore serve as the complex telecommunications network of the body. These tissues act in a sensory capacity, to receive, disseminate, and store information collected from receptors . In a motor capacity, nervous tissues provide response potential by controlling effectors such as muscles or glands.

ASSIGNMENT

In Class:

Using prepared slides and a microscope, make detailed, labeled drawings of four tissues of your choice. (USE THE HIGHEST MAGNIFICATION POSSIBLE.) Include the title of the slide, as well as, any information listed on the slide itself. Use the attached table for your final work.

At Home:

Make detailed labeled drawings, from either of the two websites listed, for each of the tissues you looked at under the microscope. (TRY TO USE THE SAME MAGNIFICATION USED IN CLASS!) Research each type of tissue and describe the tissues' function and location in the human body. Also compare the two drawings and make observations about any similarities or differences.

LAB RUBRIC	Exceeds Standards	Meets Standards	Nearly Meets Standards	Doesn't Meet Standards
Slides	Title of tissue is visible. .Neatly drawn in pencil. Cell layers are labeled. Magnification is included.	One of the four elements is missing, or the illustration is poorly done.	Two tissue types are incomplete	More than two tissue types are incomplete
Function	Function is thorough and complete, using the student's own words. Unique characteristics are specifically and concisely described.	Function is discussed but not in clear manner, unique or common characteristics are mentioned	Either commonalities or differences are not mentioned	Neither commonalities or differences are not mentioned
Location	All locations where tissue type is found are included.	One or two locations are missing.	More than two locations are missing	The task is incomplete or missing. No effort.
Observation	Personal reflection and visual observations are recorded, clear and concise	A general effort was made; some sections of Lab are vague or brief.	Several observations are missing or so poorly done that comprehension is impossible	Marginal effort is made, one or two word description are used.

Next.....

The diagrams and information you have gathered will be used for two more assignments:

1. To write a five paragraph essay about your selected tissue samples.....

AND Finally.....

2. To create a life-sized Human Body Illustration and Story Board.

SLIDE UNDER THE MICROSCOPE:

SLIDE FROM THE INTERNET

Function and location:

Observations: (compare the above slides)

SLIDE UNDER THE MICROSCOPE:

SLIDE FROM THE INTERNET

Function and location:

Observations: (compare the above slides)

SLIDE UNDER THE MICROSCOPE:

SLIDE FROM THE INTERNET

Function and location:

Observations: (compare the above slides)

SLIDE UNDER THE MICROSCOPE:

SLIDE FROM THE INTERNET

Function and location:

Observations: (compare the above slides)

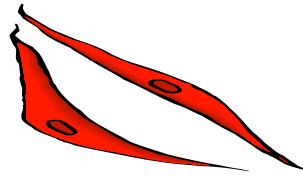
Next.....

The diagrams and information you have gathered will be used for two more assignments:

2. To write a five paragraph essay about your selected tissue samples.....



Tissue Survey Project



Purpose:

Create an informative and interesting detailed report on tissues based upon the Histology Microscope Journal you previously completed in class.

Procedure:

Each person will use their information gathered from the Journal to describe the appearance, locations and function of 3-4 different tissue types in a five paragraph report. (5 paragraphs is the minimum)

Illustrative/ Descriptive: While you will need to use your own words, you may also reference the diagrams in your report to help describe the appearance. All images must be referenced (Internet or book/ magazine).

Location: All locations where you may find the tissue type in the body will be presented in text,

Informative: The report will provide an overview of commonalities and differences of your tissues as well as their unique features, locations and functions. For example, one of your chosen tissues types may possess cilia and be present in only one location or organ of the body. Or, all of your tissue types may form secretions, or perhaps all of the tissue types may have a protective function.

Since this is a report you will obviously need to include an introduction and conclusion, and a list of references (standard MLA format).

Report rubric	Exceeds Standards	Meets Standards	Nearly Meets Standards	Doesn't Meet Standards
<i>Intro/conclusion</i>	Has a 'hook', informs & intrigues the audience, has focus.	Informs and has a focus	Information is brief, minimal	missing
<i>Illustrative/ Descriptive</i>	Using your own words /images anyone can determine which tissue type is described.	One type is missing or minimally described, there is some confusion or repetitiveness	More than two types are missing, incomplete, editing and/or grammar interferes with prose	missing
<i>Location:</i>	All are listed	One is missing	More than two types are missing, incomplete,	missing
<i>Informative:</i>	Same as descript above	Same as descript above	Same as descript above	missing
<i>Standard MLA format</i>	All images are complete, accurate	One or two missing	More than two types are missing,	All missing

AND Finally.....

3. To create a life-sized Human Body Illustration and Story Board.



Human Body Illustration and Story Board.

You will be part of a group which will report on all the tissue types of the body. Your group will coordinate to completely label three life size drawings including the information and illustrations from the lab and your previous report. Use the tallest member of the group to be the model for the drawing to illustrate three sheets.

- a. Vessels
- b. Skeletal and Connective
- c. Organs.

Each person will be responsible to locate, describe and illustrate the 4 previous tissue types they focused on in the report. but now throughout the body. For example, where do you find epithelial tissue? In addition to the life-sized body model, each tissue type will also have the microscopic view.

As a group work together to draw the body, the vessels, organs and skeleton.

THEN...

- 1) Designate a Team captain to insure all tissue types are included;
- 2) Another person can be the Artist captain to insure all types are illustrated;
- 3) Another captain can be the Secretary to insure all tissue types are accurately described,
- 4) The Fourth will be responsible to insure all illustrations are referenced accurately.
- 5 & 6) Reporters for the group: present to the Class after all the other areas are completed.

There are 50 points available for each person for group effort, but as a group you may decide to give some of your points to one of the other team members if you feel they did more than their share. Likewise, if one member has not contributed you may take points away from them. Either way, it is a group decision.

You will have time in class to complete your assignment.

Group Effort: 50 points

Accuracy: 50 points

Artistic Quality: 50 points.