

**Before you come to lab:**

1. Go to the course website and view the Shotgun Histology videos on the following tissues:
  - Thick Skin
  - Thin Skin
  - Skin Appendages

**During the lab period (do #1 first, the rest can be done in any order):**

1. Perform the experiment described in **Activity 5** on pp. 98-99 of the *Lab Manual*.
  - This experiment will have you develop and test a hypothesis about the relative distribution of sweat glands on the palm and the forearm.
  - Answer the questions in the handout provided.
    - This can be turned in once you're finished; there's no need to bring this home as homework.
2. Become familiar with the skin models and try to identify the following:
  - stratum corneum
  - stratum lucidum
  - stratum granulosum
  - stratum spinosum
  - stratum basale
  - dermal papillae
  - papillary layer
  - reticular layer
  - hypodermis
  - sebaceous gland
  - eccrine sweat gland
  - hair shaft
  - hair follicle
  - hair root
  - epidermis
  - dermis
3. For your Histology Notebook:

- Serous membrane** – *Brief Atlas*: Plate 44 (p. 18)
  - Recommended # of pages: 1
  - Draw at 400x total magnification.
  - Label the following: free edge, epithelial cell
  - Answer the following questions:
    - **Question 4:** What type of epithelium comprises this membrane?
    - **Question 5:** In general, where in the body do you find serous membranes?



- Mucous membrane** – *Brief Atlas*: Plate 45 (p. 19)
  - Recommended # of pages: 1
  - Draw at 400x total magnification.
  - Label the following: free edge, epithelial cell, goblet cell
  - Answer the following questions:
    - **Question 6**: What type(s) of epithelium comprise(s) this membrane?
    - **Question 7**: In general, where in the body do you find mucous membranes?

- Thick skin** (usu. palm or sole of primate) – *Brief Atlas*: Plate 37 (p. 15); *Histology Atlas*: Figs. 12.4 & 12.5 (p. 119).
  - Recommended # of pages: 1-2
  - Draw at 100x total magnification.
  - Label the following: stratum corneum, stratum granulosum, stratum spinosum, stratum basale, dermal papillae, sweat gland, hypodermis, epidermis in general, dermis in general
  - Answer the following questions:
    - **Question 8**: Identify the major tissue types of the epidermis, dermis and hypodermis.
    - **Question 9**: List the places on the body where you find thick skin.

- Thin skin** (usu. scalp or axillary skin with hair) – *Histology Atlas*: Fig. 12.8 (p. 120), Fig. 12.11 (p. 121).
  - Recommended # of pages: 1-2
  - Draw at 100x total magnification.
  - Label the following: stratum corneum, stratum granulosum, stratum spinosum, stratum basale, dermal papillae, hypodermis, sebaceous gland, hair follicle, hair root, epidermis in general, dermis in general
  - Answer **Question 10**: What is the secretory product of the sebaceous gland?

**By the next lab:**

1. Continue with Part 3 of the Tissue ID Assignment.
2. Continue the process of learning the terms that deal with surface anatomy (“Naked Man” – Marieb Figure 1.7; p. 14). Pick 11 more terms on the anterior view and 7 more on the posterior view, and learn those.
3. Look over the Lab Exam 1 Review Sheet to see what you’re responsible for regarding the bones.
  - Next week’s lab will be dedicated to the axial skeleton.
  - You should look over the names of the bones before coming into lab.

**Observations**

Working with your lab group, discuss patterns of perspiration you have observed on your palms and your forearms. Record your observations below (1 pt).

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**Hypothesis**

The hypothesis should follow from personal observations. Based on your observations, formulate a hypothesis about the distribution of sweat glands on the forearm and palm. Write your hypothesis as a *testable* statement (1 pt).

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**Testing the Hypothesis**

Write an if-then statement that will help you determine whether your data support your hypothesis. For example, if you hypothesized that there is no difference in sweat gland distribution between the forearm and palm, your statement would be: “**If** there is no difference in sweat gland distribution, **then** there should be a similar number of black spots on the papers from the palm and the forearm.” (2 pt)

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**Materials and Methods**

Describe the procedure for the experiment (2 pt).

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