Part 1: Review

1. Where will you always find epithelial tissues?

2. What functions do simple epithelial tissues have?

3. What functions do stratified epithelial tissues have?

4. List 3 characteristic of connective tissue.

5. List the four categories of connective tissues.

6. Create an illustration of a neuron. Label the cell body, axon, dendrites, and nucleus.

Cell Components 1:

- What are the two main components found in all living cells of multicellular organisms, and what role does each play in cellular functions?

Epithelia introduction:

Describe the rules for identifying and classifying epithelial tissue to a partner or PAL instructor. Be sure to use the terms apical surface, basement membrane, layers, and shape.

Epithelia 1:

- Draw and label the three shapes of epithelial cells (squamous, cuboidal, and columnar) on your dry-erase board.

- List the two main types of epithelial tissue based on the number of cell layers.

Epithelia 2:

- Explain the difference between simple squamous epithelium and stratified squamous epithelium using both written description and a simple diagram on your board.

- Discuss the characteristics of pseudostratified columnar epithelium and draw a representation of its appearance.

Epithelia 3:

- Draw a cross-section of simple cuboidal epithelium and indicate where these epithelia are commonly found in the body.

- Illustrate the appearance of stratified columnar epithelia and describe where it is found.

Epithelia Case Study Scenario: A patient, John, presents with a persistent cough and difficulty breathing. Upon examination, you learn John has been exposed to high levels of airborne pollutants in his workplace. Further analysis reveals a significant decrease in the number of cilia on the apical surfaces of the columnar cells lining his respiratory tract.

Questions:

1. **Drawing:** Using your dry-erase board, draw a cross-section of the respiratory epithelium for a healthy individual, illustrating the normal density and function of cilia on the apical surfaces.

2. **Analysis:** Discuss the role of cilia in the respiratory tract and how the decreased number of cilia might impact John's respiratory function. Discuss your analysis alongside your drawing with a partner or your PAL instructor.