

# Cytology-The Study of The Cell

## I. Levels of Organization

### A. Analogy: "The Brick"

**Directions:** Read the following paragraph and answer the questions below. Underline the key points in the paragraph.

Mr. Jones is a construction worker who works for the Ames Construction Company. During the course of his career, Mr. Jones has been asked to build many different structures. His main building materials are bricks. He has built a small, one room warehouse, a ranch style house, a two-story house, and finally a several story apartment building.

1. Describe the physical and chemical characteristics of a single brick.
2. Explain how the brick is the basic structural unit in each of the buildings/
3. If each of the buildings above were lined up in a row, describe the sequence of the development. Make a drawing of each building to help you describe the sequence.

<p>Organelles</p>	<p>Cells</p>	<p>Tissue</p>
<p><b>ORGAN</b></p>	<p><b>ORGAN SYSTEM</b></p>	<p><b>ORGANISM</b></p>
<p>Each cell is composed of these. Each one has a different function within the cell</p>	<p>The basic unit of structure and function of all living things</p>	<p>Composed of many cells. Many cells working together for a specific function</p>
<p>Composed of different tissue. Different tissues working together for a specific function</p>	<p>Composed of different organs. A group of organs working together towards a specific goal.</p>	<p>Composed of different organ systems. A group of organ systems working together to maintain life</p>

## B. Levels of Organization in a Multicellular Organism

**Directions:** Complete the table below based on your classification of the cards. Answer the questions that follow.

<u>Level of Organization</u>	<u>Example</u>	<u>Composition</u>	<u>Function</u>
1.			
2.			
3.			
4.			
5.			
6.			

1. Describe the sequence in the above development from organelle to organism.
2. Explain why the cell is the:
  - a. Basic unit of structure
  
  - b. Basic unit of function
3. Define the term, "Levels of organization".