### The Cell Theory

**Parent Information**

The first theory to really tackle the question of life’s origins was called “spontaneous generation”. Scientists today understand that this was incorrect; living things cannot come from nonliving things. Today, scientists accept Cell Theory as a basic explanation for how life begins and continues.

**Cell Theory:**
1. All living things are made of cells
2. Cells are the basic unit of life
3. All cells come from pre-existing cells through cell division.

**Benchmark**

SC.6.L.14.2 Investigate and explain the components of the scientific theory of cells (cell theory): all organisms are composed of cells (single-celled or multicellular), all cells come from pre-existing cells, and cells are the basic unit of life.

**Objective**

Student will be able to describe what cells are and how scientists first observed cells and developed the Cell Theory.

**Duration**

1-2 hours

**Materials**

Research Materials
- Public Library
- Computer with Internet Access
- Encyclopedia Set

**Procedures**

1. Research the following early scientists: complete the data table to help you record each person’s contribution to the Cell Theory

   A. Robert Hooke
   B. Anton van Leeuwenhoek
   C. Matthias Schleiden
   D. Theodor Schwann
   E. Rudolf Virchow

**Discussion Questions:**

1. What tool led to the discovery of microorganisms?
2. How would our lives be different if we had never realized the existence of microorganisms?
3. The microscope and numerous experiments lead to the rejection of spontaneous generation. This idea had been accepted by most people, including scientists, for over 200 years. How does this demonstrate the true nature of science?
4. Examine the timeline. How long did it take to develop the cell theory? What does this imply about the formulation of a theory?

**FCAT Practice**

1. Which of the following statements is NOT part of the Cell Theory?
   A. All cells are produced from other cells
   B. Cells can absorb food and oxygen
   C. All living things are made of cells
   D. Cells are the basic units of structure and function in all living things.

**Extra Help**