The Mystery of the Crooked Cell

Standard 1.0 Skills and Processes: Students will demonstrate the thinking and acting inherent in the practice of science.

A. Constructing Knowledge
1. Design, analyze, or carry out simple investigations and formulate appropriate conclusions based on data obtained or provided.
   c. Explain and provide examples that all hypotheses are valuable, even if they turn out not to be true, if they lead to fruitful investigations.
   f. Give examples of when further studies of the question being investigated may be necessary.
   i. Explain why accurate recordkeeping, openness and replication are essential for maintaining an investigator’s credibility with other scientists and society.

B. Applying Evidence and Reasoning
1. Review data from a simple experiment, summarize the data, and construct a logical argument about the cause and effect relationships in the experiment.
   d. Describe the reasoning that led to the interpretation of data and conclusions drawn.

Grade 7

Standard 3.0 Life Science: Students will use scientific skills and processes to explain the dynamic nature of living things, their interactions, and the results from the interactions that occur over time.

B. Cells
2. Recognize and provide examples that human beings, like other organisms have complex body systems of cells, tissues and organs that interact to support an organism’s growth and survival.
   b. Select several body systems and explain the role of cells, tissues and organs that effectively carry out a vital function for the organism, such as “breathing”.
   d. Investigate ways in which the various organs and tissues function to serve the needs of cells for food, air and waste removal.

C. Genetics
1. Explain the ways that genetic information is passed from parent to offspring in different organisms.
   a. Investigate and explain that in some kinds of organisms, all the genes come from a single parent, whereas in organisms that have sexes, typically half of the genes come from each parent.

Grade 8

D. Evolution
1. Recognize and describe that evolutionary change in species over time occurs as a result of natural variations in organisms and environmental changes.
   b. Recognize that adaptations may include variations in structures, behaviors or physiological.