Science 8 Cells, Tissues, Organs and Systems Unit

Big Idea: What are you made of?

Outcome:

CS8.3 Distinguish structural and functional relationships among cells, tissues, organs, and

 organ systems in humans and how this knowledge is important to various careers.

Understandings:

 Cells and tissues are specialized in multi-cellular organisms.

 Cells, tissues and organs are related and have needs and functions.

 There is a modern cell theory that had many contributors.

 Many careers require an understanding of cells.

 You can examine the human body in terms of systems, organs, tissues and cells and all of these

 components are unique but related.

Essential questions:

1. Why are cells specialized?
2. How are cells, tissues and organs related?
3. What are the needs and functions of cells, tissues and organs?
4. How have past and present ideas contributed to the cell theory?
5. Which careers require an understanding of cells?
6. What are humans made of?

Students need to know: (essential questions they are related to are in brackets)

Vocabulary and Concepts: composition, cells, tissues, specialized, function, need, systems

Systems: respiratory, circulatory, digestive, excretory, nervous

Tissue types: muscle, nerve, epithelial, connective

Cell theory

Past ideas about human composition (examples)

And be able to: (essential questions they are related to are in brackets)

 -Analyze why cells and tissues are specialized. (1)

 -Describe the relationship and functioning of cells, tissues and organs. (2, 3)

-Research and summarize past and present ideas that have contributed to the cell theory. (4)

-Describe some careers that require and understanding of cells. (5)

-Ask questions

-Construct a representation

-Relate needs and functions of cells and organs to the human organism.