Science 8 Cells, Tissues, Organs and Systems Unit

Big Idea: What are you made of?

Outcome:

CS8.4 Analyze how the interdependence of organ systems contributes to the healthy

 functioning of the human body.

Understandings:

* First Nations and Métis have their own perspectives on the interdependence and connectedness of human body systems and the sacredness of life.
* Various body systems work together to accomplish tasks and react to internal and external stimuli.
* Personal lifestyle choices can affect the functioning and efficiency of body systems.
* There are technologies that can support or replace ailing body systems.
* There are controversial product that are presented, through media, as healthy.
* Scientific exploration starts with questions.
* Sometimes the same experiment can give different results and analyzing the reasons is part of scientific inquiry.
* Looking at a variety of sources increases accuracy and depth of information.

Essential questions:

1. What is the First Nations and Métis perspective on the human body and sacredness of life?
2. How do the body systems work together to function?
3. How can personal lifestyle choices impact the functioning of body systems?
4. How can technologies support and replace ailing body systems?
5. What is science? (Big idea for year?)
6. How can the same experiment yield different results and what does this have to do with science?
7. What is the controversy associated with some “healthy” products?
8. How many sources are enough (ELA integration)?

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

 - Vocabulary/ Concepts: perspectives, interdependence, body system, internal stimuli, external

 stimuli, ethical, efficiency, conflicting, nutrients

-First Nations and Métis perspectives on the human body and sacredness of life. (1)

 - Human body systems work together to function. (2)

 - Personal lifestyle choices can impact the functioning of body systems. (3)

 - Technologies- pace maker, artificial hip, prosthetic limbs, artificial heart(4)

 -Stimuli – viruses, bacteria, alcohol, dust, drugs, temperature change

 -Lifestyle choices – nutrition, exercise, smoking, drugs, alcohol

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

 - Examine First Nations and Metis perspectives. (1)

 - Describe how body systems work together. (2)

 - Provide examples of how the body reacts to stimuli. (2)

 - Analyze how body systems work together and the impact of personal lifestyle choices. (2, 3)

 - Predict the impact of failure or removal of an organ from the human body. (2)

 - Discuss personal and societal issues relating to the use of technology to support ailing

 systems and the way we should maintain our body. (3, 4)

 - Design and carry out an experiment to compare and contrast body functioning during various

 levels of activity. (2)

-Ask questions and define problems.

-Analyze how organ systems work together.

-Select and synthesize information from various sources.

-Suggest explanations for discrepancies in data.

-Repeat experiments if necessary.