LG #2: Types of Reproduction

BIG IDEA: How are Cells Derived from Cells?

Learning Standards:

Fundamental Knowledge *(what I need to know)*	**Curricular Competencies** *(What I need to do)*
• I know the parts and functions of the cell • I know the cell theory • I know the purpose and process of Asexual reproduction • I know the purpose and process of Sexual Reproduction	• I can assess risks and address ethical, cultural and/or environmental issues associated with their proposed methods and those of others. • Critically analyze the validity of information in secondary sources and evaluate the approaches used to solve problems

Assessment of Learning Standards:

Have an interview to show evidence of the **Learning Standards,** or elect to take a quiz

ESSENTIALS (C/C+)

I CAN:

- ☆ **Describe** the cell theory
- ☆ **State** the purpose of asexual reproduction (cloning)
- ☆ **List and describe** type of asexual reproduction (binary fission, budding, fragmentation, spores, vegetative reproduction)
- ☆ **State** the purpose of sexual reproduction
- ☆ **Identify** types of sexual reproduction (external and internal, assisted)
- ☆ **Discuss** personal opinion of a controversial reproductive topic
- ☆ **Complete a lab to compare types of reproduction**
- ☆ **Regular Science Teacher Contact/Collaboration _____**

ADVANCED (B)

I CAN:

- ➢ **Discuss** in detail the current methods for human cloning and list all of the ethical, cultural and environmental issues
- ➢ **Compare** the advantages and disadvantages of asexual and sexual reproduction

MASTERY (A)

I CAN:

- ✓ **Argue** origin of life

Core Competencies: Choose a core competency target and set a goal

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Suggested Activities for Learning

OPTION 1

See your teacher to plan your own activities for learning. You can obtain a learning guide proposal form from the website

- ☆ **Flower dissection Lab - see handout**

OPTION 2

- ☆ Read/ watch videos on the cell theory. Suggested website: https://www.thoughtco.com/cell-theory-373300 Create a small graphic flip book to describe each part of the theory
- ☆ Watch several videos on asexual reproduction purpose, cell division and advantages/disadvantages. Take notes for a further activity.
- ☆ Watch several videos on the purpose, cell division and types and examples of sexual reproduction. Make notes to assist you in the next activity.
- ☆ Continue with your flip book from the first activity to include the following for both sexual and asexual reproduction: purpose, process, types, examples etc. Look for unique examples such as the clownfish. You can use the Reproduction Notes Scaffold from the website to assist you.
- ☆ Summarize your personal viewpoint on a controversial reproductive topic such as human cloning. See your teacher for a more detailed list.
- ☆ **Flower dissection Lab - see handout**
- ➢ Create a table to summarize the advantages and disadvantages of both sexual and asexual reproduction. Find an organism that uses both and explain specifically how is helps/hinders the organism.
- ➢ Research human cloning. Write a story about what the world would look like if human cloning were legal in Canada. Be sure to cite your authentic sources. Use the authenticity checklist in "EVAL WEBSITES PDF" on the class website, under the passion project section
- ✓ Research the origin of life story from a scientific and a story narrative (First Nations, Greek, Norse, European). See the samples on the website. Armed with this previous knowledge, create your own in a storybook (picture book, comic, diorama, quiet book, etc). Be sure to include your authentic sources and your notes from your research.

OPTION 3

- ☆ Attend the class lecture on cell theory and take notes. Summarize the parts of the theory in your own words with a short comic.
- ☆ Read and make detailed notes on p. 167-178 in the Science 9 textbook
- ☆ Read and make detailed notes on p. 204 - 220 in Science 9 textbook
- ☆ Complete the **Reproduction Note Scaffold** from the website to summarize all of the following for asexual and sexual reproduction: Purpose, process, types and examples. Look for unique examples such as the clownfish.
- ☆ Attend class on Biology reproductive controversy, participate in class and summarize your viewpoint to your teacher during your interview
- ☆ **Flower dissection Lab - see handout**
- ➢ Continue completing Reproductions Notes Scaffold from the website to summarize the advantages and disadvantages of asexual and sexual reproduction. Create an imaginary creature. Describe and explain its reproduction.
- ➢ What is your current opinion about human cloning? Find an article that provides a good argument for the opposite point of view. Discuss the view points in a "poetry slam, a letter to the government, a debate, or detailed advertisements". Be sure to list your sources and check them for authenticity. Use the authenticity checklist in "EVAL WEBSITES PDF" on the class website, under the passion project section.
- ✓ Research the origin of life story from scientific point of views. Find three theories and write a detailed essay that outlines evidence for and against the theories. Discuss which theory you believe is most accurate and why. Be sure to include a list of your authentic sources.

Reflection:

After finishing my learning activities what do I understand? How have I answered the BIG Question? What evidence do I have to show I have met these core-competencies?