THOMPSON RIVERS UNIVERSITY | Education & Social Work

Bachelor of Education (Elementary) & Bachelor of Education (Secondary) STEM Lesson Plan

Lesson Title:	Types of Asexual Reproduction	Lesson #	6	Date:	Feb-19-20
Name:	TJ Pak	Subject:	Science	Grade:	9

Rationale:

Asexual reproduction involves only one parent and the offspring are identical to the parent. There is no fertilization, the process is quite rapid and there is limited genetic variation.

Core Competencies:

Communication	Thinking	Personal & Social
• Student engagement and connection • Acquire, interpret, and present information • Explain/recount and reflect on experience and accomplishments	• Students will be able to investigate and question based on their observations and findings • Students can ask open ended questions, explore materials and actions	• Students can identify with individual characteristics • Describe/express attributes, characteristics and skills • Students can continue to develop new abilities and strengths

Big Ideas (Understand)

Bacteria reproduce by binary fission. Yeast reproduce by budding. Moulds reproduce using spores. Plants can reproduce through vegetative propagation and/or fragmentation.

Learning Standards

(DO)	(KNOW)
Learning Standards - Curricular Competencies	Learning Standards - Content
• Seek and analyze patterns, trends, and connections in data • Analyze cause and effect relationships • Consider the role of scientists in innovation • Construct, analyze and interpret graphs, models and/or diagrams	• Organisms have unique methods of reproduction based on their living environment • Cells are reproducing every minute. • Reproduction is imperative for growth and propagation of its species

Instructional Objectives & Assessment

Instructional Objectives (students will be able to…)	Assessment

• Students will be able to describe asexual reproduction and the process involved • Students will be able to describe the importance of cell division/reproduction	• Students will be required to interpret relevant data • Students will analyze information and display data in a cohesive manner such as graphs, tables or diagrams • Students will be given time to reflect on learned concepts and given feedback

Prerequisite Concepts and Skills:

Understand the advantages and disadvantages between asexual and sexual reproduction. Meaning of biodiversity. Reproduction terminology

Indigenous Connections/ First Peoples Principles of Learning:

Universal Design for Learning (UDL):

Provide written notes. Verbal instruction coupled with visual examples. Repeat instructions and follow up. Written and verbal itinerary prior to start of each class.

Differentiate Instruction (DI):

Group students based on knowledge. Tiered lessons. Provide handouts for common questions. Hands on activities and projects.

Materials and Resources

Computer for video display. Powerpoint slideshow. Fill in the blank class notes. Chrome books. Textbooks and workbooks - BC Science Connections

Lesson Activities:

Teacher Activities	Student Activities	Time
Introduction (anticipatory set – “HOOK”): Show bread with mold	Discuss student thoughts and ideas, triggered from photograph observation	(10 minutes)
Body: Brief lecture on asexual reproduction significance. Instructions on day's class activities	Watch youtube video: Asexual Reproduction (Types, Advantages, Disadvantages). https://www.youtube.com/watch?v=GJiI8poAamU. Discuss and answer questions in workbook - Importance of reproduction. Complete table and prepare graph of data interpretation.	(30 - 35 minutes)

Closure: Review learned concepts. Answer any queries and thoughtful questions. Finish with brief class discussion	Share findings, data, tables and graphs. Discuss new ideas and thoughts	(20 minutes)

Organizational Strategies:

Prepare workbooks and textbooks. Prepare laptop and video for display.

Proactive, Positive Classroom Learning Environment Strategies:

- Students struggling with ideas and understanding concepts can ask help
- Be flexible with time. If studying is going well and productive, let it go a little longer. The same applies for group and class discussion

Extensions:

Brainstorm ideas of asexual reproduction types in a variety of environmental conditions.

Reflections (if necessary, continue on separate sheet):
