

Grade 9 - Reproduction - Pre-Assessment

Purpose:

This document is for grade 9 teachers to use as a pre-assessment for the “Reproduction” unit. It assesses students understanding of the of the end of unit knowledge outcomes from the grade 8 “Cells, Tissues, Organs and Body Systems” unit.

Curriculum Comparison:

Grade 6 - Electricity	Grade 9 - Characteristics of Electricity
304-4 illustrate and explain that the cell is a living system that exhibits all the characteristics of life	304-11 illustrate and describe the basic process of cell division, including what happens to the cell membrane and the contents of the nucleus
304-6 explain that growth and reproduction depend on cell division	305-1 recognize that the nucleus of the cell contains genetic information and determines cellular process
304-5 distinguish between plant and animal cells	305-2 distinguish between sexual and asexual reproduction in representative organisms
304-8 relate the needs and functions of various cells and organs to the needs and functions of the human organisms as a whole	305-3 compare sexual and asexual reproduction in terms of their advantages and disadvantages
304-7 explain structural and functional relationships between and among cells, tissues, organs and systems in the human body	305-5 discuss factors that may lead to changes in cell's genetic information
304-9 describe the basic factors that affect the functions and efficiency of the human	

Rubric Coding:

The purpose of an assessment is not to assign a “Mark” or a “Grade”. Rather, this document demonstrates to teacher the students previous understanding of the outcome. Each question assesses on specific knowledge outcome from the grade 8 unit that precedes the grade 9 “Reproduction” unit.

Code 0 - Indicates that students do not understand the concept

Code 1 - Indicates that students understand the basic concept but either cannot elaborate in detail or have not considered more information could of been added

Code 2 - Indicates that students have a mastery of the concept.

*Please note that not all outcomes will allow for a Code 2 based on complexity.

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Grade 8 Cells, Tissues, Organs & Body Systems

Knowledge Outcomes and Curriculum Focus

304-4 illustrate and explain that the cell is a living system that exhibits all the characteristics of life

- Students should understand that cells demonstrate the basic characteristics of life: growth, locomotion, stimulus/response, and reproduction

304-6 explain that growth and reproduction depend on cell division

- Students should be able to identify and differentiate cell walls and cell membranes and the nucleus should be identified.

304-5 distinguish between plant and animal cells

- Students have an understanding of the following organelles: cell wall, cell membrane, nucleus, cytoplasm, vacuoles, and chloroplasts.
- Students should be able to differentiate plant and animal cells from the organelles present.

304-8 relate the needs and functions of various cells and organs to the needs and functions of the human organisms as a whole

304-7 explain structural and functional relationships between and among cells, tissues, organs and systems in the human body

304-9 describe the basic factors that affect the functions and efficiency of the human

** Please Note that not all knowledge outcomes from grade 8 have been assessed. Only outcomes with a direct connection to the learning in grade 9 have be included.*

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Name: _____

Teacher/Class: _____

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1. All cells, regardless of size and function, demonstrate the 4 basic characteristics of life.
Give an example of how any type of cell could meet each of the basic characteristics of life.

A. Growth

B. Locomotion

C. Stimulus/Response

D. Reproduction

2. In general terms, explain the role of the following organelles to the function of the cell (animal and/or plant) as a whole.

- Cell Membrane

- Nucleus

- Cytoplasm

- Chloroplast

- Cell Wall

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3. How would you explain the growth of an organism based on cell division? (Growth and division of the cell membrane and nucleus)

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Coding Rubric

1. All cells, regardless of size and function, demonstrate the 4 basic characteristics of life.
Give an example of how any type of cell could meet each of the basic characteristics of life.

A. Growth

0 - Any other answer

1 - Students should respond that the cell grows in size before it divides

B. Locomotion

0 - Any other answer

1 - Students should respond that depending on the type of cell they could move for example flagella or crawling motions

C. Stimulus/Response

0 - Any other answer

1 - Students should respond that cells respond to their local environment depending on their function

D. Reproduction

0 - Any other answer

1 - Students should respond that once a cell has grown to a certain size they reproduce by cell division (at this point mitosis and meiosis terms may not be understood)

2. In general terms, explain the role of the following organelles to the function of the cell (animal and/or plant) as a whole.

(304-5)

- Cell Membrane

0 - Any other answer

1 - Students should understand that it is the outside layer of the cell, it functions to keep the other organelles inside and to let certain things in and out.

- Nucleus

0 - Any other answer

1 - Students should understand that the nucleus is the "brain" of the cell (they should not know about genetic chromosomes)

- Cytoplasm

0 - Any other answer

1 - Students should understand that cytoplasm is the fluid that fills the cell

- Chloroplast

0 - Any other answer

1 - Students should understand that chloroplast are the food producers in plant cells

- Cell Wall

0 - Any other answer

1 - Students should understand that cell wall is outside protection of the plant cell from the natural environment

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3. How would you explain the growth of an organism? (Growth and division of the cell membrane and nucleus)

(304-6)

0 - Any other answer

1 - Students should respond to answer that the cell membrane grows to a certain size based on function and type of cell. At a certain point it begins to divide into two distinct cell membranes

2 - Students should respond that when the cell membrane divides the nucleus splits into two and that each new cell has the same nucleus properties (they should not fully understand genetics, so they may not respond or elaborate any further)