

Curriculum Map

1st 9 Weeks Formal Assessments

1. Unit 1 Test (CELL STRUCTURE/FUNCTION & BIOCHEMISTRY)

- a. Students will identify and describe the structure and function of the components of each cell organelle including how they work together to maintain homeostasis. (SB1a)
- b. Students will provide evidence to relate the structure of each macromolecule to its function (specifically including enzyme structure and function. (SB1c)

STANDARDS ON Unit 1 Test

CELLS	GENETICS & HEREDITY	CLASSIFICATION & PHYLOGENY	ECOLOGY	THEORY OF EVOLUTION
SB1a				
SB1c				

2. Unit 2 Test (Cell Transport)

- a. Students will describe and carry out investigations for the types of active and passive transport and explain their roles in maintaining homeostasis. (SB1d)

STANDARDS ON Unit 2 Test

CELLS	GENETICS & HEREDITY	CLASSIFICATION & PHYLOGENY	ECOLOGY	THEORY OF EVOLUTION

SB1d				
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2nd 9 Weeks Formal Assessments

3. Unit 3 Test (Cell Energy)

a. Students will describe the sub-processes of photosynthesis and cellular respiration in their explanations of how energy and matter flow through cells. (SB1e)

STANDARDS ON Unit 3 Test

CELLS	GENETICS & HEREDITY	CLASSIFICATION & PHYLOGENY	ECOLOGY	THEORY OF EVOLUTION
SB1a				
SB1e				

4. Unit 4 Test (DNA, RNA, Protein Synthesis)

a. Students will explain how the structures of DNA and RNA lead to the expression of information within the cell via the process of protein synthesis. (SB2a)

b. Students will be able to describe and create models of the processes of replication, transcription, and translation. (SB2a)

c. Students will provide evidence to support the claim that genetic variation can result from errors in DNA replication as well as the process of protein synthesis. (SB2b)

STANDARDS ON Unit 4 Test

CELLS	GENETICS & HEREDITY	CLASSIFICATION & PHYLOGENY	ECOLOGY	THEORY OF EVOLUTION
	SB2a			

	SB2b			
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5. Unit 5 Test (Cellular Reproduction)

- a. Students will provide evidence to support the claim that genetic variation can result from errors in DNA replication as well as the process of protein synthesis. (SB2b)
- b. Students will be able to explain the steps and stages of mitosis and meiosis as well as their functions in organisms. (SB1b)
- c. Students will be able to explain how cancer occurs in organisms. (SB1b)

STANDARDS ON Unit 5 Test

CELLS	GENETICS & HEREDITY	CLASSIFICATION & PHYLOGENY	ECOLOGY	THEORY OF EVOLUTION
	SB1b			
	SB2b			

6. Unit 6 Test (Mendelian Genetics)

- a. Students will use Mendel’s Laws to explain how meiosis affects reproductive variability. (SB3a)
- b. Students will be able to mathematical models to predict and explain patterns of inheritance. (SB3b)
- c. Students will be able to support a claim about the advantages and disadvantages of sexual and asexual reproduction. (SB3c)

STANDARDS ON Unit 6 Test

CELLS	GENETICS & HEREDITY	CLASSIFICATION & PHYLOGENY	ECOLOGY	THEORY OF EVOLUTION
	SB3a,b,c			

3rd 9 Weeks Formal Assessments

7. Unit 7 Test (Non-Mendelian Genetics)

- a. Students will use Mendel’s Laws to explain how meiosis affects reproductive variability. (SB3a)
- b. Students will be able to mathematical models to predict and explain patterns of inheritance. (SB3b)
- c. Students will be able to support a claim about the advantages and disadvantages of sexual and asexual reproduction. (SB3c)

STANDARDS ON Unit 7 Test

CELLS	GENETICS & HEREDITY	CLASSIFICATION & PHYLOGENY	ECOLOGY	THEORY OF EVOLUTION
	SB3a,b,c			

8. Unit 8 Test (Classification)

- a. Students will use evidence to explain the patterns in both the structures and functions among clades of organisms. (SB4a)
- b. Students will provide evidence to explain the origin of eukaryotes by the theory of endosymbiosis. (SB4a)
- c. Students will analyze and interpret data to create cladograms and phylogenetic trees that reveal relationships among organisms. (SB4b)
- d. Students will analyze cladograms and phylogenetic trees to determine relationships among organisms. (SB4b)
- e. Students will support an argument with evidence to compare and contrast viruses and organisms. (SB4c)

STANDARDS ON Unit 8 Test

CELLS	GENETICS & HEREDITY	CLASSIFICATION & PHYLOGENY	ECOLOGY	THEORY OF EVOLUTION

		SB4a,b,c		
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4th 9 Weeks Formal Assessments

9. Unit 9 Test (Evolution – 25 DAYS)

- a. Students will explain new understandings and discoveries that have influenced our understanding of biology. (SB6a)
- b. Students will analyze and interpret data to explain patterns in biodiversity that result from speciation. (SB6b)
- c. Students will provide evidence to support the theory of evolution by common descent. (SB6c)
- d. Students will develop and use models to explain changes in populations due to natural selection and genetic drift. (SB6d)
- e. Students will understand how natural selection affects biological resistance. (SB6e)

STANDARDS ON Unit 9 Test

CELLS	GENETICS & HEREDITY	CLASSIFICATION & PHYLOGENY	ECOLOGY	THEORY OF EVOLUTION
				SB6a,b,c,d,e

9. Unit 9 Test (Ecology 1)

- a. Students will understand factors that affect population biodiversity in ecosystems and analyze data that supports explanations of the factors. (SB5a)
- b. Students will develop and analyze models that represent the cycling of matter and the flow of energy in ecosystems. (SB5b)

STANDARDS ON Unit 9 Test

CELLS	GENETICS & HEREDITY	CLASSIFICATION & PHYLOGENY	ECOLOGY	THEORY OF EVOLUTION
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			SB5a,b	
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10. Unit 10 Test (Ecology 2)

- a. Students will justify their predictions for ecosystem stability following environmental changes. (SB5c)
- b. Students will design solutions to reduce the impact of human activity on the environment. (SB5d)
- c. Students will determine the impact of environmental changes on organisms and justify predictions for organisms' ability to survive changes in their environments. (SB5e)

STANDARDS ON Unit 10 Test

CELLS	GENETICS & HEREDITY	CLASSIFICATION & PHYLOGENY	ECOLOGY	THEORY OF EVOLUTION
			SB5c,d,e	