Brandon Valley School District
Science
Scope and Sequence
Grade: 7

Quarter 1

Timeline (month/days)	Standard(s)
4 weeks	**MS-LS1-1** Plan and carry out an investigation to provide evidence that living things are made of cells; either one cell or many different types and numbers of cells. **MS-LS1-2** Develop and use a model to describe the function of a cell as a whole and ways parts of cells contribute to the function.
1 week	**MS-LS1-2** Develop and use a model to describe the function of a cell as a whole and ways parts of cells contribute to the function. (mitosis)(spiral review questions for next year)
4 weeks	**MS-LS3-1** Develop and use a model to describe why structural changes to genes (mutations) located on chromosomes may affect proteins and may result in harmful, beneficial, or neutral effects to the structure and function of the organism. **MS-LS3-2** Develop and use a model to describe why asexual reproduction results in offspring with identical genetic information and sexual reproduction results in offspring with genetic variation.(need to add something to differentiate between asexual & sexual) **MS-LS4-5** Obtain, evaluate, and communicate information about how technological advances have changed the way humans influence the inheritance of desired traits in organisms.

Quarter 2

Timeline (month/days)	Standard(s)
2 weeks	**MS-LS4-1** Analyze and interpret data for patterns in the fossil record that document the existence, diversity, extinction, and change of life forms throughout the history of life on Earth. **MS-LS4-2** Apply scientific ideas to construct an explanation for similarities and differences among modern organisms and between modern and fossil organisms to infer evolutionary relationships.
3 weeks	**MS-LS3-2** Develop and use a model to describe why asexual reproduction results in offspring with identical genetic information and sexual reproduction results in offspring with genetic variation. (bacteria, viruses, taxonomy key) **MS-LS1-5** Construct a scientific explanation based on evidence for how environmental and genetic factors influence the growth of organisms.
1 week	**MS-LS1-1** Plan and carry out an investigation to provide evidence that living things are made of cells; either one cell or many different types and numbers of cells. **MS-LS1-2** Develop and use a model to describe the function of a cell as a whole and ways parts of cells contribute to the function. (protists & fungi) **MS-LS2-4** Construct an argument supported by empirical evidence that changes to physical or biological components of an ecosystem affect populations.
3 weeks	**MS-LS1-3** Construct an argument supported by evidence for how the body is a system of interacting subsystems composed of groups of cells

	MS-LS1-7 Develop a model to describe how food is rearranged through chemical reactions forming new molecules that support growth and/or release energy as this matter moves through an organism. (digestive/respiratory systems)

Quarter 3

Timeline (month/days)	Standard(s)
4 weeks	**MS-LS1-3** Construct an argument supported by evidence for how the body is a system of interacting subsystems composed of groups of cells. (human body systems) **MS-LS2-4** Construct an argument supported by empirical evidence that changes to physical or biological components of an ecosystem affect populations. (respiratory, nervous system)
5 weeks	**MS-LS4-2** Apply scientific ideas to construct an explanation for similarities and differences among modern organisms and between modern and fossil organisms to infer evolutionary relationships. (emphasize evolutionary relationships between organisms for Mastery) **MS-LS4-4** Construct an explanation based on evidence that describes how genetic variations of traits in a population increase some individuals' probability of surviving and reproducing in a specific environment. (dissections - not including clam & starfish) **MS-LS1-4** Construct an argument based on empirical evidence and scientific reasoning to support an explanation for how characteristic animal behaviors and specialized plant structures affect the probability of successful reproduction of animals and plants respectively. (rethink because this is mitosis & meiosis; protists & plants)

Quarter 4

Timeline (month/days)	Standard(s)
2 weeks	**MS-LS1-4** Construct an argument based on empirical evidence and scientific reasoning to support an explanation for how characteristic animal behaviors and specialized plant structures affect the probability of successful reproduction of animals and plants respectively.(*fish*) **MS-LS4-6** Use mathematical representations to support explanations of how natural selection may lead to increases and decreases of specific traits in populations over time. (Amanda's Great Lakes activity)
1 week	**MS-LS1-5** Construct a scientific explanation based on evidence for how environmental and genetic factors influence the growth of organisms. (prairie precipitation) (include mathematical representations regarding buffalo or prairie dogs)
4 weeks	**MS-LS2-1** Analyze and interpret data to provide evidence for the effects of resource availability on organisms and populations of organisms in an ecosystem. (ecology) (life cycle of the chicken nugget) **MS-LS2-3** Develop a model to describe the cycling of matter and flow of energy among living and nonliving parts of an ecosystem. (squirrel island) **MS-LS2-2** Construct an explanation that predicts patterns of interactions among organisms across multiple ecosystems. **MS-LS2-5** Evaluate competing design solutions for maintaining biodiversity and ecosystem services.

2 weeks	**MS-LS1-6** Construct a scientific explanation based on evidence for the role of photosynthesis in the cycling of matter and flow of energy into and out of organisms. (plants) **MS-LS1-4** Construct an argument based on empirical evidence and scientific reasoning to support an explanation for how characteristic animal behaviors and specialized plant structures affect the probability of successful reproduction of animals and plants respectively.

*Pink-priority, Yellow-supporting, Green-supplementary.
*42 minute class periods.

Notes Q1 Common curriculum materials: vendor/pg number, common assessments, common intervention/enrichment activities, other •
Notes Q2 •
Notes Q3 •
Notes Q4 •