



# M/J Life Science (Course #2000010 Advanced #2000020)



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[Calendar](#)



[Assessments & Remediation](#)



[Supports](#)



[Feedback](#)

| Quarter  | Big Idea   | Benchmark Description   | Suggested Pacing Days* | Assessments  |
|--|--|---|------------------------|--|
| First Quarter<br>(39 days)   | Organization and Development of Living Organisms   | 1 <a href="#">SC.6.L.14.2</a> - Components of the scientific theory of cells (cell theory): all organisms are composed of cells (single-celled or multicellular), all cells come from pre-existing cells, and cells are the basic unit of life.   | 4                      | <a href="#">Exemplar 1A</a><br><a href="#">Exemplar 1B</a> |
|  |  | 2 <a href="#">SC.6.L.14.2</a> , <a href="#">SC.6.L.14.4</a> - Structure and function of major organelles of plant and animal cells, including cell wall, cell membrane, nucleus, cytoplasm, chloroplasts, mitochondria, and vacuoles.   | 8                      |  |
|  |  | 3 <a href="#">SC.6.L.14.3</a> - Cells maintain homeostasis, including extracting energy from food, getting rid of waste, and reproducing.   | 3                      |  |
|  |  | 4 <a href="#">SC.6.L.14.1</a> , <a href="#">SC.6.L.14.5</a> - Hierarchical organization of organisms from atoms to molecules and cells to tissues to organs to organ systems to organisms. General functions of the major systems of the human body and describe ways these systems interact with each other to maintain homeostasis.   | 5<br>(20 days)         | <a href="#">Exemplar 2A</a><br><a href="#">Exemplar 2B</a> |
|  |  | 5 <a href="#">SC.6.L.14.6</a> - Types of infectious agents that may infect the human body, including viruses, bacteria, fungi, and parasites.   | 3                      |  |
| Second Quarter<br>(36 days)  | Heredity and Reproduction  | 6 <a href="#">SC.7.L.16.1</a> , <a href="#">SC.7.L.16.3</a> , <a href="#">SC.7.L.16.4</a> Every organism requires a set of instructions that specifies its traits, that this hereditary information (DNA) contains genes located in the chromosomes of each cell, and that heredity is the passage of these instructions from one generation to another. General processes of sexual reproduction requiring meiosis and asexual reproduction requiring mitosis. | 6                      | <a href="#">Exemplar 3A</a><br><a href="#">Exemplar 3B</a> |
|  |  | 7 <a href="#">SC.7.L.16.2</a> - Probabilities for genotype and phenotype combinations using Punnett squares and pedigrees.  | 6                      |  |
|  | Diversity and Evolution of Living Organisms  | 8 <a href="#">SC.7.L.15.2</a> , <a href="#">SC.7.L.15.3</a> - Theory of evolution by recognizing and explaining ways in which genetic variation and environmental factors contribute to evolution by natural selection and diversity of organisms and how the inability of a species to adapt within a changing environment may contribute to the extinction of that species.   | 5<br>(20 days)         | <a href="#">Exemplar 4A</a><br><a href="#">Exemplar 4B</a> |
| 9 SC.7.L.15.1 - Fossil evidence is consistent with the scientific theory of evolution that living things evolved from earlier species. |  | 5   |                        |  |
| Third Quarter<br>(34 days)   | Interdependence  | 10 <a href="#">SC.6.L.15.1</a> - Organisms are classified according to shared characteristics, with emphasis on the Linnaean system combined with the concept of Domains.   | 5                      | Exemplar 5A<br>Exemplar 5B                                 |
|  |  | 11 SC.7.L.17.3 - Limiting factors in the local ecosystem and their impact on native populations, including food, shelter, water, space, disease, parasitism, predation, and nesting sites.  | 5                      | Exemplar 6A<br>Exemplar 6B                                 |
|  | 12 SC.7.L.17.1 - Roles of and relationships among producers, consumers, and decomposers in the process of energy transfer in a food web. | 5<br>(20 days)  |                        |  |
| Fourth Quarter<br>(27 days)**  | Matter and Energy Transformation   | 13 <a href="#">SC.7.L.17.2</a> - The relationships among organisms, such as mutualism, predation, parasitism, competition, and commensalism.  | 5                      | Exemplar 7A<br>Exemplar 7B<br>(Optional)                   |
|  |  | 14 SC.8.L.18.1 - Process of photosynthesis, such as the roles of light, carbon dioxide, water, and chlorophyll; production of food; and release of oxygen.  | 5                      |  |
|  |  | 15 SC.8.L.18.2 - Cellular respiration breaks down food to provide energy and releases carbon dioxide.   | 4                      |  |
|  |  | 16 <a href="#">SC.8.L.18.4</a> , <a href="#">SC.8.L.18.3</a> - Evidence that living systems follow the Laws of Conservation of Mass and Energy and model how carbon cycle to show how matter and energy are continuously transferred within and between organisms and their physical environment  | 4<br>(18 days)         |  |
| <a href="#">Instructional Review</a>   |  |   |                        |  |

\*The days provided for each unit/topic is an estimate that may be adjusted by subject-level PLCs based on student achievement data. The days are based upon every other day scheduling and should be adjusted, if necessary, based upon a daily format. The recommended days shown are less than the actual days for each quarter to allow for additional time for routines, testing, absences, remediation and outside considerations.

\*\* This does not include the days in May or June due to testing schedules and end of year events.