8th Grade Science * Quick Reference Pacing Guide * 2024-2025

Note: This document is meant to be a quick reference of the standards covered each nine weeks. For a complete description of the course, standards and performance objectives, see the MS College and Career Readiness Standards for Science.

1st Term: Aug. 1 - Oct. 4	2nd Term: Oct. 15 - Dec. 20	3rd Term: Jan. 7 - Mar 7	4th Term: March 17 - May 23
July 25-26;29-31 - Staff Development *Aug. 1 - First Day of School* *Sept 2 -Labor Day/Holiday* *Oct. 7-11 - School Holiday/Fall Break* *Oct. 14 - Staff Development*	*Nov. 25-29 - Thanksgiving Break* *Dec. 16 - 20 - Exams* *Dec. 20 - Reduced Day* *Dec. 23 - Jan. 3 - Christmas Break*	*Jan. 6 - Staff Development* *Jan. 7 - Students Return* *Jan. 20 - MLK Day/Holiday* *Feb. 17 - Presidents' Day/Holiday* *March 10 - 14 - Spring Break*	*April 18, 21 - Easter/Holiday* ***STATE TESTING Window opens mid-April**** *May 19-23 - Exams* *May 23 - Reduced Day* *May 23 - Last Teacher Day*
Science and Engineering Practices Scientific Inquiry; Data Organization; Data as evidence Argumentation (Claim Evidence Reasoning) **The above skills and concepts should be embedded in lessons throughout the year.* **Light waves** *P.8.6.1 (collect data; construct explanations)* *P.8.6.3 (conduct simple investigations)* *P.8.6.6 (explain behavior of light waves in various materials)* **Sound Waves** *P.8.6.1 (collect data; construct explanations)* *P.8.6.4 (investigate sound as a wave phenomenon)* *P.8.6.5 (investigate sound)* **Behavior of Waves/Applications** *P.8.6.2 (capturing and converting wave energy into electrical energy)* *P.8.6.7 (wave technology)* *P.8.6.8 (compare and contrast behavior of sound and light waves)* **Cell Organelles** (Review as needed) **Cell Division/Reproduction** *L.8.2A.1 (genes, chromosomes, DNA)* *L.8.2A.2 (mitosis/asexual reproduction; advantages and disadvantages)* *L.8.2A.3 (meiosis)* *L.8.2A.4 (sexual reproduction/genetic variation)* *L.8.2A.5 (compare/contrast asexual/sexual reproduction*	***Cell Division/Reproduction continued…*** **Protein Synthesis/Mutations** *L.8.2C.1 (chromosomes, genes, protein production, mutations, traits)* *L.8.2C.2 (arguments/claims of pros and cons of genetic mutations)* **Genetics** *L.8.2B.1 (inherited vs acquired traits)* *L.8.2B.2 (Mendelian genetics; basic principles of heredity)* *L.8.2B.3 (Punnett squares)* *L.8.2B.4 (debate the ethics of artificial selection)* **Natural Selection/Evolution** *L.8.4A.1 (Darwin; principles of natural selection)* *L.8.4A.2 (natural selection)* *L.8.4B.1 (how natural selection may increase or decrease specific traits in a population over time)* *L.8.4B.2 (construct scientific explanation on how natural selection may increase or decrease specific traits in a population over time)* *L.8.4B.3 (speciation)* *L.8.4B.4 (comparing embryological, homologous and analogous structures to identify relationships)* **Benchmark 1 Window = TBD**	**History of Earth** *E.8.7.2 (rock cycle as it relates to the fossil record)* *E.8.7.1 (timeline of Earth's history using fossil and rocks)* *E.8.7.3 (fossils; diversity of life past and present)* *E.8.7.4 (process of evolution- gradual and/or punctuated)* **Plate Tectonics/Geological Events** *E.8.9A.1 (cycling of matter)* *E.8.9A.2 (theories of plate tectonics)* *E.8.9A.3 (fossil/rock evidence)* *E.8.9A.4 (constructive; destructive processes)* *E.8.9A.5 (convergent/divergent plate movements)* *E.8.9A.6 (formation of soils)* *E.8.9A.7 (surface and groundwater)* **Benchmark 2 Window = TBD**	**Natural Hazards** *E.8.9B.1 (natural hazards)* *E.8.9B.2 (predicting natural hazards)* *E.8.9B.3 (design safeguards against a natural hazard* **Earth's Resources** *E.8.10.1 (renewable and nonrenewable resources)* *E.8.10.2 (human impacts on the environment)* *E.8.10.3 (debate advantages and disadvantages of technological advancements in renewable energy)* *E.8.10.4 (design a system to capture and distribute thermal energy)* **Review for State Assessment** **State Testing Window = TBD**