Fall Semester

Standard Bundles	8th	Assessment Boundaries observed (grade level)	Assessment Boundaries removed (honors)
Physical/Chemical Properties and Changes **MS-PS1-3 included in standard bundle but not identified here.* District Resource: Chemical Reaction in a Bag Instructional Days: **30**	**MS-PS1-5**: Develop and use a model to describe how the total number of atoms does not change in a chemical reaction and thus mass is conserved.	Assessment does **not** include the use of atomic masses or intermolecular forces. (Students are not required to balance chemical reactions, but will be required to recognize that a chemical reaction is balanced.)	Assessment will include the balancing of chemical reactions.
	MS-PS1-6: Undertake a design project to construct, test, and modify a device that either releases or absorbs thermal energy by chemical processes.	Assessment is limited to the criteria of amount, time, and temperature of substance in testing the device.	Assessment will require students to include a cost analysis for their design.
	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.	Assessment does **not** include details of the chemical reactions for photosynthesis or respiration.	Assessment will include the balanced chemical reaction details for photosynthesis and respiration. (Example: (i.e. $6CO_2 + 6H_20 +$ energy $\longleftrightarrow C_6H_{12}O_6 + 6O_2$).
Waves and their Application for Information Transfer Instructional Days: **20**	**MS-PS4-1**: Use mathematical representations to describe a simple model for waves that includes how the amplitude of a wave is related to the energy in a wave.	Assessment does **not** include electromagnetic waves and is limited to standard repeating waves.	Assessment will include electromagnetic waves.
	MS-PS4-2: Develop and use a model to describe that waves are reflected, absorbed, or transmitted through various materials.	Assessment is limited to qualitative applications pertaining to light and mechanical waves.	Assessment will include quantitative considerations such as law of reflection or refractive indices.
	MS-PS4-3: Integrate qualitative scientific and technical information to support the claim that digitized signals (sent as wave pulses) are a more reliable way to encode and transmit information.	Assessment does **not** include binary counting. Assessment does not include the specific mechanism of any given device.	
Plate Tectonics and Catastrophic Events Instructional Days: **30**	**MS-PS4-1**: Use mathematical representations to describe a simple model for waves that includes how the amplitude of a wave is related to the energy in a wave.	Assessment does **not** include electromagnetic waves and is limited to standard repeating waves.	Assessment will include electromagnetic waves.
	MS-ESS2-3: Analyze and interpret data on the distribution of fossils and rocks, continental shapes, and seafloor structures to provide evidence of the past plate motions.	Paleomagnetic anomalies in oceanic and continental crust are not assessed.	General information regarding the paleomagnetic striping of the oceanic crust may be assessed.
	MS-ESS3-2: Analyze and interpret data on natural hazards to forecast future catastrophic events and inform the development of technologies to mitigate their effects.	No assessment boundary provided. ***BAPS - Students will construct quake proof houses/buildings***.	Students are required to construct quake proof structures that contain **a liquid**. (i.e. modeling the containment of oil facilities, etc.)

Spring Semester

Standard Bundles	8th	Assessment Boundaries observed (grade level)	Assessment Boundaries removed (honors)
Cycles and Energy Flow Instructional Days: **30**	MS-ESS2-1: Develop a model to describe the cycling of Earth's materials and the flow of energy that drives this process.	Assessment does **not** include the identification and naming of minerals.	Students will interrelate systems by making claims based on evidence on how one system affects another.
	MS-ESS2-2: Construct an explanation based on evidence for how geoscience processes have changed Earth's surface at varying time and spatial scales.	No assessment boundaries provided.	Students will review patterns to predict future changes to prevent disasters (i.e. mitigating flood plains, erosion, etc.)
	MS-ESS3-2: Analyze and interpret data on natural hazards to forecast future catastrophic events and inform the development of technologies to mitigate their effects.	No assessment boundaries provided.	Assessment may include student designs that require mitigation of erosion and weathering to reduce the probability of catastrophic events.
Geological Time Scale and Fossils District Resource: Diversity of Life Fossil Replica Set, Plastic Fossil Collection Instructional Days: **25**	MS-ESS1-4: Construct a scientific explanation based on evidence from rock strata for how the geologic time scale is used to organize Earth's geologic history.	Assessment does **not** include recalling the names of specific periods or epochs and events within them.	
	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 under the assumption that natural laws operate today as in the past.	Assessment does **not** include the names of individual species or geological eras in the fossil record.	
	MS-LS4-2: Apply scientific ideas to construct an explanation for the anatomical similarities and differences among modern organisms and between modern and fossil organisms to infer ancestral relationships.	No assessment boundaries provided.	

Spring Semester

Standard Bundles	8th	Assessment Boundaries observed (grade level)	Assessment Boundaries removed (honors)
Earth and Human Activity **MS-PS1-3 not included in standard bundle but identified here.* Instructional Days: **20**	**MS-PS1-3**: Gather and make sense of information to describe that synthetic materials come from natural resources and impact society.	Not assessed at state level.	
	MS-ESS3-1: Construct a scientific explanation based on evidence for how the uneven distributions of Earth's mineral, energy, and groundwater resources are the results of past and current geoscience processes.	No assessment boundaries provided.	Student assessment may include interdisciplinary approach that includes how resource availability affects economy, culture, and/or language.
	MS-ESS3-4: Construct an argument supported by evidence for how increases in human population and per-capita consumption of natural resources impact Earth's systems.	No assessment boundaries provided.	Student assessment may include improving existing application of renewable resources, a proposal to supplement a nonrenewable resource, or any associated research.
Motion and Forces Instructional Days: **25**	**MS-PS2-1**: Apply Newton's Third Law to design a solution to a problem involving the motion of two colliding objects.	Assessment is limited to vertical or horizontal interactions in one dimension.	Assessment *may* include estimations of movement for macroscopic bodies moving in two dimensions.
	MS-PS2-2: Plan an investigation to provide evidence that the change in an object's motion depends on the sum of the forces on the object and the mass of the object.	Assessment is limited to forces and changes in motion in one-dimension in an inertial reference frame and to change in one variable at a time. Assessment does not include the use of trigonometry.	Student assessment will include the application of the formula for Newton's Second Law (Force = Mass x Acceleration). May have interdisciplinary collaboration with Algebra and consider the equation in terms of slope.