



Lowell Public Schools
Grade K-8 Current Massachusetts Curriculum Framework for Science

Grade 8		September	October	November	December	January	February	March	April	May	June
Massachusetts State Standards Grade 8											
Earth Science (FOSS Unit: Planetary Science)											
8.MS-ESS1-1b. Develop and use a model of the Earth-Sun system to explain the cyclical pattern of seasons, which includes Earth’s tilt and differential intensity of sunlight on different areas of Earth across the year.	8				x	x					
8.MS-ESS1-2. Explain the role of gravity in ocean tides, the orbital motions of planets, their moons, and asteroids in the solar system.	8				x	x					
Life Science FOSS Unit: Heredity and Adaptations											
8.MS-LS1-5. Construct an argument based on evidence for how environmental and genetic factors influence the growth of organisms	8						x	x	x	x	x



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Massachusetts State Standards											
8.MS-LS3-2. Construct an argument based on evidence for how asexual reproduction results in offspring with identical genetic information and sexual reproduction results in offspring with genetic variation. Compare and contrast advantages and disadvantages of asexual and sexual reproduction.	8							X	X	X	X
8.MS-LS3-3(MA). Communicate through writing and in diagrams that chromosomes contain many distinct genes and that each gene holds the instructions for the production of specific proteins, which in turn affects the traits of an individual.	8							X	X	X	X
8.MS-LS3-4(MA). Develop and use a model to show that sexually reproducing organisms have two of each chromosome in their cell nuclei, and hence two variants (alleles) of each gene that can be the same or different from each other, with one random assortment of each chromosome passed down to offspring from both parents.	8							X	X	X	X
8.MS-LS4-5. Synthesize and communicate information about artificial selection, or the ways in which humans have changed the inheritance of desired traits in organisms.	8							X	X	X	X



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Physical Science (FOSS Unit: Chemical Interactions)											
8.MS-PS1-1. Develop a model to describe that (a) atoms combine in a multitude of ways to produce pure substances which make up all of the living and nonliving things that we encounter, (b) atoms form molecules and compounds that range in size from two to thousands of atoms, and (c) mixtures are composed of different proportions of pure substances.	8	x	x	x							
8.MS-PS1-2. Analyze and interpret data on the properties of substances before and after the substances interact to determine if a chemical reaction has occurred.	8	x	x	x							
8.MS-PS1-4. Develop a model that describes and predicts changes in particle motion, relative spatial arrangement, temperature, and state of a pure substance when thermal energy is added or removed.	8	x	x	x							
8.MS-PS1-5. Use a model to explain that atoms are rearranged during a chemical reaction to form new substances with new properties. Explain that the atoms present in the reactants are all present in the products and thus the total number of atoms is conserved.	8	x	x	x							