Planning Guide For Grade 7 Life Science

Topic	PWC Objective(s)	Supporting SOL	Suggested Time Allocation	VA SOL Reporting Category
Proficiency with Science Skills	LS-1(a) / Infused Experimental methods: define variables; use metric units; construct models; identify sources of error; identify variables and constants; control variables to test hypotheses; repeat trials	LS.1 b-g	4 weeks (infused throughout with content-specific objectives)	Scientific Investigation
	LS-1(b) / Infused Organize and communicate data: organize data tables; construct and interpret continuous line graphs; evaluate and defend interpretations of data; develop and reinforce an understanding of the nature of science	LS.1 a, h-j		
Cell Structure and Function	LS-2 Cell structure and organelles; similarities / differences in plant and animal cells; cell theory	LS.2 a-c	3 weeks	Life Systems
	LS-3 Cellular organization: cells, tissues, organs, systems; life functions and processes of cells	LS.3 a-b	2 weeks	
	LS-4 Basic needs of organisms and factors that affect life processes	LS.4 a-c	1 week	
Photosynthesis	LS-5 Energy transfer between sunlight and chlorophyll; transformation of water and carbon dioxide into sugar and oxygen; photosynthesis as foundation of food webs	LS.6 a-c	1 week	Life Systems
Cell Division	LS-6 Cell cycle; mitosis; meiosis	LS.2 d	1 week	Life Systes
DNA and Heredity	LS-7 Role of DNA; function of genes and chromosomes; factors that affect trait expression; inheritable traits and those that are not inherited; genetic engineering; historical contributions	LS.13 a-g	2 weeks	Life Systems
Evolution and Genetic Variation	LS-8 Relationships of mutation, adaptation, natural selection, extinction; evidence of evolution; how environmental influences lead to diversity	LS.14 a –c	2 weeks	Life Systems
Classification	LS-9 Distinguishing characteristics among kingdoms of organisms and major plant and animal phyla; characteristics of the species	LS.5 a-c	4 weeks	Life Systems
Ecology	LS-10 Interactions in ecosystems: cycles, interactions and energy flow through the system	LS.7 a-c	4 weeks	Ecosystems
	LS-11 Interactions among members of a population: competition, cooperation, social hierarchy, territorial imperative	LS.8 a-b	3 weeks	

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(continued) Ecology	LS-12 Interactions among populations: relationships of producers, consumers, decomposers in food webs; relationship of predators and prey; competition and cooperation; symbiotic relationships; niches	LS.9 a-e	3 weeks	Ecosystems
	LS-13 Abiotic and biotic factors in ecosystems; biomes; adaptations of organisms in ecosystems	LS.10 a-c	2 weeks	
	LS-14 Daily, seasonal, and long-term changes in ecosystems	LS.11 a-c	2 weeks	
	LS-15 Relationship between ecosystem dynamics and human activity: changes in habitat size, quality structure; food production and harvest; competition; population disturbances; environmental issues	LS.12 a-e	2 weeks	