Sixth Grade Science Curriculum Map

Note: The following timeline and sequence is meant to be a guide only and is subject to change.

(Revised 2008-09 school year)

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Grade Level Content Expectations	1st Trimester			2nd Trimester			3rd Trimester			Ongoing
	Sept	Oct	Nov	Dec	Jan	Feb	Mar	Apr	May	
S.IP.06.11 Generate scientific questions based on observations, investigations, and research.										X
S.IP.06.12 Design and conduct scientific investigations.										X
S.IP.06.13 Use tools and equipment (spring scales, stop watches, meter sticks and tapes, models, hand lens, thermometer, models, sieves, microscopes) appropriate to scientific investigations.										X
S.IP.06.14 Use metric measurement devices in an investigation.										X
S.IP.06.15 Construct charts and graphs from data and observations.										X
S.IP.06.16 Identify patterns in data.										X
S.IA.06.11 Analyze information from data tables and graphs to answer scientific questions.										X
S.IA.06.12 Evaluate data, claims, and personal knowledge through collaborative science discourse.										X
S.IA.06.13 Communicate and defend findings of observations and investigations using evidence.										X
S.IA.06.14 Draw conclusions from sets of data from multiple trials of a scientific investigation.										X
S.IA.06.15 Use multiple sources of information to evaluate strengths and weaknesses of claims, arguments, or data.										X
S.RS.06.11 Evaluate the strengths and weaknesses of claims, arguments, and data.										X
S.RS.06.12 Describe limitations in personal and scientific knowledge.										X
S.RS.06.13 Identify the need for evidence in making scientific decisions.										X
S.RS.06.15 Demonstrate scientific concepts through various illustrations, performances, models, exhibits, and activities.										X
S.RS.06.16 Design solutions to problems using technology.										X

S.RS.06.17 Describe the effect humans and other organisms have on the balance in the natural world.																			X
S.RS.06.19 Describe how science and technology have advanced because of the contributions of many people throughout history and across cultures.																			X
P.CM.06.11 Describe and illustrate changes in state, in terms of the arrangement and relative motion of the atoms or molecules.	X																		
P.CM.06.12 Explain how mass is conserved as it changes from state to state in a closed system.	X																		
P.EN.06.11 Identify kinetic or potential energy in everyday situations (for example: stretched rubber band, objects in motion, ball on a hill, food energy).		X																	
P.EN.06.12 Demonstrate the transformation between potential and kinetic energy in simple mechanical systems (for example: roller coasters, pendulums).		X																	
P.EN.06.41 Explain how different forms of energy can be transferred from one place to another by radiation, conduction, or convection.			X																
P.EN.06.42 Illustrate how energy can be transferred while no energy is lost or gained in the transfer.			X																
E.SE.06.13 Describe how soil is a mixture, made up of weather eroded rock and decomposed organic material.						X	X												
E.SE.06.14 Compare different soil samples based on particle size and texture.						X	X												
E.SE.06.11 Explain how physical and chemical weathering lead to erosion and the formation of soils and sediments.								X	X										
E.SE.06.12 Explain how waves, wind, water, and glacier movement, shape and reshape the land surface of the Earth by eroding rock in some areas and depositing sediments in other areas.								X	X										
E.ST.06.31 Explain how rocks and fossils are used to understand the age and geological history of the earth (timelines and relative dating, rock layers).									X										
E.ST.06.41 Explain how Earth processes (erosion, mountain building, and glacier movement) are used for the measurement of geologic time through observing rock layers.									X										
E.ST.06.42 Describe how fossils provide important evidence of how life and environmental conditions have changed.									X										

E.SE.06.41 Compare and contrast the formation of rock types (igneous, metamorphic, and sedimentary) and demonstrate the similarities and differences using the rock cycle model.										X	X								
E.SE.06.51 Explain plate tectonic movement and how the lithospheric plates move centimeters each year.											X								
E.SE.06.52 Demonstrate how major geological events (earthquakes, volcanic eruptions, mountain building) result from these plate motions.											X								
E.SE.06.53 Describe layers of the Earth as a lithosphere (crust and upper mantle), convecting mantle, and dense metallic core.												X							
E.SE.06.61 Describe the Earth as a magnet and compare the magnetic properties of the Earth to that of a natural or man-made magnet.												X	X						
E.SE.06.62 Explain how a compass works using the magnetic field of the Earth, and how a compass is used for navigation on land and sea.												X	X						
L.EC.06.11 List examples of populations, communities, and ecosystems including the Great Lakes region.														X	X	X			
L.EC.06.21 Describe common patterns of relationships between and among populations (competition, parasitism, symbiosis, predator/prey).														X	X	X			
L.EC.06.22 Explain how two populations of organisms can be mutually beneficial and how that can lead to interdependency.														X	X	X			
L.EC.06.23 Predict how changes in one population might affect other populations based upon their relationships in the food web.														X	X	X			
L.EC.06.31 Identify the living (biotic) and nonliving (abiotic) components of an ecosystem.																	X		
L.EC.06.32 Identify the factors in an ecosystem that influence changes in population size.																	X		
L.OL.06.51 Classify organisms (producers, consumers, and decomposers) based on their source of energy for growth and development.																		X	
L.OL.06.52 Distinguish between the ways in which consumers and decomposers obtain energy.																		X	
L.EC.06.41 Describe how human beings are part of the ecosystem of the Earth and that human activity can purposefully, or accidentally, alter the balance in ecosystems.																		X	
L.EC.06.42 Predict possible consequences of overpopulation of organisms, including humans, (for example: species extinction, resource depletion, climate change, pollution).																		X	