

LARKSPUR SCHOOL DISTRICT
 CALIFORNIA SCIENCE ACADEMIC CONTENT STANDARDS
 GRADE LEVEL: SIX

Introduce Develop Master	Content Standards	Assessment	Instructional Strategies	Instructional Resources
	Focus on Earth Science			
	Plate Tectonics and Earth's Structure 1. Plate tectonics accounts for important features of Earth's surface and major geologic events. As a basis for understanding this concept:	1-18 (all)	1-19 (all)	GEMS Guide "Plate Tectonics"
D/M	a. Students know evidence of plate tectonics is derived from the fit of the continents; the location of earthquakes, volcanoes, and midocean ridges; and the distribution of fossils, rock types, and ancient climatic zones.	1-18 (all)	1-19 (all)	GEMS Guide "Plate Tectonics"
D/M	b. Students know Earth is composed of several layers: a cold, brittle lithosphere; a hot, convecting mantle; and a dense, metallic core.	1-18 (all)	1-19 (all)	GEMS Guide "Plate Tectonics"
I	c. Students know lithospheric plates the size of continents and oceans move at rates of centimeters per year in response to movements in the mantle.	1-18 (all)	1-19 (all)	GEMS Guide "Plate Tectonics"
D/M	d. Students know that earthquakes are sudden motions along breaks in the crust called faults and that volcanoes and fissures are locations where magma reaches the surface.	1-18 (all)	1-19 (all)	GEMS Guide "Plate Tectonics"
D/M	e. Students know major geologic events, such as	1-18 (all)	1-19 (all)	GEMS Guide "Plate

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	earthquakes, volcanic eruptions, and mountain building, result from plate motions.			Tectonics”
D/M	f. Students know how to explain major features of California geology (including mountains, faults, volcanoes) in terms of plate tectonics.	1-18 (all)	1-19 (all)	GEMS Guide “Plate Tectonics”
I/D/M	g. Students know how to determine the epicenter of an earthquake and know that the effects of an earthquake on any region vary, depending on the size of the earthquake, the distance of the region from the epicenter, the local geology, and the type of construction in the region.	1-18 (all)	1-19 (all)	GEMS Guide “Plate Tectonics”
	Shaping Earth's Surface 2. Topography is reshaped by the weathering of rock and soil and by the transportation and deposition of sediment. As a basis for understanding this concept:	1-18 (all)	1-19 (all)	FOSS Earth History Course
D/M	a. Students know water running downhill is the dominant process in shaping the landscape, including California's landscape.	1-18 (all)	1-19 (all)	FOSS Earth History Course
D/M	b. Students know rivers and streams are dynamic systems that erode, transport sediment, change course, and flood their banks in natural and recurring patterns.	1-18 (all)	1-19 (all)	FOSS Earth History Course
D/M	c. Students know beaches are dynamic systems in which the sand is supplied by rivers and moved along the coast by the action of waves.	1-18 (all)	1-19 (all)	FOSS Earth History Course
D/M	d. Students know earthquakes, volcanic eruptions, landslides, and floods change human and wildlife habitats.	1-18 (all)	1-19 (all)	FOSS Earth History Course
	Heat (Thermal Energy) (Physical Science)	1-18 (all)	1-19 (all)	FOSS Weather & Water

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	3. Heat moves in a predictable flow from warmer objects to cooler objects until all the objects are at the same temperature. As a basis for understanding this concept:			Course
I/D	a. Students know energy can be carried from one place to another by heat flow or by waves, including water, light and sound waves, or by moving objects.	1-18 (all)	1-19 (all)	FOSS Weather & Water Course
I/D	b. Students know that when fuel is consumed, most of the energy released becomes heat energy.	1-18 (all)	1-19 (all)	FOSS Weather & Water Course
I/D	c. Students know heat flows in solids by conduction (which involves no flow of matter) and in fluids by conduction and by convection (which involves flow of matter).	1-18 (all)	1-19 (all)	FOSS Weather & Water Course
I/D	d. Students know heat energy is also transferred between objects by radiation (radiation can travel through space).	1-18 (all)	1-19 (all)	FOSS Weather & Water Course
	Energy in the Earth System 4. Many phenomena on Earth's surface are affected by the transfer of energy through radiation and convection currents. As a basis for understanding this concept:	1-18 (all)	1-19 (all)	FOSS Weather & Water Course
D/M	a. Students know the sun is the major source of energy for phenomena on Earth's surface; it powers winds, ocean currents, and the water cycle.	1-18 (all)	1-19 (all)	FOSS Weather & Water Course
M	b. Students know solar energy reaches Earth through radiation, mostly in the form of visible light.	1-18 (all)	1-19 (all)	FOSS Weather & Water Course

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I/D	c. Students know heat from Earth's interior reaches the surface primarily through convection.	1-18 (all)	1-19 (all)	FOSS Weather & Water Course
I/D	d. Students know convection currents distribute heat in the atmosphere and oceans.	1-18 (all)	1-19 (all)	FOSS Weather & Water Course
D	e. Students know differences in pressure, heat, air movement, and humidity result in changes of weather.	1-18 (all)	1-19 (all)	FOSS Weather & Water Course
	Ecology (Life Science) 5. Organisms in ecosystems exchange energy and nutrients among themselves and with the environment. As a basis for understanding this concept:	1-18 (all)	1-19 (all)	FOSS Environments Unit and Supplemental Reader
D	a. Students know energy entering ecosystems as sunlight is transferred by producers into chemical energy through photosynthesis and then from organism to organism through food webs.	1-18 (all)	1-19 (all)	FOSS Environments Unit and Supplemental Reader
D	b. Students know matter is transferred over time from one organism to others in the food web and between organisms and the physical environment.	1-18 (all)	1-19 (all)	FOSS Environments Unit and Supplemental Reader
D	c. Students know populations of organisms can be categorized by the functions they serve in an ecosystem.	1-18 (all)	1-19 (all)	FOSS Environments Unit and Supplemental Reader
D	d. Students know different kinds of organisms may play similar ecological roles in similar biomes.	1-18 (all)	1-19 (all)	FOSS Environments Unit and Supplemental Reader
D	e. Students know the number and types of organisms an ecosystem can support depends on the resources available and on abiotic factors,	1-18 (all)	1-19 (all)	FOSS Environments Unit and Supplemental Reader

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	such as quantities of light and water, a range of temperatures, and soil composition.			
	Resources 6. Sources of energy and materials differ in amounts, distribution, usefulness, and the time required for their formation. As a basis for understanding this concept:	1-18 (all)	1-19 (all)	Currently we have no text materials to address this area.
	*a. Students know the utility of energy sources is determined by factors that are involved in converting these sources to useful forms and the consequences of the conversion process.	1-18 (all)	1-19 (all)	Currently we have no text materials to address this area.
	*b. Students know different natural energy and material resources, including air, soil, rocks, minerals, petroleum, fresh water, wildlife, and forests, and know how to classify them as renewable or nonrenewable.	1-18 (all)	1-19 (all)	Currently we have no text materials to address this area.
	*e. Students know the natural origin of the materials used to make common objects.	1-18 (all)	1-19 (all)	Currently we have no text materials to address this area.
	Investigation and Experimentation		1-19 (all)	
	7. Scientific progress is made by asking meaningful questions and conducting careful investigations. As a basis for understanding this concept and addressing the content in the other three strands, students should develop their own questions and perform investigations. Students will:	1, 4, 5, 14, 18	1-19 (all)	FOSS Variables Module and Teacher Designed P.O.W.
M	a. Develop a hypothesis.	1, 4, 5, 14, 18	1-19 (all)	FOSS Variables Module and Teacher Designed P.O.W.
M	b. Select and use appropriate tools and technology (including calculators, computers, balances, spring scales, microscopes, and binoculars) to perform tests, collect data, and display data.	1, 6, 16	1-19 (all)	FOSS Variables Module and Teacher Designed P.O.W.

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M	c. Construct appropriate graphs from data and develop qualitative statements about the relationships between variables.	1, 6, 10, 14, 16	1-19 (all)	FOSS Variables Module and Teacher Designed P.O.W.
M	d. Communicate the steps and results from an investigation in written reports and oral presentations.	1, 3, 5, 14	1-19 (all)	FOSS Variables Module and Teacher Designed P.O.W.
M	e. Recognize whether evidence is consistent with a proposed explanation.	1, 5, 10, 14	1-19 (all)	FOSS Variables Module and Teacher Designed P.O.W.
D	f. Read a topographic map and a geologic map for evidence provided on the maps and construct and interpret a simple scale map.	1, 3, 6, 10, 14, 15, 16, 18	1-19 (all)	FOSS Earth History
D	g. Interpret events by sequence and time from natural phenomena (e.g., the relative ages of rocks and intrusions).	1, 6	1-19 (all)	FOSS Earth History
D	h. Identify changes in natural phenomena over time without manipulating the phenomena (e.g., a tree limb, a grove of trees, a stream, a hillslope).	1, 6, 10, 12, 14, 15, 18	1-19 (all)	FOSS Earth History

SCIENCE ASSESSMENTS – 6TH GRADE

1. Teacher Observations	10. Journals
2. Peer Assessment/Review	11. Creative Responses
3. Oral Presentation	12. Self-Assessment
4. Written Checklists	13. Holistic/Rubric Scoring
5. Written Tests	14. Writing Assignments/Lab Write-Ups
6. Group Presentations/Discussions	15. Teacher Records
7. Simulations	16. Graphic Representation
8. Long-Term Projects/Research Projects	17. Computer Lab Activities
9. Portfolios	18. Student Notes

SCIENCE STRATEGIES – 6TH GRADE

1. Clustering/Brainstorming/Graphic Organizers	11. Project-Based Learning
2. Note Taking	12. Memorization
3. Modeling	13. Group/Individual Oral Presentations
4. Vocabulary Development – General, Specific	14. Audio Visual Technology/Computer Research
5. Quick Writes	15. Guided Reading
6. Journals	16. Critical/Technical Reading
7. Use of Prompts	17. Summarizing
8. Individual Instruction – Written and Oral	18. Lecture
9. Group Direct Instruction	19. Class Discussion
10. Small Group Work	