

Office of Larry E. Reider  
Kern County Superintendent of Schools  
*Advocates for Children*

## Sixth Grade—Macmillan/McGraw-Hill

The GEMS guides listed below are suggested supplements to the Macmillan/McGraw-Hill curriculum. Teachers are encouraged to select the lessons from each guide they find most beneficial to their students' needs. Most guides have kits with hands-on materials available for check-out, at no charge, from KCSOS. Contact Kathy Hill at [kahill@kern.org](mailto:kahill@kern.org) or 661.636.4640.

GEMS uses the strategies of hands-on examination and discovery throughout its program. Therefore, we have not listed the California State Standards correlation of Investigation and Exploration, Standard 7, as one or more strands will be found as a basic component of every GEMS guide.

Chapter/Lesson	TE pages	6 <sup>th</sup> grade standard	GEMS Guide
<b>6<sup>th</sup> Grade--EARTH'S ECOLOGY</b>			
<b>Chapter 1: Earth's Ecosystems</b>			
L#1: Introduction to Earth's Ecosystems	24-39	6 LS 5.e	<i><b>Environmental Detectives</b></i> <i><b>Only One Ocean</b></i> <i>Schoolyard Ecology</i> <i>Terrarium Habitats</i>
L#2: Photosynthesis: The Basic Process of Life	40-53	6 LS 5.a	<i>Aquatic Habitats</i> <i><b>Environmental Detectives</b></i> <i>Life Through Time</i> <i><b>Only One Ocean</b></i> <i>Terrarium Habitats</i>
L#3: Microscopic Organisms on Earth	54-65	6 LS 5.b	<i>Aquatic Habitats</i> <i><b>Environmental Detectives</b></i> <i><b>Only One Ocean</b></i>
L#4: Earth's Food Chains, Webs, and Pyramids	66-70	6 LS 5.b, 5.c	<i>Acid Rain (5.c)</i> <i><b>Environmental Detectives</b></i> <i>Life Through Time (5.c)</i> <i><b>Only One Ocean</b></i> <i>Terrarium Habitats (5.c)</i>
L#5: Earth's Cycles for Life	80-91	6 LS 5.b	<i><b>Environmental Detectives</b></i> <i><b>Only One Ocean</b></i>

<b>Chapter 2: Earth's Land and Water</b>			
L#1: Earth's Land Biomes	100-117	6 LS 5.d	<i>Acid Rain</i> <i>Environmental Detectives</i>
L#2: Earth's Water Eco-systems	118-131		<i>Only One Ocean</i>
L#3: Eco-systems in California	132-149	6 LS 5.e	<i>Environmental Detectives</i> <i>Only One Ocean</i> <i>Schoolyard Ecology</i> <i>Terrarium Habitats</i>
<b>6<sup>th</sup> Grade--EARTH'S ENERGY</b>			
<b>Chapter 3: Heat Energy</b>			
L#1: Heat Flow	162-173	6 PS 3.a	<i>Invisible Universe</i>
L#2: Waves	174-185		<i>Living with a Star</i>
L#3: Fuels: Our Major Energy Source	186-197	6 PS 3.b	No GEMS guides were found to align with standard
L#4: Heat Transfer in Solids and Fluids	198-207	6 PS 3.c	<i>Convection a Current Event</i>
<b>Chapter 4: Energy in the Earth System</b>			
L#1: Electro-magnetic Spectrum	216-227	6 PS 3.d, 6 ES 4.b	<i>Hot Water and Warm Homes From Sunlight</i> <i>Invisible Universe (4.b)</i> <i>Living with a Star</i> <i>Messages From Space</i> <i>The Real Reasons for the Seasons (4.b)</i>
L#2: Solar Radiation	228-239	6 ES 4.a, 4.b	<i>Convection a Current Event (4.a)</i> <i>Invisible Universe (4.b)</i> <i>Living with a Star (4.b)</i> <i>Ocean Currents (4.a)</i> <i>The Real Reasons for the Seasons (4.a)</i>
L#3: The Power of Convection Currents	240-255	6 ES 4.c, 4.d	<i>Convection a Current Event</i> <i>Ocean Currents (4.d)</i>
<b>6<sup>th</sup> Grade--EARTH'S STRUCTURE</b>			
<b>Chapter 5: Plate Tectonics and Earth's Structure</b>			
L#1: Earth's Moving Plates	263-279	6 ES 1.a	<i>Plate Tectonics</i>
L#2: Plate Tectonics: A Unifying Theory	280-295	6 ES 1.b, 1.c	<i>Convection a Current Event (1.b)</i> <i>Plate Tectonics</i> <i>Stories in Stone (1.b)</i>
L#3: Earthquakes	296-307	6 ES 1.d, 1.g	<i>Plate Tectonics</i> <i>Stories in Stone (1.d)</i>
L#4: Volcanoes	308-323	6 ES 1.a, 1.d, 1.e	<i>Plate Tectonics</i> <i>Stories in Stone (1.d)</i>

L#5: How Plate Tectonics Affects California	324-333	6 ES 1.f	<b><i>Plate Tectonics</i></b> <i>Stories in Stone</i>
<b>Chapter 6: Shaping Earth's Surface</b>			
L#1: Atmospheric Pressure, Temperature, and Weather	342-355	6 ES 4.e	No GEMS guides were found to align with standard
L#2: Weathering Erosion and Deposition	356-367	6 ES 2.a	<b><i>River Cutters</i></b> <i>Stories in Stone</i>
L#3: Rivers and Streams	368-379	6 ES 2.b	<b><i>River Cutters</i></b> <i>Stories in Stone</i>
L#4: Beaches and Wave Erosion	380-389	6 ES 2.c	<b><i>River Cutters</i></b> <i>Microscopic Explorations (Activity 6)</i>
L#5: Changing Habitats	390-405	6 ES 2.d	<b><i>River Cutters</i></b> <i>Stories in Stone</i>
<b>Chapter 7: Earth's Resources</b>			
L#1: Sources of Energy	414-427	6 ES 6.a	<b><i>Environmental Detectives</i></b> <i>Hot Water and Warm Homes From Sunlight</i>
L#2: Renewable and Nonrenewable Resources	428-443	6 ES 6.b	<b><i>Environmental Detectives</i></b> <i>Hot Water and Warm Homes From Sunlight</i>
L#3: Uses of Resources	444-457	6 ES 6.c	<b><i>Environmental Detectives</i></b> <i>Investigating Artifacts</i>

## **6<sup>th</sup> Grade--INVESTIGATION AND EXPERIMENTATION**

While the guides listed below do not address specific 6<sup>th</sup> grade standards in Life, Earth, or Physical Science, they do meet standards within the Investigation and Experimentation standard set.

*Bubble Festival*  
*Bubble-Ology*  
*Chemical Reactions*  
*Color Analyzers*  
*Crime Lab Chemistry*  
*Discovery Denisty*  
*Electric Circuits*  
*Experimenting With Model Rockets*  
*Fingerprinting*  
*Height-O-Meters (higher level math involved)*  
*Learning About Learning*  
*Microscopic Explorations*  
*Mystery Festival*  
*Of Cabbages and Chemistry*  
*Oobleck*  
*Paper Towel Testing*  
*Schoolyard Ecology*  
*Vitamin C Testing*

