

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

Fourth 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 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 6, as one or more strands will be found as a basic component of every GEMS guide.

Chapter/Lesson	TE pages	4 th grade standard	GEMS Guide
4th Grade--LIFE SCIENCE			
Chapter 1: Living Things Need Energy			
L#1: Plants and Sunlight	24-33	4 LS 2.a	<i>Aquatic Habitats</i> <i>Terrarium Habitats</i>
L#2: Food Chains	36-47	4 LS 2.a, 2.b, 2.c	<i>Aquatic Habitats</i> <i>On Sandy Shores (2.b, 2.c)</i> <i>Terrarium Habitats</i>
L#3: Food Webs	50-59	4 LS 2.b	<i>Aquatic Habitats</i> <i>On Sandy Shores</i> <i>Terrarium Habitats</i>
L#4: Micro-organisms	62-71	4 LS 2.c, 3.d	<i>Aquatic Habitats</i> <i>On Sandy Shores (2.c)</i> <i>Terrarium Habitats</i>
Chapter 2: Living Things and Their Environment			
L#1: Ecosystems	82-91	4 LS 3.a	<i>Aquatic Habitats</i> <i>On Sandy Shores</i> <i>Schoolyard Ecology</i> <i>Terrarium Habitats</i>
L#2: Living Things Need Each Other	94-101	4 LS 3.c	<i>Aquatic Habitats</i>
L#3: Changes in Ecosystems	104-111	4 LS 3.b	<i>Aquatic Habitats</i> <i>Moons of Jupiter</i>
L#4: Adaptations	114-123		<i>On Sandy Shores</i> <i>Terrarium Habitats</i>

4th Grade--EARTH SCIENCE			
Chapter 3: Rocks and Minerals			
L#1: Minerals: The Building Blocks of Rocks	138-147	4 ES 4.b	<i>Stories in Stone</i>
L#2: Igneous Rocks L#3: Sedimentary Rocks L#4: Metamorphic Rocks	150-157 160-167 170-181	4 ES 4.a	<i>Stories in Stone</i>
Chapter 4: Slow Changes on Earth			
L#1: Weathering	192-199	4 ES 5.b	<i>On Sandy Shores</i> <i>Stories in Stone</i>
L#2: Erosion and Deposition L#3: Landforms: Changing Over Time	202-209 212-223	4 ES 5.a, 5.c	<i>On Sandy Shores</i> <i>Stories in Stone</i>
Chapter 5: Fast Changes on Earth			
L#1: Landslides L#2: Earthquakes L#3: Volcanoes	236-243 246-255 260-269	4 ES 5.a,	<i>On Sandy Shores</i> <i>Stories in Stone</i>
4th Grade--PHYSICAL SCIENCE			
Chapter 6: Electricity			
L#1: Static Electricity	284-293	4 PS 1.e	No GEMS guides were found to align with standard
L#2: Electric Circuits	296-305	4 PS 1.a	<i>Electric Circuits</i>
L#3: Using Electrical Energy	308-315	4 PS 1.g	<i>Electric Circuits</i>
Chapter 7: Magnetism			
L#1: Magnets	328-337	4 PS 1.b, 1.f	No GEMS guides were found to align with standards
L#2: Electromagnets	340-347	4 PS 1.c, 1.d	No GEMS guides were found to align with standards
L#3: Magnets in Motion	350-357	4 PS 1.d	No GEMS guides were found to align with standard

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4th Grade--INVESTIGATION AND EXPERIMENTATION

While the guides listed below do not address specific 4th grade standards in Life, Earth, or Physical Science, they do meet standards within the Investigation and Experimentation standard set.

- Bubble Festival*
- Crime Lab Chemistry*
- Fingerprinting*
- Microscopic Explorations*
- Mystery Festival*
- Of Cabbages and Chemistry*
- Oobleck*