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

<table>
<thead>
<tr>
<th>Chapter/Lesson</th>
<th>TE pages</th>
<th>3rd grade standard</th>
<th>GEMS Guide</th>
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</table>
| L#1: Living Things and Their Needs | 24-33 | 3 LS 3.a, 3.b | Aquatic Habitats  
Buzzing a Hive (3.a)  
Terrarium Habitats (3.a)  
School Yard Ecology (3.b) |
| L#2: Life in the Desert | 36-43 | | |
| L#3: Life in the Grassland | 46-53 | | |
| L#4: Life in the Forest | 56-65 | | |
| L#5: Life in the Artic Tundra | 68-77 | | |
| L#1: The Water Planet | 88-95 | 3 LS 3.a, 3.b | Aquatic Habitats  
Buzzing a Hive (3.a)  
Terrarium Habitats (3.a)  
School Yard Ecology (3.b) |
| L#2: Life in an Ocean | 98-107 | | |
| L#3: Life in the Wetlands | 110-117 | | |
| L#1: Living Things Change Their Environment | 130-137 | 3 LS 3.c | Aquatic Habitats  
Buzzing A Hive  
Terrarium Habitats |
| L#2: Changes Affect Living Things | 140-149 | 3 LS 3.d | Aquatic Habitats  
Buzzing a Hive |
| L#3: Living Things of the Past | 152-161 | 3 LS 3.e | No GEMS guides were found to align with standard 3rd Grade--EARTH SCIENCE |

### 3rd Grade--EARTH SCIENCE

#### L#1: Day and Night
178-185
188-195 | 3 ES 4.e | No GEMS guides were found to align with standard 4.e Earth, Moon, and Stars is a 5-9 guide, and some activities may be adapted to 3rd grade enrichment level to meet this standard. |

#### L#2: The Seasons
198-205 | 3 ES 4.b, 4.d | No GEMS guides were found to align with standard 4.b, 4.d Earth, Moon, and Stars is a 5-9 guide, and some activities may be adapted to 3rd grade enrichment level to meet this standard. |

### Chapter 5: Our Solar System

#### L#1: The Sun and Its Planets
218-225 | 3 ES 4.d | No GEMS guides were found to align with standard 4.d Earth, Moon, and Stars is a 5-9 guide, and some activities may be adapted to 3rd grade enrichment level to meet this standard. |

#### L#2: Telescopes: Discovering the Solar System
228-233 | 3 ES 4.c | No GEMS guides were found to align with standard 4.c Earth, Moon, and Stars is a 5-9 guide, and some activities may be adapted to 3rd grade enrichment level to meet this standard. |

#### L#3: The Stars
236-243 | 3 ES 4.a | No GEMS guides were found to align with standard 4.a Earth, Moon, and Stars is a 5-9 guide, and some activities may be adapted to 3rd grade enrichment level to meet this standard. |

The GEMS guide *Messages from Space* is designed for grades 5-8. However, third grade teachers may want to use it as a reference. The guide contains a scale model of the solar system, additional activities, and good background information on each planet.

### 3rd Grade--PHYSICAL SCIENCE

#### Chapter 6: Matter

#### L#1: Solids, Liquids, and Gases
260-269 | 3 PS 1.e, 1.f | Involving Dissolving (1.e) Liquid Explorations (1.e) 
Matter: Solids, Liquids, & Gases Secret Formulas (1.e) Oobleck is a 4-8 guide, and some activities may be adapted to 3rd grade enrichment level to meet this standard. |

#### L#2: Building Blocks of Matter
272-279 | 3 PS 1.h, 1.i | Involving Dissolving (1.h) Liquid Explorations (1.h) No GEMS guides were found to align with standard 1.i
| L#3: Changing Matter | 284-291 | 3 PS 1.g | Involving Dissolving Liquid Explorations
Matter: Solids, Liquids, & Gases
Secret Formulas
Oobleck is a 4-8 guide, and some activities may be adapted to 3rd grade enrichment level to meet this standard.
Of Cabbages and Chemistry is a 4-8 guide, and some activities may be adapted to 3rd grade enrichment level to meet this standard. |
|---------------------|--------|---------|------------------------------------------------------------------------------------------------------------------|

**Chapter 7: Energy**

| L#1: Energy all Around | 302-311 | 3 PS 1.a | School Yard Ecology
Terrarium Habitats |
|------------------------|---------|---------|---------------------------------------------------------------|
| L#2: Using Energy      | 314-321 | 3 PS 1.b, 1.c | On Sandy Shores (1.b)
No GEMS guides were found to align with standard 1.c |
| L#3: Energy on the Move | 326-335 | 3 PS 1.d | No GEMS guides were found to align with standard |

**Chapter 8: Light**

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<tr>
<th>L#1: How Light Moves</th>
<th>346-353</th>
<th>3 PS 2.b</th>
<th>Bubble Festival (Activity 5, Bubble Colors)</th>
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</table>
| L#2: Seeing Light and Color | 356-363 | 3 PS 2.c, 2.d | No GEMS guides were found to align with standards
Color Analyzers is a 5-9 guide, and some activities may be adapted to 3rd grade enrichment level to meet this standard. |
| L#3: Shadows           | 368-375 | 3 PS 2.a | Terrarium Habitats |

**3rd Grade--INVESTIGATION AND EXPERIMENTATION**

While the guides listed below do not address specific 3rd grade standards in Life, Earth, or Physical Science, they do meet standards within the Investigation and Experimentation standard set.

*Electric Circuits
Mystery Festival*