

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

## Second Grade—Houghton Mifflin

The GEMS guides listed below are suggested supplements to the Houghton Mifflin 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 4, as one or more strands will be found as a basic component of every GEMS guide.

| Unit--Chapters/<br>Lessons                              | TE<br>pages | 2 <sup>nd</sup> grade<br>standard | GEMS Guide<br><br>Bold type represents a GEMS unit which addresses all standards in that standard set for the respective strand.  |
|---|-------------|-----------------------------------|---|
| <b>2<sup>nd</sup> grade--LIFE SCIENCE</b>               |             |                                   |   |
| <b>Unit A: Life Cycles—Chapter 1: Plant Life Cycles</b> |             |                                   |   |
| L#1: How Do Plants Change During Their Life Cycles?     | 8-17        | 2 LS 2.f                          | No GEMS guides were found to align with standard 2 LS 2.f   |
| L#2: What Kind of Plant Grows from a Seed?              | 18-23       | 2 LS 2.a,<br>2.c, 2.f             | <i>Aquatic Habitats (2.a, 2.c)</i><br><i>Buzzing a Hive (2.a, 2.c)</i><br><i>Elephants and Their Young (2.a, 2.c)</i> (PK-1 guide. Some activities can be adapted to 2 <sup>nd</sup> grade)<br><i>Mother Opossum and Her Babies (2.a, 2.c)</i> (PK-1 guide. Some activities can be adapted to 2 <sup>nd</sup> grade)<br><i>Terrarium Habitats (2.a, 2.c)</i><br>No GEMS guides were found to align with standard 2 LS 2.f |
| L#3: How Do Plants of the Same Kind Differ?             | 24-31       | 2 LS 2.c,<br>2.d, 2.e             | <i>Aquatic Habitats (2.c, 2.d)</i><br><i>Buzzing a Hive (2.c, 2.d)</i><br><i>Elephants and Their Young (2.c, 2.d)</i> (PK-1 guide. Some activities can be adapted to 2 <sup>nd</sup> grade)<br><i>Mother Opossum and Her Babies (2.c)</i> (PK-1 guide. Some activities can be adapted to 2 <sup>nd</sup> grade)<br><i>Terrarium Habitats</i>  |
| L#4: How Do Plants React to Their Environment?          | 32-37       | 2 LS 2.e                          | <i>Terrarium Habitats</i>   |

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| <b>Unit A: Life Cycles—Chapter 2: Animal Life Cycles</b>             |         |                  |  |
| L#1: Which Baby Animals Look Like Their Parents?                     | 46-51   | 2 LS 2.a,<br>2.b | <b><i>Aquatic Habitats</i></b><br><b><i>Buzzing a Hive</i></b><br><i>Elephants and Their Young</i> (PK-1 guide. Some activities can be adapted to 2 <sup>nd</sup> grade)<br><i>Investigating Artifacts</i> (2.b)<br><i>Mother Opossum and Her Babies</i> (PK-1 guide. Some activities can be adapted to 2 <sup>nd</sup> grade)<br><b><i>Terrarium Habitats</i></b> |
| L#2: Which Baby Animals Look Unlike Their Parents?                   | 52-57   | 2 LS 2.b         | <b><i>Aquatic Habitats</i></b><br><b><i>Buzzing a Hive</i></b><br><i>Elephants and Their Young</i> (PK-1 guide. Some activities can be adapted to 2 <sup>nd</sup> grade)<br><i>Investigating Artifacts</i><br><i>Mother Opossum and Her Babies</i> (PK-1 guide. Some activities can be adapted to 2 <sup>nd</sup> grade)<br><b><i>Terrarium Habitats</i></b>       |
| L#3: Where Do Animals Get Their Traits?                              | 58-63   | 2 LS 2.a,<br>2.c | <b><i>Aquatic Habitats</i></b><br><b><i>Buzzing a Hive</i></b><br><i>Elephants and Their Young</i> (PK-1 guide. Some activities can be adapted to 2 <sup>nd</sup> grade)<br><i>Mother Opossum and Her Babies</i> (PK-1 guide. Some activities can be adapted to 2 <sup>nd</sup> grade)<br><b><i>Terrarium Habitats</i></b>   |
| L#4: How Do Animals of the Same Kind Differ?                         | 66-71   | 2 LS 2.a,<br>2.d | <b><i>Aquatic Habitats</i></b><br><b><i>Buzzing a Hive</i></b><br><i>Elephants and Their Young</i> (PK-1 guide. Some activities can be adapted to 2 <sup>nd</sup> grade)<br><i>Mother Opossum and Her Babies</i> (2.a) (PK-1 guide. Some activities can be adapted to 2 <sup>nd</sup> grade)<br><b><i>Terrarium Habitats</i></b>                                   |
| <b>2<sup>nd</sup> grade--EARTH SCIENCE</b>                           |         |                  |  |
| <b>Unit B: Earth's Resources—Chapter 3: Rocks, Soil, and Fossils</b> |         |                  |  |
| L#1: What Makes Up Rocks?  | 88-95   | 2 ES 3.a         | No GEMS guides were found to align with standard   |
| L#2: How Do Rocks Change?  | 96-101  | 2 ES 3.b         | <i>On Sandy Shores</i>   |
| L#3: What Makes Up Soil?   | 102-109 | 2 ES 3.c         | <i>On Sandy Shores</i><br><i>Terrarium Habitats</i>  |
| L#4: What Clues Do Fossils Give?                                     | 112-119 | 2 ES 3.d         | No GEMS guides were found to align with standard   |
| <b>Unit B: Earth's Resources—Chapter 4: Using Resources</b>          |         |                  |  |
| L#1: How Do People Use Rocks?  | 130-135 | 2 ES 3.a,<br>3.e | No GEMS guides were found to align with standard   |

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| L#2: How Do People Use Water?           | 140-145 | 2 ES 3.e         | No GEMS guides were found to align with standard                                     |
| L#3: How Do People Use Soil and Plants? | 146-153 | 2 ES 3.c.<br>3.e | <i>On Sandy Shores</i> (3.c)<br>No GEMS guides were found to align with standard 3.e |
| L#4: How Can People Save Resources?     | 154-159 | 2 ES 3.e         | No GEMS guides were found to align with standard                                     |

## 2<sup>nd</sup> grade--PHYSICAL SCIENCE

### Unit C: Motion and Forces—Chapter 5: Objects in Motion

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|---|---------|------------------|--|
| L#1: How Can You Describe an Object's Position? | 176-181 | 2 PS 1.a         | <i>Bubble Festival</i><br><i>Investigating Artifacts</i><br><i>Mystery Festival</i> (Grade 2-3 Level)<br><i>On Sandy Shores</i>                                      |
| L#2: How Can You Describe an Object's Motion?   | 184-191 | 2 PS 1.a,<br>1.b | <i>Bubble Festival</i><br><i>Eggs Eggs Everywhere</i><br><i>Investigating Artifacts</i><br><i>Mystery Festival</i> (Grade 2-3 Level) (1.a)<br><i>On Sandy Shores</i> |

### Unit C: Motion and Forces—Chapter 6: Forces

|  |         |          |  |
|--|---------|----------|--|
| L#1: What Do Forces Do?                        | 202-209 | 2 PS 1.c | No GEMS guides were found to align with standard |
| L#2: How Can You Change an Object's Direction? | 210-215 |          |  |
| L#3: What Do Tools and Machines Do?            | 220-225 | 2 PS 1.d | No GEMS guides were found to align with standard |
| L#4: What Makes Things Fall?                   | 228-233 | 2 PS 1.e | No GEMS guides were found to align with standard |

### Unit D: Magnets and Sound—Chapter 7: Magnets

|                                      |         |          |   |
|--------------------------------------|---------|----------|---|
| L#1: What Are Magnets?               | 248-253 | 2 PS 1.f | <i>Sifting Through Science</i> (Activity 2) |
| L#2: What Is a Magnetic Field?       | 256-259 |          |   |
| L#3: How Strong Is a Magnet's Force? | 260-265 |          |   |

### Unit D: Magnets and Sound—Chapter 8: Making Sound

|                                |         |          |  |
|--------------------------------|---------|----------|--|
| L#1: How Is Sound Made?        | 276-281 | 2 PS 1.g | No GEMS guides were found to align with standard |
| L#2: What Is Pitch?            | 284-289 |          |  |
| L#3: What Is a Sound's Volume? | 290-295 |          |  |

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## **2<sup>nd</sup> grade--INVESTIGATION AND EXPERIMENTATION**

While the guides listed below do not address specific 2<sup>nd</sup> grade standards in Life, Earth, or Physical Science, they do meet standards within the Investigation and Experimentation standard set.

*Bubble Festival*  
*Involving Dissolving*  
*Liquid Explorations*  
*Matter: Solids, Liquids, & Gases*  
*Secret Formulas*