# Unit 2 - Effects of the Sun
# Pacing Guide

*Informational writing standards are now being covered in science. Please use these resources to address the informational writing standards. These lessons can be incorporated at any point during the unit.

| Unit & Lesson # | Focus | Standards Addressed | Day (20-30 minutes) | Overview | Writing Activities | Additional Activities |
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| Sunlight & Warmth Anchor Phenomenon<br><br>Solar Sizzle | Sunlight, Heat, & Earth's Surface | K-PS3-1 | 1 | The anchor phenomenon for this unit is a cooker that can be used to heat food, even though it doesn't have any obvious heat source.<br><br>During the introduction, students generate observations and questions about the phenomenon and create a list of possible explanations for the phenomenon.<br><br>Students will gather clues during and after each lesson in this unit to help them improve their understanding and explanations. It is important to encourage students to recognize that even if they don't | See-Think-Wonder Chart | |

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| | | | | know the perfect answer yet, they are going to learn a lot throughout the unit and will have an opportunity to revisit the phenomenon over time. | | |
| Sunlight & Warmth Lesson 1<br><br>How could you walk barefoot across hot pavement without burning your feet? | Sunlight, Heat, & Earth's Surface | K-PS3-1<br>K-PS3-2<br>K-2-ETS1-1 | 2 | In this Read-Along session, students listen to an illustrated digital storybook with student participation. In the story, Keya needs to find a way to get from the swimming pool to the ice cream truck without burning her bare feet on the hot pavement.<br><br>In the activity, Cool Cows, students notice that cows (like people) use shade to stay cool. Then, they think through how they would design a shade structure for cows.<br><br>Teacher-led discussion. | | The Sun's Heat Unit<br><br>BrainPop Jr. The Sun<br><br>Cooler in the Shadows |

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| | | | 3 | Anchor Connection<br><br>Students wonder: How does the Sun make things hot?<br><br>Students learn: Solar cookers only work during the day, because that's when the Sun is out. | Science journal entry to answer anchor connection question. | |
| | | | 4 | Lesson 1 Assessment<br><br>Extensions include: Readings and an activity. | | Shade Structure Design |
| Sunlight & Warmth Lesson 2:<br><br>How could you warm up a frozen playground? | Sunlight, Warming, & Engineering | K-PS3-2<br>K-2-ETS1-1<br>K-2-ETS1-3 | 5 | In this lesson, students think about their experiences with hot and cold weather, and learn about a real city where the sun never shines in winter. | | Sunlight Warms the Earth<br><br>The Sun's Heat Unit<br><br>Temperature: First Science- Epic Book |
| | | | 6 | In the activity, Chill City, students experiment with different types of materials (opaque, transparent, and reflective) to figure out how to reflect light. They use this to bring light and warmth to an | | The Warmth of the Sun<br><br>Video which inspired Lesson<br><br>What does Sunlight do?- Epic Book |

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| | | | | imaginary paper town.<br><br>Wrap-up & Teacher-led discussion | | |
| | | | 7 | Anchor Connection<br><br>Students wonder: How does shade keep you cool?<br><br>Students learn: Light reflects off of the shiny parts of the cooker, which heats the food from underneath. | Science journal entry to answer anchor connection question. | |
| | | | 8 | Lesson 2 Assessment<br><br>Extensions include: Readings, activities, and videos. | | |
| Sunlight & Warmth Lesson 3<br><br>Why does it get cold in winter? | Sunlight & Warmth | K-PS3-1 | 9 | In this lesson, students observe the path of the Sun in the summer and in the winter and realize that light from the Sun keeps the Earth warm. | | The Sun is So Important- Epic Book<br><br>It's Winter-Digital Book<br><br>Here Comes Winter-Digital Book |
| | | | 10 | In the activity, Mysterious Melting Marshmallows, students solve a | | |

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| | | | | mystery: what made the marshmallows melt? (The answer, of course, is the heat of the Sun.)<br><br>Wrap-up & Teacher-led discussion | | |
| | | | 11 | Anchor Connection<br><br>Students learn: Solar cookers don't work in the shade. They must be in full sunlight to work. | Science journal entry to answer anchor connection question. | |
| | | | 12 | Lesson 3 Assessment<br><br>Extensions include: Readings and an activity. | | Seasons and the Sun video (youtube)<br><br>Why is it cold outside? Video (youtube) |
| Sunlight & Warmth CER Activity | | K-2-ETS1-1 | 13 | | K-2-ETS1-1 CER | |
| Sunlight & Warmth Performance Task<br><br>Can you use the Sun to cook food? | Sunlight, Heat, & Earth's Surface | K-PS3-1 | 14 | In this performance task, students investigate the effect of sunlight on Earth's surface.<br><br>After a brief review of the unit, students gather observations of how shade | | |

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| | | | | influences the warming effect of sunlight, and then use those observations to predict where sunlight can be used to cook food. | | |
| Unit 2 Common Assessment | | | 15 | LPS Unit 2 Common Assessment | | |