

Grade 1 Curriculum to Accompany

The Energy Detectives

"The Secrets of the Sun"



Lessons composed by Deanna Hoffman, Keyla Veloz-Sanchez, and Stacy Elman for [Cooler Communities](#) in collaboration with [Meet Me on Planet 3](#)
[Click HERE to learn more about the Curriculum Team](#)

Rationale

The book *The Energy Detectives: The Secrets of the Sun* was written by Madelyn Rosenberg, illustrated by Paul Meisel, and funded by [Cooler Communities](#) to help children better understand how the Sun impacts our planet and its inhabitants. Our hope is that educators will read the book with students in the classroom and incorporate some or all of our accompanying interactive lessons into their instruction.

We hope this book is an inspiration for children to advocate for changes to energy choices at home and in their communities. This starts with learning about alternative sources of energy, such as solar power, and why they are less harmful to our environment and health.

Planning Ahead: Teacher Preparation & Notes

About the Curriculum

- **Everything in this curriculum is optional.** It is up to the teacher to choose which activities, handouts, etc. they would like to use.
- While the curriculum was designed as a unit plan to gradually build knowledge and guide your students to deeper understandings about solar energy, each lesson or activity can serve as a stand alone lesson.
- You are the expert on your students and your bandwidth. It is up to you to decide if you want to do every lesson exactly as written, complete only one or two lessons, and/or modify lessons. Please select the lessons or lesson components that would best supplement your current instructional plan.
- Slides are available (in multiple formats) for teachers that like to use them and can be helpful in keeping the teacher and class on track; however, they are not required for lessons to be successful.

- **IMPORTANT NOTE: All curriculum documents are in alignment with the Massachusetts State Frameworks.** They are similar to other states but may not be exactly the same.

Schedule

- Keep in mind that some classes may need more time than others. An activity that claims to take 20 minutes realistically may last 35 minutes.
- Be flexible. Because class schedules and blocks of time vary, **one lesson may take several days to finish.**

Supplies

- Request *The Energy Detectives: The Secrets of the Sun* books, FREE for you and each of your students. To order, visit energydetectives.org.
- We highly recommend you sign up for an **educator account** with [Canva](https://www.canva.com/). **Important: Canva PRO is FREE for educators.** With an account, you can save and make changes to any of our canva templates.
- Gather materials and make photocopies for each lesson. [Click HERE for a complete list of supplies.](#)

Anticipating Student Needs

- Read *The Energy Detectives: The Secrets of the Sun* book on your own.
- Look over the list of Key Vocabulary Terms below.
- Preview lessons and handouts, and scaffold for your students as needed.
- Some students may enter with a better foundational understanding of solar energy than others.

Inviting Guests

- If you plan to invite a guest speaker (Lesson 3), make those arrangements in advance. (sample email to potential guest speakers provided in lesson plan that follows)
- If you plan to invite families or other school community members to hear the guest speaker (Lesson 3) or view student presentations (Lesson 5), choose dates early, and send out "save the dates." (sample invitations provided in lesson plans that follow)

Curriculum Summary

Lesson	Time	Relevant Frameworks	Summary
Lesson 1: Book Launch	1 ½ hours	RI 1, RI3, RI7, SL1, SL2, L6	The class reads <i>The Energy Detectives: The Secrets of the Sun</i> , and students engage in corresponding literacy activities.
Lesson 2: Experimenting with Light	1 ½ hours	1-PS4-3, STE practices	Students experiment with light and materials in order to better understand different ways light does or does not pass through.
Lesson 3: Guest Speaker	1 hour	STE & ELA Practices	The teacher invites a community member to speak about solar energy, window treatments, or another related topic.
Lesson 4: Engineering Project	2 hours	1-PS4-3, 1-PS4-4, 1.K-2-ETS1-1, 1.K-2-ETS1-2, STE practices, W2, W4, W8	Students use what they learned about light to design a window covering that changes how much light is permitted through.
Lesson 5: Presentations & Reflections	1 hour	1-PS4-3, 1-PS4-4, STE & ELA Practices, SL1	Students present their window coverings to a live audience. They then reflect on the curriculum and what they learned.
Math Extension	20 minutes	1.OA.A.1	Students participate in cross-curricular, grade-level activities using characters and content from the book.

Practices	
STE	ELA
<ul style="list-style-type: none"> ✓ Asking questions (for science) and defining problems (for engineering) ✓ Developing and using models 	<ul style="list-style-type: none"> ✓ Participate in an interactive read aloud by sharing ideas with peers through a turn and talk or think - pair - share ✓ Answer questions about the ideas

<ul style="list-style-type: none"> ✓ Planning and carrying out investigations ✓ Analyzing and interpreting data ✓ Constructing explanations (for science) and designing solutions (for engineering) ✓ Engaging in an argument from evidence ✓ Obtaining, evaluating, and communicating information 	<p>presented in a text</p> <ul style="list-style-type: none"> ✓ Make text-to-self and text-to-world connections ✓ Determine the meaning of a multiple meaning word as it is used within a specific context ✓ Compose a well organized informational piece of writing that includes domain specific vocabulary and specific examples
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Relevant STE Frameworks

1-PS4-3. Conduct an investigation to determine the effect of placing materials that allow light to pass through them, allow only some light through them, block all the light, or redirect light when put in the path of a beam of light.

1-K-2-ETS1-1. Ask questions, make observations, and gather information about a situation people want to change that can be solved by developing or improving an object or tool.

1-K-2-ETS1-2. Generate multiple solutions to a design problem and make a drawing (plan) to represent one or more of the solutions.

Relevant Math Frameworks (MA)

1-OA.A.1. Use addition and subtraction within 20 to solve word problems involving situations of adding to, taking from, putting together, taking apart, and comparing, with unknowns in all positions, e.g., by using objects, drawings, and equations (number sentences) with a symbol for the unknown number to represent the problem.

Relevant ELA Frameworks (MA)

- 1-RI. 1.** Ask and answer questions about key details in a text.
- 1-RI. 3.** Describe the connection between two individuals, events, ideas, or pieces of information in a text.
- 1-RI. 7.** Use the illustrations and details in a text to describe its key ideas.
- 1-W2.** Write informative/explanatory texts that name a topic, supply some facts about the topic, and provide some sense of closure.
- 1-W4.** Produce writing in which the development and organization are appropriate to task, purpose, and audience.
- 1-W8.** With guidance and support from adults, recall information from experiences or gather information from provided sources to answer a question.
- 1-SL1.** Participate in collaborative conversations with diverse partners about grade 1 topics and texts with peers and adults in small and larger groups.
- 1-SL2.** Ask and answer questions about key details in a text read aloud or information presented orally or through other media.
- 1-L6.** Use words and phrases acquired through conversations, activities in the grade 1 curriculum, reading and being read to, and responding to texts, including using frequently occurring conjunctions (e.g., because) to signal simple relationships

Key Vocabulary Terms

Key Vocabulary Terms		
Tier 1 <ul style="list-style-type: none"> ● Sun ● Sunlight ● Building ● Shadow 	Tier 2 <ul style="list-style-type: none"> ● Light ● Energy ● Absorb ● Pass ● Block ● Material ● Test (as a verb) ● Predict 	Tier 3 <ul style="list-style-type: none"> ● Solar ● Investigation ● Engineering ● Transparent ● Translucent ● Opaque

Lesson 1: Book Launch (1 ½ hours)

Learning Objectives: Students will be able to...

1. Recall key ideas and details from a text read aloud.
2. Retell and describe important events in a text.

Language Objective: Students will be able to...

1. Describe scientific concepts from a text using newly learned vocabulary.
2. Illustrate and/or label scientific concepts to demonstrate understanding.

Lesson 1 Slides

- [PDF](#)
- [Google slides](#)
- [Canva template](#)

Duration	Activity	Materials & Prep
20 minutes	<p>Activity 1: Uncovering Previous Knowledge</p> <ul style="list-style-type: none">● Uncover what students already know about the Sun and energy (or <i>think</i> they already know) with a tKWL chart or prompts such as:<ul style="list-style-type: none">○ Tell a partner one thing you already know about the Sun.○ When you hear the word, energy, what do you think of? (<i>Help students draw a connection with what it looks like when <u>children</u> have a lot of energy?</i>)● If using a tKWL chart, draw it on chart paper or print a poster-size version of the handout.● Students share their thoughts about the first two columns (<i>"I think I know" and "I want to know"</i>) with a partner and then as a whole class.● Request volunteers or randomly choose students to share their ideas or their <i>partners'</i> ideas, and write them on the chart.	<ul style="list-style-type: none"><input type="checkbox"/> Chart paper or<input type="checkbox"/> tKWL chart (poster size)<ul style="list-style-type: none">➤ PDF➤ Canva template<input type="checkbox"/> Marker for the teacher to write on the tKWL chart
20 minutes	<p>Activity 2: Vocabulary Preview</p> <ul style="list-style-type: none">● Tell students that you will be learning some new vocabulary words to go along with a book you will read about the Sun.● Read each word out loud, and tell students to repeat the words.● Invite students to first share their definition for a	<ul style="list-style-type: none"><input type="checkbox"/> Science notebooks or<input type="checkbox"/> White paper or<input type="checkbox"/> Word wall vocabulary cards<ul style="list-style-type: none">➤ PDF➤ Google doc

	<p>word with a partner and then with the class.</p> <ul style="list-style-type: none"> • Then read the Energy Detectives definition to the class. • <u>Option 1</u>: Assign each student one 'word wall' vocabulary card. Each card contains a word and its definition. The student's job is to draw a picture to go with it. • <u>Option 2</u>: Place students in small, heterogeneous groups. Assign each group one word wall vocabulary card. Each card contains a word and its definition. The students' job is to draw a picture to go with it. • When they are finished, students share their drawings with the class and explain how their drawing represents the vocabulary term. • Optional: Hang up the student work, creating a word wall. 	
20 minutes	<p>Activity 3: Story Time</p> <ul style="list-style-type: none"> • Interactively read aloud <i>The Energy Detectives: The Secrets of the Sun</i> • See accompanying "Interactive Read Aloud Discussion Guide" with guiding questions. • After reading the story, show students the nightlight, and ask them how it works. (<i>The solar panel absorbs, or takes in, energy from the sun and converts it into electrical energy or electricity, which is stored in a small battery that powers the light.</i>) 	<ul style="list-style-type: none"> <input type="checkbox"/> <i>The Energy Detectives: The Secrets of the Sun</i> book (order for FREE) <input type="checkbox"/> Interactive read aloud discussion guide <ul style="list-style-type: none"> ➤ PDF ➤ Google doc <input type="checkbox"/> Science notebooks or paper <input type="checkbox"/> Solar nightlight (FREE with book)
10 minutes	<p>Activity 4: Retell the Story with Event Picture Cards</p> <ul style="list-style-type: none"> • Students examine cards with story events and pictures from the story on them. • They use the cards to retell the story with a partner or in small groups. The teacher then goes over them as a class. 	<ul style="list-style-type: none"> <input type="checkbox"/> Story event picture cards <ul style="list-style-type: none"> ➤ PDF ➤ Canva template

10 minutes	<p>Activity 5: Revisit tKWL Chart</p> <ul style="list-style-type: none"> • Read over the ideas in the 'tW' column, confirm accurate understandings, and modify inaccurate statements to correct them. Then, write what was learned in the 'L' column. • Put check marks next to things that were learned in the 'W' column. 	<ul style="list-style-type: none"> <input type="checkbox"/> 'In progress' tKWL chart <input type="checkbox"/> Marker for the teacher to write on the tKWL chart
	<p>Home Extension: Read and discuss <i>The Energy Detectives: The Secrets of the Sun</i> with family members.</p> <ul style="list-style-type: none"> • Send home a letter to families with the book and bookmark. The letter should explain the rationale behind reading <i>The Energy Detectives: The Secrets of the Sun</i> with their children. See sample letter. • Students can read the book independently, read it aloud to family member(s) or if the text is above their independent reading level, a family member can read the text aloud to the student. • After reading, students and caregivers participate in a brief discussion about what was read using the accompanying bookmark with discussion prompts. <p>Teacher Note: Discussion prompts are available at the beginning of Lesson 2.</p>	<ul style="list-style-type: none"> <input type="checkbox"/> <i>The Energy Detectives: The Secrets of the Sun</i> books for each student to bring home (to get your FREE books, visit energydetectives.org) <input type="checkbox"/> Solar nightlights for students (FREE with book) <input type="checkbox"/> Sample Letter to Families <ul style="list-style-type: none"> ➤ PDF ➤ Canva template <input type="checkbox"/> <i>The Energy Detectives: The Secrets of the Sun</i> bookmark with discussion prompts (recommend printing 3 per page, so one page per 3 students) <ul style="list-style-type: none"> ➤ PDF ➤ Canva template ➤ Google slide

Lesson 2: Experimenting with Light (1 ½ hours)

Learning Objectives: Students will be able to...

Conduct an investigation to determine the effect of placing materials that allow light to pass through them, allow only some light through them, or block all the light when put in the path of a beam of light.

Language Objective: Students will be able to...

Describe findings from an experiment using newly learned vocabulary.

Lesson 2 Slides

- [PDF](#)
- [Google slides](#)
- [Canva template](#)

Duration	Activity	Materials & Prep
10 minutes	<p>Activity 1: Students share about reading the book with their families.</p> <p>Teacher Note: Invite students to respond to questions about their homework. It's okay if a student has not read with their families; do not single them out or penalize them in any way.</p> <ul style="list-style-type: none">● What did your family think of the book, <i>The Energy Detectives: The Secrets of the Sun</i>?● What is something new that your family learned about the Sun?● What is something you or your family is wondering about after reading the book together? <p>Teacher Note: Make sure students understand that most of us cannot make a lot of changes all at once. It's great to take one step at a time; that is still making progress.</p>	
20 minutes	<p>Activity 2: Light all around us</p> <ul style="list-style-type: none">● The teacher invites students to make observations about light. The teacher activates prior knowledge by asking questions, such as:<ul style="list-style-type: none">○ Why or how do we use light?○ What are some sources of light? (sun, light bulbs, etc.)● The teacher invites students to look around the classroom/school.<ul style="list-style-type: none">○ Where do you see light going through materials?	

	<ul style="list-style-type: none"> ○ Where do you see it blocked by materials? ○ How can you tell the difference? 	
30 minutes	<p>Activity 3: Investigation</p> <ul style="list-style-type: none"> ● Students conduct an investigation on how well light travels through different materials. ● The teacher goes over safety guidelines and demonstrates one example of each: light passes through, some light passes through, no light passes through. ● Students make predictions about which materials will let all, some, and no light through. They discuss their predictions with a partner. ● After giving some time for predictions, give student teams a flashlight to shine light on various materials. Tell them to test their predictions. <p>Teacher Note: If possible, materials should mimic those used to let in or block sunlight in a <u>building</u>, such as glass, wood, brick, blackout curtain, sheer curtain, and stained glass.</p>	<ul style="list-style-type: none"> <input type="checkbox"/> How much light gets through? handout <ul style="list-style-type: none"> ➤ PDF ➤ Google doc <input type="checkbox"/> Flashlight for each pair/group <input type="checkbox"/> Materials for testing, such as: <ul style="list-style-type: none"> ○ Glass or clear plastic such as a sheet protector, saran wrap, or plastic cup ○ Stained glass, colored vellum sheets, or colored tissue paper ○ Blackout curtain ○ Sheer curtain, nylon stockings, or pantyhose ○ Brick ○ Wood ○ Roof shingle ○ Felt ○ Paper towel ○ Cleaning wipe ○ White paper ○ Black paper
20 minutes	<p>Activity 4: Conclusion</p> <ul style="list-style-type: none"> ● The teacher invites students to draw conclusions based on their results. Prompts: <ul style="list-style-type: none"> ○ Which material let the most light through? ○ The least? ○ What other materials would you want to test? ○ Think about the energy detectives. Which material(s) would Charlie and Annabeth 	<ul style="list-style-type: none"> <input type="checkbox"/> Video: Light & Shadows for Kids by Kids Academy

	<p>choose to use in order to increase sunlight in their homes on a cold day? Why does this matter? <i>Sample answer: clear, or transparent materials like glass or plastic. They conserve energy because they do not need to use as much heat to warm the home.</i>)</p> <ul style="list-style-type: none"> ○ Which material(s) would Charlie and Annabeth choose to block sunlight from entering their homes on a hot day? Why does this matter? (<i>Sample answer: opaque materials like black shades. They conserve, or use less, energy because they do not need to use as much air conditioning or fans to cool the home.</i>) <p>Teacher Note: To strengthen equity of voice, we recommend teachers call on students randomly, such as with popsicle sticks or a virtual name wheel.</p> <ul style="list-style-type: none"> ● Students watch a video introduction to light and shadows. The video includes vocabulary terms for students ready for higher level science language: transparent, translucent, and opaque. 	
10 minutes	<p>Activity 5: Revisit tKWL Chart</p> <ul style="list-style-type: none"> ● Read over the ideas in the 'tW' column, confirm accurate understandings, and modify inaccurate statements to make them correct. Then, write what was learned in the 'L' column. ● Put check marks next to things that were learned in the 'W' column. 	<ul style="list-style-type: none"> <input type="checkbox"/> 'In progress' tKWL chart <input type="checkbox"/> Marker for the teacher to write on the tKWL chart

Lesson 3: Guest Speaker (1 hour)

<p>Learning Objective: Students will be able to...</p> <p>Ask a solar energy expert questions related to the Sun. We also produced this Youtube Q+A made along with Revision Energy if booking a live guest isn't workable.</p>
<p>Language Objective: Students will be able to...</p> <p>Generate questions using the 5Ws and H, and share them in writing and verbally.</p>

Lesson 3 Slides

- [PDF](#)
- [Google slides](#)
- [Canva template](#)

Duration	Activity	Materials & Prep
10 minutes	<p>Activity 1: Students generate questions for the speaker.</p> <ul style="list-style-type: none">● Students prepare questions beforehand to ask the speaker, either in their science notebooks or the provided handout.● Encourage students to think of at least 2 questions.● Provide students with a sample question.● Read their questions prior to the speaker, and choose one question from each student (or have them choose) to place in a hat.	<ul style="list-style-type: none"><input type="checkbox"/> Science Notebooks or<input type="checkbox"/> Guest Speaker handout<ul style="list-style-type: none">➤ PDF➤ Canva template➤ Youtube Q+A with Revision Energy
25 minutes	<p>Activity 2: Guest speaker</p> <ul style="list-style-type: none">● A solar energy professional, invited by the teacher, speaks to students about the Sun and solar power.● Leave time at the end for student questions. They can read them from their list of questions that they wrote, or you can pick them out of a hat for the speaker to answer.	<p>Suggested guest speakers: energy coach, environmental advocate, renewable energy consultant, employee of solar power company, landscape architect, meteorologist, etc. Reach out to adult family members first to see if any of them might be a good fit or know someone who is!</p> <p>Tell the speaker what your students are learning about and what types of things you'd like them to share. For example, tell them to share what they were doing when they were in elementary school</p>

		<p>and their path to their role/interest in solar energy. Click HERE to make a copy of an email template for inviting a guest speaker to your class.</p> <p>Invite parents and caretakers to come to school or zoom in to listen to the speaker along with your students. Click HERE for a sample invitation, editable in canva. (Note: A photo of your guest can also be pasted over the center image.)</p>
10 minutes	<p>Activity 3: Thank You Note</p> <ul style="list-style-type: none"> Students write thank you notes to the guest speaker. 	<input type="checkbox"/> Science Notebooks <i>or</i> <input type="checkbox"/> Thank You Letter ➤ PDF ➤ Canva template
10 minutes	<p>Activity 4: Revisit tKWL Chart</p> <ul style="list-style-type: none"> Read over the ideas in the 'tW' column, confirm accurate understandings, and modify inaccurate statements to make them correct. Then, write what was learned in the 'L' column. Put check marks next to things that were learned in the 'W' column. 	<input type="checkbox"/> 'In progress' tKWL chart <input type="checkbox"/> Marker for the teacher to write on the tKWL chart

Lesson 4: Engineering Project (2 hours)

Learning Objective: Students will be able to...

1. Design a window covering that can change how much light is let into a room.
2. Interpret data in order to choose materials for a window covering.

Language Objectives: Students will be able to...

1. Make a claim and support it with reasoning.
2. Write in complete sentences using conjunctions such as because.

Lesson 4 Slides

- [PDF](#)
- [Google slides](#)
- [Canva template](#)

Duration	Activity	Materials & Prep
10 minutes	<p>Activity 1: Introduce the scenario and engineering challenge</p> <ul style="list-style-type: none">● Teacher script: <i>"During different parts of the day, we want different amounts of light to come through our classroom window. For example, when we are showing a video, we prefer no light at all, but when we are working at our desks, we want most light to enter. Also, when using the whiteboard, we do not want a glare but we want to be able to see, so we only want some light to enter. Moreover, on a cold day, we want our room to be warmer, so we want to let more light in. On a warmer day, we want it cooler, so we want to let less light in."</i>● Challenge: Design a window covering / shade for a model classroom that can <i>change</i> how much light gets through: most, some and none.● Tell students to discuss in pairs (and then as a full class):<ul style="list-style-type: none">○ What are some examples of different types of window coverings? (<i>blinds, curtains, insulating honeycomb shades, shutters</i>)	
30 minutes	<p>Activity 2: Design</p> <ul style="list-style-type: none">● Optional: Read the book, Jabari Tries by Gaii Cornwall, to the class.● Students discuss in pairs (and then as a full class) responses to the following prompts:	<ul style="list-style-type: none"><input type="checkbox"/> Jabari Tries read aloud, courtesy of Miss Alivia Reads and YouTube<input type="checkbox"/> Window covering design plan handout<ul style="list-style-type: none">➤ PDF

	<ul style="list-style-type: none"> ○ What is an engineering mindset? (<i>Sample responses: Engineers need to understand that they may not solve a problem on their first try. They may need to make lots of changes and revisions before something works as intended. Engineers understand that mistakes are information to learn from. Mistakes help them know what does <u>not</u> work, so they can make changes to get things functioning. Engineers need to be patient and willing to persevere. They need to listen to their teammates and work together to solve problems</i>) ○ Why is it important to have an engineering mindset? (<i>Sample responses: Our window coverings may not work well, but we can learn from mistakes and do better next time. We need to be patient and persevere, even when it is difficult. We need to work with our partner, share our ideas, and listen to each other.</i>) ○ Why is it important to waste as little as possible? (<i>We want to take better care of planet Earth. One way is to create less trash.</i>) ● Students draw a plan for a window covering from the materials provided by the teacher in their science notebooks or the provided handout. ● Students work in pairs or alone, depending on teacher preference and available supplies. 	<p>➤ Google doc</p>
<p>60 minutes</p>	<p>Activity 3: Build & Test</p> <ul style="list-style-type: none"> ● Give each team a box, such as a shoebox, with a pre-cut window to represent a mini classroom. ● We recommend you place supplies in an organized way around the room. Give each team a tray or canvas shopping bag, and have them "shop" for the supplies they need. <p>Important: remind students to waste as little as possible! They should only take and use what they need.</p>	<ul style="list-style-type: none"> <input type="checkbox"/> Flashlight <input type="checkbox"/> Box with pre-cut 'window' (large enough for little hands to work with) <input type="checkbox"/> Materials for building a window covering, such as: <ul style="list-style-type: none"> ➤ Clear plastic (e.g. sheet protector, saran wrap, plastic cup)

	<ul style="list-style-type: none"> • They build and test their window treatment using their cardboard box model classroom and a flashlight. 	<ul style="list-style-type: none"> ➤ Colored vellum sheets or colored tissue paper ➤ Blackout curtain ➤ Sheer curtain, nylon stockings, or pantyhose ➤ Popsicle sticks ➤ Felt ➤ Old clothing ➤ Paper towel ➤ Cleaning wipe ➤ White paper ➤ Black paper ➤ String ➤ Elastics ➤ Glue ➤ Tape ➤ Scissors
20 minutes	<p>Activity 4: Conclude</p> <ul style="list-style-type: none"> • In the science notebooks or on the linked handout, students update their models to represent their final window coverings. • They write one sentence to explain why their window covering solves the problem. "The best window covering for our classroom is _____ because _____" • They write one sentence to explain how their window covering helps to conserve energy in the classroom. "My window conserves energy because it..." 	<ul style="list-style-type: none"> <input type="checkbox"/> Window covering design plan handout <ul style="list-style-type: none"> ➤ PDF ➤ Google doc
10 minutes	<p>Activity 5: Revisit tKWL Chart</p> <ul style="list-style-type: none"> • Read over the ideas in the 'tW' column, confirm accurate understandings, and modify inaccurate statements to make them correct. Then, write what was learned in the 'L' column. • Put check marks next to things that were learned 	<ul style="list-style-type: none"> <input type="checkbox"/> 'In progress' tKWL chart <input type="checkbox"/> Marker for the teacher to write on the tKWL chart

	in the 'W' column.	
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Lesson 5: Presentations & Reflections (1 hour)

<p>Learning Objectives: Students will be able to...</p> <ol style="list-style-type: none"> 1. Share examples of how light passes through materials differently. 2. Explain how a window covering can help conserve energy. 		
<p>Language Objective: Students will be able to...</p> <ol style="list-style-type: none"> 1. Summarize information verbally to share ideas with an audience. 2. Describe scientific information in response to questions posed by others. 		
<p>Lesson 5 Slides</p> <ul style="list-style-type: none"> ➤ PDF ➤ Google slides ➤ Canva template 		
Duration	Activity	Materials & Prep
15 minutes	<p>Activity 1: Preparation</p> <ul style="list-style-type: none"> • Students practice and prepare for visitors. 	<ul style="list-style-type: none"> <input type="checkbox"/> Presentation checklist <ul style="list-style-type: none"> ➤ PDF ➤ Canva template
30 minutes	<p>Activity 2: 'Invention Convention' - Students present their window coverings to a live audience of community members with parents and caregivers.</p> <ul style="list-style-type: none"> • Recommended presentation style: Gallery walk - Audience members visit a group of 2 to 4 students at a 'station', listen to their presentation, and ask questions. Students may also take turns participating in the gallery walk. • Invite visitors to complete the "Visitor Feedback" form for each presentation they hear. 	<ul style="list-style-type: none"> <input type="checkbox"/> Sample Invitations to Community Members (recommend sending virtually) <input type="checkbox"/> Window treatments & corresponding writing <input type="checkbox"/> Visitor Feedback form (recommend 4 per visitor, printing 2 per side, so they have all 4 on one paper) <ul style="list-style-type: none"> ➤ PDF

		➤ Canva template
15 minutes	<p>Activity 3: Reflection</p> <ul style="list-style-type: none"> • Students reflect on The Energy Detectives: The Secrets of the Sun unit in their science notebooks or on the provided "Student Reflection" handout. • Students draw and label: <ul style="list-style-type: none"> ○ A part of their window covering that was successful ○ A part of their window covering that needs improvement ○ Constraints that made the project challenging ○ How they worked with their team, showing both what they did well and what they will improve on next time 	<input type="checkbox"/> Science Notebooks or <input type="checkbox"/> Student Reflection ➤ PDF ➤ Canva template

Math Extension

Grade 1 Benchmarks		
Duration	Activity	Materials & Prep
20 minutes	<p>Students complete practice exercises that also serve as indicators to help teachers identify who is meeting grade level benchmarks as well as who needs additional support. The chosen activities are based on readiness standards in the Universal Screeners for Number Sense (USNS).</p> <ul style="list-style-type: none"> • Subtraction & addition • Counting forward & backward 	<input type="checkbox"/> Subtraction word problems & adding rolled numbers ➤ PDF ➤ Canva template <input type="checkbox"/> Counting forward & backward ➤ PDF ➤ Canva template

The End
