

Unit 4: Communicating with Sound and Light

WEEK 4 Studios



What is light?

In the Art, Building, and Writing and Drawing Studios, children make shadow puppets and a shadow puppet theatre and use a storyboard technique to plan stories to tell with the puppets. They tell and act out stories in which light impacts the characters and events. Children search for, identify, and describe qualities of light in the Library Studio. They continue investigations from Science and Engineering lessons.

<p>Big Ideas</p>	<p>Light and sound travel. Materials interact with light in different ways.</p>
<p>Materials and Preparation</p>	<ul style="list-style-type: none"> ● Studios prompts, cut apart and added to each bin ● Studios Planner ● observation sheets <p>Bring to the whole group meeting only those bins needed for introductions.</p> <p><u>For the Art Studio:</u></p> <ul style="list-style-type: none"> ● Making Shadow Puppets procedure, 2-4 copies in sleeve protectors ● black cover stock paper, some cut into halves and some into quarters ● scrap paper ● white and/or graphite pencils ● scissors ● glue sticks ● wooden coffee stirrers, enough for 1 or 2 per puppet ● tape ● paper fasteners, optional, for more complicated puppets <p>Note: Children will make puppets in the Art Studio and a puppet theatre in the Building Studio; plan for movement and experimentation</p>

between these two areas.

For the Building Studio:

Review directions for making a shadow puppet theatre, and plan the most appropriate approach for the classroom. ([Kidspot/YouTube](#), [We Have Kids](#), [Kidspot](#), [Inner Child Fun](#))

- Making a Shadow Puppet Theatre procedure, in a sleeve protector
- one large or several small boxes
- lamp(s)
- lightweight paper or waxed paper (as large as the box)
- pencils
- tape
- scissors (or utility knife for adult use)

For the Drama Studio:

- fabric and clothespins
- flashlights and/or other light sources
- other props used for acting out stories
- Unit and other texts featuring light
- paper or notebooks
- writing and drawing tools

For the Library Studio:

- Unit 4 and other books
- Light Search sheets
Alternatively, a large chart might be made so all children contribute to a group search.
- clipboards
- writing tools

For the Math Studio:


- Unit 4 Books
- pattern blocks
- sticky notes
- [Recording Sheet](#)


For the Science and Engineering Studio:


- materials from Science lessons
- additional items from around the classroom that are transparent, opaque, and translucent
- science journals
- colored pencils


	<p><u>For the Writing and Drawing Studio:</u></p> <ul style="list-style-type: none"> ● half- or quarter sheets of paper <p>Review Studios descriptions below. Decide which studios to introduce explicitly. Prepare the Opening basket and materials accordingly.</p>
<p>Opening</p>	<p><i>There is so much to explore about light! We have lots of new Studio activities this week, as we shift our focus from sound to light.</i></p> <p><i>The Art and Building Studios work together. At the Art Studio, you can make shadow puppets, and at the Building Studio you can create a shadow puppet theatre to try them out. Of course, at the Writing and Drawing Studio you can plan, draw, and write stories for the puppets.</i></p> <p><i>At the Drama Studio, you might also create and act out a story in which light is important. Maybe a certain light—or darkness—has an impact on what happens to the characters.</i></p> <p><i>At the Library Studio, you can do a light search! Look through our books—any of them, not just the ones about light!—and see what different sources and kinds of light you can find. When you record them on this sheet [show the Light Search recording sheet], see what adjectives you can use to describe the lights. Are they bright, flashing, blinking, blinding, soft...?</i></p> <p><i>At the Math Studio this week, we will continue to investigate shapes in books. We will then add pattern shapes onto the illustrations.</i></p> <p><i>At the Science and Engineering Studio, you can continue your investigations of different materials and how light interacts with them.</i></p> <p>Describe and model each studio to the extent needed for children to begin their work.</p> <p><i>Turn and tell your partner your plan and your backup plan.</i> Ask a couple of children to share their plans, and dismiss all children to begin working.</p>
<p>Facilitation</p>	<p>As children work, circulate and engage children in conversation about their endeavors. Exploit opportunities to highlight children’s</p>

	<p>connections to the Weekly Question and the unit’s Big Ideas. Offer support in the form of material and print resources, strategies, adaptive tools, and consultation with peers.</p> <p>Listen in, observe, and take notes about children’s interests, experiences with, and questions about light. Use these notes to plan for upcoming Studios sessions.</p> <p>While children work, consider which piece of work to bring to a Thinking and Feedback meeting.</p>
Closing Studios	<p>Support smooth clean up of studios materials and organization of works in progress.</p> <p>Facilitate a short, whole group meeting after Studios to discuss children’s activities, discoveries, and questions.</p>

<p style="text-align: center;">Art</p> 	<p>Making Shadow Puppets</p> <p><u>Objective:</u> I can experiment with light to make a shadow puppet.</p> <p><u>Introduction:</u> <i>As we begin to learn about light, one thing we are exploring is shadows. We can make puppets out of light and shadows! In the Art Studio, you can refer to these procedures to try to make different kinds of shadow puppets—with your hands, and with paper. To do this, you’ll need to think about shapes you want to make and about how to get them to appear on the wall, using light.</i></p> <p><u>Process:</u> Children first experiment with making and moving shadows with their hands. They can watch a video for inspiration. After experimenting with their hands as puppets, they begin making paper puppets.</p> <p>Children decide on a character—animal, plant, or person—and follow the Shadow Puppet Procedure to create their puppets with provided materials. They support each other with deciding on what to represent through puppets, drawing, cutting, and assembling puppets. As they work, children may begin to conceptualize the stories these puppets will inhabit.</p> <p><u>Facilitation:</u> Offer material and conceptual help as children work, and refer them to</p>
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	<p>each other for support and collaboration. Encourage children to articulate what they are discovering about how to use the light and their hands and paper to make their puppets.</p> <p>Children may be tempted to draw details onto the paper puppets. Encourage them to experiment with the puppets in front of the light to discover whether these marks are effective.</p> <p><i>What are you noticing about how the light and the shadow are related?</i></p> <p><i>What is challenging about this?</i></p> <p><i>Do you have a story in mind for these puppets to play out?</i></p> <p><u>Ongoing Assessment:</u> Listen to the vocabulary children are using to describe the parts of their puppets and how they make effective shadows. Take note of any misconceptions or questions children express. Notice how children follow the procedure and use the resources available to them.</p> <p><u>Thinking and Feedback Possibilities:</u> Invite children to bring their puppets to the whole group. Classmates might respond to and give feedback about the shapes children have made to communicate different characters, how the puppets are moved in the light, and emerging stories.</p>
<p>Building</p> 	<p>Building a Puppet Theatre</p> <p><u>Objective:</u> I can build a puppet theatre to effectively show a shadow puppet story.</p> <p><u>Introduction:</u> <i>As you make shadow puppets, you will need a puppet theatre to use them!</i></p> <p>Refer to the procedure for building a shadow puppet theatre and show the available materials. Note that children can choose to make small or large puppet theatres (depending in part on available materials), and that they may need adult help for cutting the box(es).</p> <p><u>Process:</u> Children work together to make a puppet theatre. They may need adult help to walk through the procedure and cut the cardboard.</p> <p>They set up the light and experiment with hand or paper puppets to refine the theatre design.</p> <p><u>Facilitation:</u></p>

	<p>Encourage children to work collaboratively. <i>What is important to consider in making the puppet theatre work effectively?</i> <i>What do you think is the best position for the theatre and the light? Why do you think so?</i></p> <p><u>Ongoing Assessment:</u> How are children bringing their evolving understandings about light and shadow to the problem of creating the puppet theatre? What materials do they try, and which do they reject or include? What strategies do they consider for orienting the light? How do they articulate their thinking? What vocabulary do they use?</p> <p><u>Thinking and Feedback Possibilities:</u> Invite children to bring the puppet theatre to the whole group and to demonstrate how it works. They might share and ask for feedback on their design and strategies, or they might share and ask for help about a dilemma for making it work more effectively.</p>
<p>Drama</p> 	<p>Telling, Writing, and Acting Out Stories</p> <p><u>Objective:</u> I can use what I know and am learning about light to tell, write, and act out stories.</p> <p><u>Introduction:</u> <i>This week we are learning about light. Can you create and act out a story in which light is important? Maybe a certain kind of light—or maybe darkness—has an impact on the characters and events.</i></p> <p><u>Process:</u> Children create stories that include light. They might use fabric or furniture to create relative darkness; they might use flashlights as various light sources. They can use paper to cut out a sun or moon to hang in the studio. Children write and draw their stories as a way to record them, as well as record with video as they act out stories.</p> <p><u>Facilitation:</u> Encourage children to tell stories, to record them in writing and drawing, and to act them out. <i>How did you decide what story to tell?</i> <i>How will you show that?</i> <i>What will happen next?</i></p>

	<p><u>Ongoing Assessment:</u> Video record stories as children act them out. Share the recordings back with children and ask them if the story accomplishes what they wish, what they might like to add or change, and whether the story might continue in another part.</p> <p>Collect stories children have written and drawn and review them for writing conventions and language and vocabulary development. What solid understandings are revealed in these stories? What opportunities for further learning about the topic? What interests?</p> <p><u>Thinking and Feedback Possibilities:</u> Invite children to act out their stories. Generate feedback about the storylines, the ways characters respond to light sources and phenomena, and the actors’ gestures. Classmates might suggest what could happen if the story continues.</p>
<p>Library</p> 	<p>Searching for and Describing Light</p> <p><u>Objective:</u> I can peruse books to find sources of light and use adjectives to describe the different kinds of light I find.</p> <p><u>Introduction:</u> <i>You have looked through our books to find sources of sound. Now you can look for sources of light.</i> Show the Light Search sheets and walk through writing a book title, identifying a light source, and recording adjectives to describe it.</p> <p><u>Process:</u> Independently and with classmates, children read to find, name, and describe light sources and effects. They record their findings on the sheet provided.</p> <p><u>Facilitation:</u> <i>What light sources are you finding?</i> <i>How do you know what is producing this light?</i> <i>How can you describe the quality of this light, differently than other sources?</i> <i>Can you record your findings with a drawing? With words?</i></p> <p><u>Ongoing Assessment:</u> Review children’s Light Search sheets (or the class chart). Note how children record book titles, what light sources they identify, and what</p>

	<p>adjectives they use to describe light. Do children use words that communicate shades of meaning?</p> <p><u>Thinking and Feedback Possibilities:</u> Invite a research pair to share what they have found. Invite them to show two or three light sources they have found in texts and to share their adjectives. Would their classmates describe these lights in the same ways? What resources do children use to come up with adjectives?</p>
<p>Math</p>	<p>Picture Book Shapes 2</p> <p><u>Objective:</u> I can find, record, and describe and add onto shapes found in picture books.</p> <p><u>Introduction:</u> <i>Last week, we discovered shapes in our Unit 4 books. This week, we will continue that work with an extra challenge. We will use pattern blocks to enhance the shapes we find in the books.</i></p> <p><u>Process:</u> Children work independently or in partnerships. They explore and find different shapes within the Unit books. Children can mark the page with sticky notes. They sketch the shape, describe its attributes, and the name of the shape on the recording sheet. Children discuss their findings with those around them. Children may also decide to add new shapes to the books they are reading. For instance, a child might add a triangle to a tree. Alternatively, children may cover the shapes they find with the pattern blocks, such as covering the blanket with a square.</p> <p><u>Facilitation:</u> <i>What do we know about shapes? How could you describe what you see? How are the shapes the same? How are they different? How can you add onto that illustration?</i></p> <p><u>Ongoing Assessment:</u> Observe to ensure children are using descriptive language when describing shapes, especially when talking about the sides, vertices, and edges.</p>
<p>Science and Engineering</p>	<p>Exploring Light and Materials</p> <p><u>Objective:</u> I can sort and find materials according to whether they are opaque, translucent, or transparent.</p>



Introduction:

Reintroduce materials and processes, as needed, from the week's Science and Engineering lessons.

Process:

Children continue their investigations from Science lessons, flexibly and playfully exploring how light interacts with different materials and recording their findings. Children may continue to identify items around the room that are transparent, translucent, and opaque.

Facilitation:

*What have you discovered about light and different materials?
Which materials have surprised you in some way?
What more do you want to find out?*

Ongoing Assessment:

Observe as children work and review their science journal entries. Make note of emerging understandings, questions, and misconceptions. Consider what other materials from around the classroom might be useful in helping children build further knowledge.

Thinking and Feedback Possibilities:

Children will engage in Science Circles during Science and Engineering lessons to extend their thinking and work.

**Writing and
Drawing**



Making Storyboards

Objective:

I can use a storyboard to plan a story featuring light.

Introduction:

Plan a story to tell with your shadow puppets. You can use the storyboard technique to plan out your story. By putting one event on each paper and then laying them out, you can think about whether you want to add something in the middle or change the order of the events that happen.

Show the paper for creating a storyboard; demonstrate drawing or writing one event on each piece of paper, and then rearranging the sequence.

Process:

Children use a series of pages to create a storyboard. This format allows children to add elements in the middle of their stories or to reorder the sequence of events.

	<p>Children might also continue writing procedures, including for making shadow puppets or a puppet theatre.</p> <p><u>Facilitation:</u> <i>What is happening in your story?</i> <i>How is light important in the story?</i> <i>Is this the best order of events?</i> <i>Is there anything you want to add?</i></p> <p>Invite children to share their storyboards with each other and to solicit feedback about the order of events.</p> <p><u>Ongoing Assessment:</u> Review children’s procedures using the Procedure Observation Tool.</p> <p><u>Thinking and Feedback Possibilities:</u> As in the studio work itself, invite a writer to share a procedure and have other children follow it to see whether it is effective.</p>
<p>Standards</p>	<p>Standards addressed will depend upon the studios in which children work. Possibilities include those listed in the Studios Introduction (Part 2: Components) and the following studio-specific standards.</p> <p><u>Drama:</u> L.6.1 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.</p> <p><u>Math:</u> 1.G.A Reason with shapes and their attributes 1.G.A.1 Distinguish between defining attributes (e.g., triangles are closed and three-sided) versus non-defining attributes (e.g., color, orientation, overall size); build and draw shapes to possess defining attributes.</p> <p><u>Science and Engineering:</u> Practice 1. Asking questions and defining problems Practice 2. Developing and using models</p> <p><u>Writing and Drawing:</u> W.2 Develop, strengthen, and produce polished writing by using a collaborative process that includes the age-appropriate use of</p>

