

shadows are in relation to the sun. Ask, "Are your shadows short or tall?"

2. Have students move around and observe their shadows as you ask them the following questions:
 - What makes your shadow move?
 - What happens to your shadow when you stretch your arms up high?
 - What happens to your shadow when you crouch down low to the ground?
 - Can you make your shadow disappear completely?
3. Divide students into pairs and give each pair a piece of chalk. Have students stand on a hard surface, such as the blacktop or sidewalk. Prompt them to take turns using the chalk to trace around each other's shoes and shadows. Encourage them to label the outline with their name and the time of the day.
4. Ask students to measure and record the time, length, angle of the shadows and find the relationship between distance, size and angle in formation of shadow.
5. Ask them to predict what their shadows will look like when they return to the same spot later in the day or different time. Have students test their predictions a few hours later by returning to the same spot, using their shoe outline as a guide. Instruct students to take turns tracing their new shadows.
6. Invite students to discuss the differences in their shadows. Why

<p>11:15-11:45</p>	<p>do they think the shadows moved?</p> <p>7. Explain to students that their shadows look different because the Earth is rotating. The sun is now in a different position relative to where they are standing.</p> <ol style="list-style-type: none"> 1. Ask students to consider what forms in nature do we commonly see in art? 2. Ask students to think about shadows, patterns, and textures that we see in nature. 3. Give students 15 minutes to sketch out different patterns they can find in nature. 4. When finished, bring students inside and ask them to look back to their sketches and think of ways they can use the patterns they collected to create a drawing. 5. Using crayons or markers, students will use reference from the observational sketches to create a nature pattern drawing. 	<p>If weather is bad, we will look up pictures of trees and nature scenes to pull patterns from.</p>
<p>Materials List (please be detailed; include exact quantities) Art materials for each student</p> <ul style="list-style-type: none"> - 4 pieces of white paper - pencils, 2b, 4b, hb - erasers - pencil sharpeners - pack of crayon 		<p>Modification for Inclement Weather</p> <p>Science material (each students) -Paper cups (2 different size) -White paper/ Wax Paper</p>

shadows; phases of the moon; and different positions of the sun, moon at different times of the day, month, and year.

Timeline	Lesson Description	Modification for Inclement Weather
10:00-10:15	<ol style="list-style-type: none"> 1Students will be divided into two groups and will ask them to group the things based on criteria how much light pass through the objects. 2. Students will discuss the Opaque, Transparent and Translucent objects and categorize the material. 3. Students will be introduced with the solar system and the rotation of Sun,Earth and Moon. 	
10:10-10:55	<p>Introduction to artists who sculpt with everyday materials</p> <ol style="list-style-type: none"> 1. Students will be told that building off of last week, we will be discussion the lunar and solar eclipse and that to do so we will be creating our own moons or suns 2. Students will be given tin foil, tape and paper and will be instructed to create a form for their moon/sun 3. Students will be asked to consider the textures that might include in their sculpture to represent the moon/sun 4. Tempera paint will be provided for students to paint their moon/sun and try to mimic the textures, light, and shadows of them 	
10:55-11:10	<ol style="list-style-type: none"> 4. After building the model of Earth, Sun and moon from the Art, the student will explore solar eclipse and lunar eclipse by using torch light. tennis ball and ping pong ball. 	
11:10-11:30	<ol style="list-style-type: none"> 5. The students will explain the solar/lunar eclipse by explaining through their model. 	
Materials List (please be detailed; include exact quantities) Art materials for each student		Modification for Inclement Weather

<ul style="list-style-type: none"> - 4 sheets of white paper - roll of tape - roll of tin foil - tempera paint <ul style="list-style-type: none"> - white,black, red, orange, yellow - paint brush, 1 thicker width and 1 thinner - paper plate for palette - plastic cup for water - string & 1 pair scissors for the room <p>Science Material: Transparent item:Plastic wrap , plastic lead, laminating material (2 sets) Translucent: Bubble wrap, Tissue paper, waxed paper, white paper (2sets) Opaque material: Tin foil, cardboard, Styrofoam, Felt (2 sets, not for each students)</p> <p>Tennis ball (each student) Ping Pong Ball (each student) Torch light or Flashlight (each student)</p>	
---	--

Week 3: Exploring Color in Nature

Lesson Title: The colors of the sky Grade: 5/6	Week: 3	Instructors: Conghui & Kodey Topic: Color in Nature
<p>Lesson Objectives: Students will learn why the sky changes in color in the context of sunrise, sunsets, and weather changes. And how artists use these knowledge to find right places to take photos in right time.</p>		
<p>Art/Science Inclusion (brief description of how your lesson presents an integration of art and science concepts.) Students will be asked to consider what their favorite weather pattern is and how it looks in the sky. They will consider sunrise, sunset, night time, storms, or cloudy days. This will lead into the science as they will then be asked to consider why the colors in the sky change and will be explained this. Students will then be introduced to the concept of atmosphere and the particles in the atmosphere.</p>		
<p>Art Open-Ended Question (what problem, task, or exploration will students be dealing with (should have multiple ways to complete it)) What is your favorite kind of sky? What colors does it have? What weather is happening?</p>		

Art Education Standard (should include at least one, see <https://www.arteducators.org/learn-tools/national-visual-arts-standards>)

Creating- Organize and develop artistic ideas and work
 People create and interact with objects, places, and design that define, shape, enhance, and empower their lives. Identify, describe, and visually document places and/or objects of personal significance.

Science Education Standard (should include at least one, see <https://www.doe.in.gov/standards/science-computer-science>, NGSS also great)

Develop a model using an example to describe the influence of the atmosphere on landforms and ecosystems through weather and climate.

Timeline	Lesson Description	Modification for Inclement Weather
10:00- 10:10	Students will be asked to consider what their favorite weather pattern is and how it looks in the sky. They will consider sunrise, sunset, night time, storms, or cloudy days.	
10:10- 10:40	<ol style="list-style-type: none"> 1. Students will be given watercolor and watercolor paper 2. Students will recreate their favorite type of sky with watercolors 3. Students will be asked why they think the colors in their sky are the way they are. (Consider the season weather and time of day) 	
10:40-10:50	<p>Group discussion of why the color of sky changes.</p> <ol style="list-style-type: none"> 1. Based on students' watercolors, list all of the different colors students have come up with. 2. Conclude the changes of the color of sky: Red sunrise and sunset. Blue sky, and ask why the color of sky changes at different times of a day. 3. Finish this part with the question: Is the position of the sun affecting the color of the sky? 	
10:50-11:20	<p>Sky color experiment:</p> <ol style="list-style-type: none"> 1. Briefly introduce that we will do an experiment to simulate the process of sunlight going through the atmosphere. 	

11:10-11:30	<ol style="list-style-type: none"> 2. Lead students to think about the color of sunlight and what makes up the atmosphere. Then introduce the materials. 3. Set up the equipment. Turn off the light in the classroom and let students observe in a turn and describe how the phenomenon relates to their watercolors. 4. Discuss what happened in the sky when extreme weather happened. <p>Introduce some artists (Jim Reed) that are interested in taking pictures of colorful skies or extreme weathers and show some of their works.</p> <p>Discuss how they find right places and times based on the science behind weather and climate to take these photos.</p>	
<p>Materials List (please be detailed; include exact quantities)</p> <p>Art Materials for each student:</p> <ul style="list-style-type: none"> - watercolor set - large thick brush and small detail brush - cups for water - watercolor paper - Smooth sided glass container or cup - Milk (no less than the volume of the container) - Flash light 		<p>Modification for Inclement Weather</p>

Week 4: Building with Mother Nature

Lesson Title: Building in nature	Grade: 5/6
Week: 4	Topic: Building in Nature
<p>Lesson Objectives: Students will identify local birds and various types of their nests. They will learn the purpose of bird nests and discuss how, where and when to build nests. Students will apply this knowledge to create their own nest using natural materials.</p>	
<p>Art/Science Inclusion (brief description of how your lesson presents an integration of art and science concepts.) Students will learn how birds create and build with natural materials and will then be able to apply and understand this knowledge by creating their own bird's nest.</p>	
<p>Art Open-Ended Question (what problem, task, or exploration will students be dealing with (should have multiple ways to complete it)</p>	

Students will be exploring natural materials and ways they can create art from and with nature. Are birds architects?

Art Education Standard (should include at least one, see <https://www.arteducators.org/learn-tools/national-visual-arts-standards>)

Creating- Anchor Standard 1: Generate and conceptualize artistic ideas and work
Combine concepts collaboratively to generate innovative ideas for creating art.

Science Education Standard (should include at least one, see <https://www.doe.in.gov/standards/science-computer-science>, NGSS also great)

Obtain and combine information about ways individual communities use science ideas to protect the earth resources and environments.

A healthy ecosystem is one in which multiple species of different types are each able to meet their needs in a relatively stable web of life. Newly introduced species can damage the balance of an ecosystem.

Timeline	Lesson Description	Modification for Inclement Weather
10:00-10:10	<p>Students will be asked to consider what kind of birds they know or have seen in Indiana.</p> <ul style="list-style-type: none"> ● Students will describe when and where do they see them. ● Follow up questions could include how often do they see this kind of bird. ● Students will be led to discuss other characteristics of the birds like color and size. 	
10:10-10:25	<p>The discussion will be ended by a PPT of a list of common backyard birds in Indiana.</p>	
10:25-10:40	<p>After going through all the birds, students will be asked to recall if they have seen some of the birds' nests, and discuss:</p> <ul style="list-style-type: none"> ● What is the purpose of bird nests? ● Where do birds build their nests, and why? ● What is the structure of bird nests ? ● What materials do birds use to build nests ? 	
10:40-10:50		

<p>10:50-11:00</p> <p>11:00-11:30</p>	<p>Students will have a brief introduction to land artist and consider how they are similar to birds building in nature</p> <p>The class will go outside and collect natural materials</p> <p>After materials are collected students will work collaboratively to create their own bird's nest.</p>	<p>Students will be presented with small teacher made sample of a bird's nest using natural materials (I will bring these in)</p> <p>The class will be asked to think of different natural materials that could be used to make a nest. Students will create their own nest by drawing this on paper with colored pencils</p>
<p>Materials List (please be detailed; include exact quantities)</p> <p>Art materials</p> <ul style="list-style-type: none"> - students will collect materials from outside 		<p>Modification for Inclement Weather</p> <p>art materials for each student</p> <ul style="list-style-type: none"> - colored pencils - white drawing paper