Lesson Title:
Grade: 2  Week: 1  Topic: Learning to Observe Like a Scientist

Lesson Objectives:
● Students will observe and describe different places where they can find water outside.
● Ss will observe and describe features of water at the Jordan River
● Ss will create a representation using water colors of the forms and features of the body of water (Jordan River)

Art/Science Inclusion (brief description of how your lesson presents an integration of art and science concepts.)

Students are using observation skills to study the water and observe how it moves and acts. Students will use their observations to create an artistic representation of the water while also learning watercolor techniques.

Art Open-Ended Question (what problem, task, or exploration will students be dealing with (should have multiple ways to complete it))

Using our observations of water, how can we recreate the movements and textures of water using watercolors?

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

VA:Cr1.2.2a :
Make art or design with various materials and tools to explore personal interests, questions, and curiosity.

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

2.ESS.4 Obtain information to identify where water is found on Earth and that it can be solid or liquid

Timeline

<table>
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<tr>
<th>5 mins</th>
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<th>Modification for Inclement Weather</th>
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</table>
| ● Lesson will begin indoors to introduce the activity to the students. We will ask the essential question of “Where can we find water?”
● Students will give their answers to the questions, and if needed the teachers can guide them into thinking of rivers as a segway for traveling down to observe the river.
● The group will travel outside to observe the Jordan River and the features of the water. | Instead of going outside, we will have a tub of water or some other kind of water to have the students explore inside. |
| 10-15 mins | ● Each teacher will take a group of three students to a spot on the river to observe the water. The teacher may ask guiding questions like “How is a river different from a puddle? Where do you think the water comes from?” Students may pose their own questions about the river, and the small group can talk about them.  
● As they are observing, students will sketch what they observe using paper and pencil on their clipboards. They should try to think of ways to represent the movement of the river (this can be explored more with the water colors as well). Students can get close to the water, but they should not step into the river.  
● After students have finished their sketches, they will go back to the classroom to paint  
● The group will create their representations using different watercolor techniques (wet on wet, wet on dry, splatter with brush, dropper, salt).  
● With students seated, a teacher at each group can demonstrate the different watercolor techniques to the students. (Wet on wet uses a wet brush on wet paper, wet on dry uses a wet brush on dry paper, splatter is tapping the brush to splatter paint on the paper, dropper is using the pipette to drop water on the paint, and salt is sprinkling salt onto the wet paint).  
● Encourage students to observe how the colors and paints change with each technique. They will use these techniques to create their representation of the river.  
● After students have completed their paintings, they may talk about the techniques they used, their favorite techniques, etc.  
● Ss share out painting and describe how the water movement is shown in their paintings | 60 mins |  
| Materials List (please be detailed; include exact quantities)  
● water color sets (1 per student + 1 teacher set)  
● water color paper (2 sheets per student + 4 extra)  
● paint brushes (1 per student + 1 teacher)  
● pipettes (2 per student)  
● kosher salt if available (1 box) |  
| Modification for Inclement Weather  
Show video of water or bring in tub of water and experiment placing rocks or objects in it |
- Dixie cups or similar for holding salt (1 per student)
- paper (3 sheets per student)
- pencils (1 per student + a few extras)
- clip boards (1 per student + 1 teacher)
- water cups (1 per student + 2-3 extra)
- paper towels (1 roll)

Week 2: Light and Shadow

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<th>Lesson Title: Exploring Light and Shadow</th>
<th>Instructors:</th>
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<tr>
<td>Grade: 2</td>
<td>Week: 2</td>
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<tr>
<td>Topic: Light and Shadow</td>
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Lesson Objectives:
- Students will understand how a camera operates and how it can be used to capture light
- Students will understand the difference between light and shadow
- Students will explore light and shadow in both manmade and natural settings
- Students will explore the idea of temporary vs permanent in terms of capturing light and shadow

Art/Science Inclusion (brief description of how your lesson presents an integration of art and science concepts.)

Students will explore a variety of techniques they can use to capture light and shadow in abstract, artistic ways. They will be exploring the concept of light through a scientific lens by creating light paintings with glow sticks and high exposure cameras. They will then explore shadow through the artistic lens by creating abstract watercolor paintings by tracing shadows they find in nature

Art Open-Ended Question (what problem, task, or exploration will students be dealing with (should have multiple ways to complete it))

Opened-ended problem: How can we manipulate light and shadows to create abstract works of art?

Open-ended problem: How can we capture the unique shadows casted by nature?

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

Anchor Standard 2: Organize and develop artistic ideas and work. 
Experiment and develop skills in multiple art-making techniques and approaches through practice.
**Science Education Standard** (should include at least one, see [https://www.doe.in.gov/standards/science-computer-science](https://www.doe.in.gov/standards/science-computer-science), NGSS also great)

K-2.E.3 Analyze data from the investigation of two objects constructed to solve the same problem to compare the strengths and weaknesses of how each performs.

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<tbody>
<tr>
<td>● 5 mins</td>
<td>Lessons will begin indoors to introduce the activities to the students. We will ask the essential questions such as “What are ways we can capture light and shadow?” “Where do we see interesting lights and shadows in our lives?”</td>
<td>In case of weather, shadow tracing can be done inside with a variety of objects used to cast shadows</td>
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<tr>
<td>● 5 mins</td>
<td>Using flashlights and glowsticks students will have the opportunity to explore the way light is produced by these objects in a dark room. Teachers will ask guiding questions such as “what do you notice about the light?” “what happens if you move the light fast or slow?”</td>
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<tr>
<td>● 20 mins</td>
<td>Solving the problem of capturing light with a camera. Students will each have the opportunity to create an abstract light design that will be captured by a high exposure camera. We will discuss how in this way the light designs that were once temporary will become permanent</td>
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<tr>
<td>● 5 mins</td>
<td>Discuss how light in nature is used to cast interesting shadows. Students will be asked to brainstorm objects that they think will cast interesting shadows prior to going outside.</td>
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<td></td>
<td>Just like how the camera captured the light, students will capture</td>
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<td>10 mins</td>
<td>Once outside, in small groups teachers will demonstrate how to trace abstract shadows on their paper.</td>
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<tr>
<td>35 mins</td>
<td>Students will be encouraged to find interesting shadows of their own and fill the whole page. They will be encouraged to fill in their traced shadows with watercolors to create a complete painting.</td>
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<tr>
<td>10 mins</td>
<td>Once inside students will share their paintings and be encouraged to talk about what interesting shadows they found and their artist process!</td>
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**Materials List** (please be detailed; include exact quantities)

- tripods (2)
- camera (2)
- flashlights (8)
- cheap glow sticks (2-3 packs)
- 8 pieces of watercolor paper
- 8 pencils and erasers
- 8 watercolor sets
- cups for water
- paper towels

**Modification for Inclement Weather**

All materials will stay the same.

**Handouts:** Please include links to handouts needed for the lesson (and how many you need), or copy the handout material to this document.


**Week 3: Exploring Color in Nature**

<table>
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<tr>
<th>Lesson Title: Color Scavenger Hunt!</th>
<th>Grade: 2nd</th>
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<tr>
<td>Week: 3</td>
<td>Topic: Color in Nature/camouflage</td>
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**Lesson Objectives:**

- Students will explore the artist Alma Thomas how utilizes bright colors and earth tones
- Students will create their own color palette paintings and conduct a color scavenger hunt in nature to match their paintings
- Students will reflect on their color in nature collages and discuss how their nature object’s colors might change depending on the season
- Students will explore the ideas of camouflage and color as a tool to protect prey in nature

**Art/Science Inclusion** (brief description of how your lesson presents an integration of art and science concepts.)

Students will be using their nature collages as tools to further explore scientific concepts in regards to concepts such as camouflage. This will be done by having students observe their paintings under different colored lenses and exploring how “bugs” or skittles of different colors blend in or stand out compared to their natural environment.

**Art Open-Ended Question** (what problem, task, or exploration will students be dealing with (should have multiple ways to complete it))

- In what ways might artists be inspired by color in nature?
- How can natural elements be used as collage materials?

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

VA:Cr2.3.2a : Repurpose objects to make something new.

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

4.LS.3 Construct an argument that plants and animals have internal and external structures that function to support survival, growth, behavior, and reproduction in a different ecosystems.
3.LS.3 Construct an argument that plants and animals have internal and external structures that function to support survival, growth, behavior, and reproduction.

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<tbody>
<tr>
<td>5 mins</td>
<td>- Introduce the topic as well as the artist Alma Thomas. Discuss how artists may be inspired by colors in nature and what colors we see in nature right now!</td>
<td>Rather than go on a scavenger hunt outside we will have a virtual scavenger hunt and brainstorm/look up pictures of elements of nature that could fit in each color category</td>
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<tr>
<td>20 mins</td>
<td>- Students will use tempera paint to create color scale paintings inspired by Alma</td>
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<tr>
<td>Time</td>
<td>Activity</td>
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<tr>
<td>5 mins</td>
<td>Transition outside</td>
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<tr>
<td>20 mins</td>
<td>- While paintings are drying, students will explore nature to collect materials for their collage. They will be encouraged to find all of the colors on the rainbow</td>
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<tr>
<td>5 mins</td>
<td>Transition inside</td>
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<tr>
<td>10 mins</td>
<td>- While collaging their materials in place, students will discuss why it was more difficult to find certain colors and what colors they would find more of in other seasons.</td>
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<tr>
<td>20 mins</td>
<td>- Students will then conduct experiments on their collages by observing them through colored lenses and discussing their discoveries. They will also be encouraged to explore how “bugs” or skittles might blend in with particular colors. As a class we will discuss the important of color in nature in terms of camouflage and protection for predators</td>
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**Materials List** (please be detailed; include exact quantities)
- 8 pieces of cardboard or thick paper
- tempera paint
- 8 paint brushes
- cups of water
- paper towels
- 8 bottles of glue
- skittles
- colored lenses

**Modification for Inclement Weather**
Objects from nature of a variety of color will be collected prior to the lesson for students to use for their collage

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**Week 4: Building with Mother Nature**
Lesson Title: Animal Homes!  
Instructors: Olivia, Spencer, Briana  
Grade: 2  
Week: 4  
Topic: Building with Nature

**Lesson Objectives:**  
- Students will understand and be able to discuss different habitats  
- Students will be able to recognize the importance of shelter for animals survival  
- Students will draw connections to animal homes they have seen before  
- Students will use collected material to build a bird nest

**Art/Science Inclusion** (brief description of how your lesson presents an integration of art and science concepts.)

Students will explore the artistic and scientific elements of building with nature through the creation of a bird’s nest. Students will first explore the importance of shelter for survival and discover how a variety of animals view their homes. They will explore artists such as Andy Goldsworth who create art from nature and use this as inspiration for their own bird nest creations.

**Art Open-Ended Question** (what problem, task, or exploration will students be dealing with (should have multiple ways to complete it))

How can found objects from nature be used and colleged in an artistic way?

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

VA:Cr2.3.2a Repurpose objects to make something new.

VA:Cr1.2.2a Make art or design with various materials and tools to explore personal interests, questions, and curiosity.

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

- 2-LS4-1. Make observations of plants and animals to compare the diversity of life in different habitats.

**ESS3.A: Natural Resources.** Living things need water, air, and resources from the land, and they live in places that have the things they need. Humans use natural resources for everything they do

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<tbody>
<tr>
<td>10 mins</td>
<td>Class discussion of different habitats and the importance of shelter for animal survival</td>
<td>Rather than go outside to collect materials, students will choose from a collect of natural materials and we will spend a few minutes</td>
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<tr>
<td>Time</td>
<td>Activity</td>
<td>Notes</td>
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<tr>
<td>5 mins</td>
<td>Brainstorm of animals that build their own homes and allow students to share stories of animal homes they have seen!</td>
<td>Brainstorming session to introduce the concept of animal homes.</td>
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<td>Play video of hummingbird making a nest</td>
<td>Watching a video to demonstrate nest-building by a hummingbird.</td>
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<td>Bird nest project introduction: show works by Andy Goldsworthy and discuss how he uses found objects in nature to create something new</td>
<td>Introducing Andy Goldsworthy's work with natural materials.</td>
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<tr>
<td>5 mins</td>
<td>In groups of 3 students will go outside to collect materials for their nests</td>
<td>Outdoor activity for materials collection.</td>
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<tr>
<td>5 mins</td>
<td>Outside material collecting</td>
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<tr>
<td>40 mins</td>
<td>In groups of 3 students will transition inside Nest building work time</td>
<td>Indoor nest-building time.</td>
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<td>10 mins</td>
<td>Project sharing and clean up</td>
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<tr>
<td>5 mins</td>
<td>doing a virtual scavenger hunt of materials used to make nests</td>
<td>Virtual scavenger hunt to complement the physical activity.</td>
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### Materials List (please be detailed; include exact quantities)
- 9 bottle of elmer’s glue
- hot glue gun
- 8 pieces of blue construction paper
- 8 pairs of scissors
- string

(sticks and found nature from outside)

### Modification for Inclement Weather
- Twigs, grass, and sticks will be brought in for materials if weather does not permit going outside.