<table>
<thead>
<tr>
<th>Lesson Title &amp; Arts Area</th>
<th>Sun Patterns, Visual Arts and Science</th>
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</thead>
<tbody>
<tr>
<td>School &amp; Grade Level</td>
<td>Columbia Museum of Art, 1st grade</td>
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<tr>
<td>Arts Educator Lesson Designer</td>
<td>Written by: Kerry Kuhlkin–Hornsby, Director of Education</td>
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<tr>
<td>Short statement about designer &amp; lesson development</td>
<td>Kerry Kuhlkin–Hornsby works at the Columbia Museum of Art, within the Education Department as the Director of Education. She has a Bachelor’s in Fine Arts degree, with a concentration in Design from Winthrop University. This lesson has been developed for students in 1st grade for the Columbia Museum of Art’s solar power and arts initiative. Developed for educators to use in a classroom setting.</td>
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**Unit Description**

**Big idea?**

**Essential questions?**

**Lesson Description** – In the lesson students will investigate the use of solar power and the effects of solar power on art. Students will create a design using the sun.

**Big Idea** – This lesson will explain the importance of solar energy as it pertains to art.

**Essential Questions:**

- What does solar energy have to do with art?
- How can solar energy be used in a museum?
- Why is solar energy important?
- What effect does sunlight have on art?
- Can a work of art be made with sunlight?

**S. C. Standards Addressed**

Science 1.S.1, 1.S.1A, 1.S.1A3, 1.S.1A4

VA 1–1.1, 1–1.2, 1–1.3, 1–3.1, 1–3.2

**Instructional Objectives**

The student will learn the vocabulary used in the lesson, (Luminosity, Renewable, Solar, Watt, Pattern, Design)

**Description of Instruction**

Instruction will begin with the teacher reinforcing art and science vocabulary found in the lesson plan. The teacher will then give an overview of the Sun Pattern Project.

**Teacher Procedures**

1. Students will be guided into a discussion about the vocabulary they learned and how they will be using those same terms to create their own piece.
2. Then, the students will be given a tutorial on how to use materials properly and when to do each section.
3. Next, the students will see a finished example of the project.
4. The students will begin by receiving a piece of tag board or heavy weight paper. They will cut the paper into a shape of their choosing, (clouds, circles, stars)
5. Then, students will arrange their cut of shapes on an 8 ½ x 11 piece of dark construction paper (black, dk blue, red, dk green)
6. Next, students will place the piece in the direct sunlight, (window, outside) if need be the shape pieces can be weighted down with pennies.
7. The students will check on the pieces by looking under one shape and recording the difference in the construction paper color. At the end of five days the piece is complete.

**Student Activities**

8. Students will be guided into a discussion about the vocabulary they learned and how they will be using those same terms to create their own piece.
<table>
<thead>
<tr>
<th><strong>CMA Lesson Plan Format (based on CLIA's 2011 Lesson Plan Format)</strong></th>
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<td>9. Then, the students will be given a tutorial on how to use materials properly and when to do each section.</td>
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<td>10. Next, the students will see a finished example of the project.</td>
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**Assessment**

The students will be assessed on the completion of their projects. It will be short term assessment and based on: following rules, interaction during discussion, as well as creativity and craftsmanship.

**Materials Needed**

<table>
<thead>
<tr>
<th>Pencils</th>
<th>Erasers</th>
<th>Tag board</th>
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<tr>
<td>Scissors</td>
<td>Color pencils</td>
<td>Construction paper</td>
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**Resources**

CMA’s Collection

**Attachments**

- **Luminosity** – The relative quantity of light
- **Renewable** - Capable of being replaced by natural ecological cycles or sound environmental management practices
- **Solar** - Produced or operated by the sun’s light or hear
- **Watt** - A basic unit for measuring electrical power
- **Pattern** - The repetition of anything — shapes, lines, or colors
- **Design** - A plan, or to plan. The organization or composition of a work; the skilled arrangement of its parts.