CMA Lesson Plan Format (based on CLIA's 2011 Lesson Plan Format)

Lesson Title & Arts Area	Personalized Cyanotypes, Visual Arts and Science
School & Grade Level	Columbia Museum of Art, High School
Arts Educator Lesson Designer	Written by: Jimmy Hiller, Community Programs Coordinator
Short statement about designer & lesson development	Jimmy Hiller works at the Columbia Museum of Art, in their Education Department as the Community Programs Coordinator. He has his Bachelor's in Fine Arts degree with a concentration in printmaking from the University of South Carolina. This lesson has been developed for students in high school for the Columbia Museum of Art's solar power and arts initiative. Developed for educators to use in a classroom setting.
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 cyanotype from a photograph 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	Visual Arts **VAH1**-1.1, 1.3, 1.4, 1.5 **VAH2**-2.1, 2.2, 2.3 **VAH3**- 3.3 **VAH2**- 1.2, 1.4, 1.5 **VAH2**-2.1, 2.2, 2.3 **VAH2**-5.2 **VAH4**- 1.1, 1.2, 1.3, 1.5 **VAH4**- 2.1, 2.2 **VAH4**- 3.1, 3.2, 3.3 Science H.E.1A.1, H.E.3A.1, H.E.5A.2 H.P.3F.3, H.P.F.4, H.C.6A.1
Instructional Objectives	The student will learn the vocabulary used in the lesson, (Luminosity, Renewable, Solar, Watt, Cyanotype, 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 a step by step instruction on how to complete the cyanotype project.
Teacher Procedures	1. The teacher will give step by step instructions on how to complete the project. Showing a finished example for students to reference. 2. The teacher will pass out all supplies needed for the cyanotype. 3. The teacher will instruct students to find and or create a high contrast photo to be transferred onto a transparency. 4. The teacher will instruct students on how to prepare the cyanotype paper (light sensitive). The light sensitive paper goes onto a stiff board (cardboard or something similar) with the transparency on top of it. *for extra support a piece of Plexiglas can be added on top with bulldog clips 5. The teacher will help students as they place their high contrast photo or drawing

	in the sun. The exposure time should only be about 2 minutes or until you see the paper turning a pale blue/white. 6. The teacher will have the students rinse their light sensitive paper under water thoroughly until the image is a dark blue. Hang to dry.
Student Activities	1. The student will listen to instruction and gather supplies to be used. 2. The student will create a high contrast drawing, or find a high contrast photo to be prepared onto a transparency. **This can be done in many different ways. Sharpie on transparency, using Photoshop to make any digital photograph high contrast, or using a black and white photograph with high contrast. 3. The student will prepare the light sensitive paper on a stiff board. (make sure to cover the paper so no light is touching it at all times) 4. The student will place their transparent image on top of the light sensitive paper. (use Plexiglas as a added support with bulldog clip) 5. Expose the paper in the sun for up to 2 minutes, or until the paper is a pale blue/white. 6. Rinse the paper under water or in a tray until the image is a dark blue. 7. Hang to dry.
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	Light Sensitive paper (**nature print paper** from dick blick) Transparency paper Cardboard Water tray/sink Plexiglas and bulldog clips (if you need to keep the paper secured, can be done alternative ways) Sharpie (for drawing on transperacny) The sun (for exposure)
Resources	CMA's Collection; www.dickblick.com; **The Book of Alternative Photographic Processes** by Christopher James
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 Cyanotype- is a photographic printing process that produces a cyan-blue print. Design - A plan, or to plan. The organization or composition of a work; the skilled arrangement of its parts.

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