CAMERA OBSCURA

I can: Identify and observe that light travels in straight lines (and it is this property that allows cameras to work!)

To do this, I need to: Construct a Camera Obscura

Materials:

- ✓ Abox
- ✓ A magnifying glass
- ✓ Scissors/X-acto knife
- ✓ Vellum (tracing paper)
- ✓ Tape

Step 1: Cut a hole (1.75") in the end of the box. You might need to tape this end to the side walls to keep it stable. Now secure a magnifying glass to the hole. This is your aperture.

Step 2: Cut off the top of the box and the end opposite the magnifying glass.

Step 3: You need to make a screen. To do this, measure the height and width of the box (inside). Don't worry too much about precision here, just get an approximation.

Step 4: Measure out and cut a piece of vellum to make your projector.

Step 5: Cut a piece of card or mat board to support your screen. This should be the same measurements as the vellum. Next, cut the inside out so it serves as a frame.











Step 6: Tape the vellum to the frame and place it inside your box.

Step 7: Adjust your *focus*. Look through the open end of your box and move the screen forward or back. You should be monitoring the image projected on the screen for clarity, and when you find it- tape the screen in right there. *pro-tip: place a sheet of paper or board on the top of your box to help you see better.

Step 8: Wonder... why am I seeing the image upside down?

Step 9: Keep wondering...but now you have to finish the camera. Secure a piece of black paper or cardboard over the top of the box. Ensure everything is taped together.

Step 10: Go see the world upside down! Use your cell phone camera to capture the imagery your Camera Obscura is projecting.









Product Grade: 20 points total

	CRITERIA CATEGORY	Excellent 5	Above Average 4	Average 3	Starting 2	Lacks Evidence 1	SCORE
CAMERA OBSCURA	Craftsmanship	Camera Obscura	is constructed wi	th care and atter	ntion to detail. I	t looks neat.	
	QUALITY image projection	Image projection	n is clear (as clear	as possible).			
	Evidence of Exploration (take photos/videos of your discoveries!	A variety of angles, viewpoints, and lighting situations. The photos show evidence of experimenting and "working the scene."					
	Diagram: How does your Camera Obscura work? In the space below, draw a diagram of how light travels through your box.	Diagram shows how light travels through the Camera Obscura. Parts are labeled and image is drawn clearly.					