

**SUPPLIES NEEDED:**

**2 ALUMINUM CANS**

**UTILITY KNIFE**

**1" PIECE OF**

**ELECTRICAL TAPE**

**#10 SEWING NEEDLE**

**BLACK SPRAY PAINT**

**Assignment:**

1. **Turn in 3 positive prints.**
   1. **Object, Portrait, and Special Effects**
2. **Finish worksheet for notebook.**

**Step 1: Instructions** **on how to make an aluminum can pinhole camera:**

1. Take one aluminum can and cut it in half, this will be the lid to the pinhole camera.
2. Take the other can and cut off the top of the can trying to maintain as much of the upper taper of the can as possible.
   1. Once the cans are cut try putting them together.
      1. You have just created a **light tight container**.
      2. Make sure you don't push the lid too far down or you will have a hard time getting the lid off.
3. Take the #10 size needle and poke a hole in the can about half way down, this will act as the **aperture** of the camera.
4. Take the 1" piece of electrical tape and lay it over the needle hole, this will act as the **shutter**.
5. Finally take the two parts of the camera apart and spray the inside of the cans with black paint.
   1. This is so the light rays will not reflect in the can.
6. Now, once loaded with photography printing paper, your camera is ready to take pictures.

**Parts that make up a camera:**

* Light tight box
* Aperture [hole or opening]
* Shutter
* Light sensitive material

**Parts of the pin hole camera:**

* **Aluminum can** – light tight container
* **Pinhole or aperture** – opening where light can enter the chamber of the pinhole camera and expose the light sensitive paper.
* **Tape** – acts as the shutter, controlling, thru time, the amount of light that enters into the pinhole camera and exposes the light sensitive paper.
* **Photo paper** – light sensitive paper, when exposed to light the paper darkens. The more light you give the paper the darker it becomes. The light sensitive paper can only be handled under the safe light. Light outside of the darkroom will expose the photo paper.

**Step 2: Taking a picture** **(making a negative):**

1. **Light sensitive paper**: In the darkroom open the can and load the pinhole camera with the photo paper.
   1. Make sure that the emulsion side of the paper is facing the hole (aperture).
   2. Make sure to load the paper under the safelight.
      1. The photo paper is not sensitive to the safelight.
      2. Close the can so no light can enter. Now you can go outside and expose your paper.
2. **Exposure time**: Secure the can against something to prevent movement. Pull the tape up and allow light to expose the photo paper, between 1-10 seconds, depending on the lighting conditions.
   1. Close the tape and bring into the darkroom and develop.
3. **Developing the photo paper**: Develop in the usual chemicals.
   1. Dektol for 90 seconds [BE SURE TO AGITATE FOR THE FULL 90 SECONDS!]
   2. Stop bath for 30 seconds [Agitate 2 to 3 times to cover paper.]
   3. Fixer for 2 – 5 minutes. [Agitate 2 to 3 times to cover paper.]
   4. Put paper in water bath (wash) for 5 – 10 minutes. [Removes chemicals from paper.]

**Helpful hints to better pictures:**

* **Blurred pictures:** To keep from having blurred pictures make sure that the camera is held firmly against something. This will insure that there is no movement while exposure is being made.
* **Picture too dark (overexposure):** Reduce the amount of time that the paper is exposed. It is important to count out loud in order to have a reference point to either increase or decrease the exposure time.
* **Picture too light (underexposure):** Increase the amount of time that the paper is exposed. It is important to count out loud in order to have a reference point to either increase or decrease exposure time.
* **Special Effects Pictures:** Take these pictures with both the camera and subject in the shade. This will allow you to increase the time of your exposure giving you more time to capture the special effect.

**Step 3: Making a positive print (making a print):**

1. **Contact print:** Take your negative and sandwich it on top of a piece of photo paper, emulsion to emulsion, negative on top.
2. Lay the negative and photo paper in the contact proofer (glass easel).
3. Close the glass easel and using the enlarger, expose the paper making a test strip.
4. Choose the correct time and make the final exposure.

**Pinhole Camera: Grading Sheet**

**Name\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_Period\_\_\_\_\_\_**

**Assignment:** Photography students will use the Pinhole Camera to take 3 quality negatives and make 3 quality prints from those negatives. Three different subject matters will be taken [object, portrait, and special effect]. Total of 3 negatives and 3‑4” x 5”prints will be turned in. The prints will be decoratively matted and computer/artistically labeled in a plastic sleeve. All pinhole negatives will be scanned in and saved to the student’s H:\ drive for future digital use.

**Purpose:** In this introductory assignment the students will begin to master the four basic parts of a camera, the photo chemistry process, and the qualities of an acceptable black and white print. The students will demonstrate their understanding of these skills by producing three negatives and three prints of high quality using a Pinhole Camera and the photo chemistry processes. Digital scanning will be introduced.

**VAPA Content Standards Met:**

1.2 Describe the principles of design as used in works of art, focusing on dominance and subordination.

1.3 Research and analyze the work of an artist and write about the artist's distinctive style and its contribution to the meaning of the work.  
1.5 Analyze the material used by a given artist and describe how its use influences the meaning of the work.  
2.1 Solve a visual arts problem that involves the effective use of the elements of art and the principles of design.  
2.2 Prepare a portfolio of original two-and three-dimensional works of art that reflects refined craftsmanship and technical skills.  
2.5 Create an expressive composition, focusing on dominance and subordination.  
3.2 Identify and describe the role and influence of new technologies on contemporary works of art.

4.3 Formulate and support a position regarding the aesthetic value of a specific work of art and change or defend that position after considering the views of others.   
4.5 Employ the conventions of art criticism in writing and speaking about works of art.

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| --- | --- | --- | --- | --- | --- | --- | --- | --- |
| Grading: Rate your pictures from 1 to 6 in each of the following categories.  **ALL** items marked with **► must** be graded 3 or higher to pass the assignment. **Any** **►** item marked 0, 1, or 2 must be fixed to a 3 to pass assignment. | | | | | | | | |
| **► = ES&C** | **Lowest ------------ Highest** | | | | | **EC** |  | |
| **►** Print contrast | 1 | 2 | 3 | 4 | 5 | 6 | Difference between tones.  Black to white and middle gray. | |
| **►** Technical | 1 | 2 | 3 | 4 | 5 | 6 | Free from dust, chemical marks, and scratches. Chemical process followed. | |
| **►** Object | 1 | 2 | 3 | 4 | 5 | 6 | Clearly shows object. | You CANNOT be in any of the pictures. |
| **►** Portrait | 1 | 2 | 3 | 4 | 5 | 6 | Clearly shows person. |
| **►** Special Effects | 1 | 2 | 3 | 4 | 5 | 6 | Clearly shows an attempt at creating a special effects picture. |
| Creative | 1 | 2 | 3 | 4 | 5 | 6 | Photos are interesting and Creative. | |
| **►** Matte | 1 | 2 | 3 | 4 | 5 | 6 | Matting enhances pictures. Pictures are trimmed, cut square, no glue on pictures, placement on paper | |
| **►** Matte  Labels | 1 | 2 | 3 | 4 | 5 | 6 | Presentation enhances picture.  Labeled; Header/Footer, etc. | |
| Scanning | 1 | 2 | 3 | 4 | 5 | 6 | All Pinhole negatives scanned and saved to H:\ drive. | |
| Questions | 1 | 2 | 3 | 4 | 5 | 6 | Questions on back answered. | |
| Rubric | 1 | 2 | 3 | 4 | 5 | 6 | Self Scored. | |
| Meets Deadline | 1 | 2 | 3 | 4 | 5 | 6 | Meets deadline. | |
| Time Management | 1 | 2 | 3 | 4 | 5 | 6 | Productive use of time. | |
| Assignment | 1 | 2 | 3 | 4 | 5 | 6 | Meets assignment criteria. | |
|  |  |  |  |  |  |  | /70 Total | |

Answer the following questions. You do not need to use complete sentences, but your responses must be understandable and legible.

1. Taking the picture with the pinhole camera [creating a negative]:
   1. If your pinhole negative was too light, what did you do to correct the problem?
   2. If your pinhole negative was too dark, what did you do to correct the problem?
2. Printing the picture with the enlarger [changing the negative into a positive]:
   1. If your positive was too light, what did you do to correct the problem?
   2. If your positive was too dark, what did you do to correct the problem?
3. Turning your negative into a positive [circle correct answer]:
   1. Which goes on top: Negative face down Blank paper face up
   2. Which one of the 4 choices below is in the proper order of chemicals:
      1. Fix, Stop, Developer, Water

Circle only ONE of the choices:

i or ii or iii or iv

* + 1. Water, Stop, Fix, Developer
    2. Developer, Stop, Fix, Water
    3. The order doesn’t matter.
  1. Proper Time for paper to be in the Chemicals:
     1. Developer: 30 secs 50 secs 90 secs

Circle the proper time for each chemical.

* + 1. Stop: 10 secs 30 secs 2 minutes
    2. Fix: 1 minute 2 minutes 3 minutes
    3. Water 30 secs 2 minutes 5 minutes

1. Which picture [Object, Portrait or Special Effect] is your favorite and **WHY**?
2. What is the definition of:
   1. Agitation
   2. Contrast
   3. Exposure
   4. Subject