



CLICK!



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Creating Digital Photographs

About the authors:

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TABLE OF CONTENTS

I. INTRODUCTION

II. PHOTOGRAPHY IS DRAWING WITH LIGHT

1. Traditional and Digital Photography
Digital Still Camera Memory
2. Basic Camera Parts
3. Digital Camera Tech

III. COMPOSITION

4. Who, What, Where, When and Why
5. Discussing Photographs

IV. FRAMING

6. Camera Shots
7. Camera Angles
8. Focal Point

V. VISUAL ELEMENTS AND PRINCIPLES

9. Foreground and Background
10. Line
11. Shape
12. Pattern
13. Texture
- 14 - 15. Light

VI. WRITING ABOUT PHOTOGRAPHS

16. Writing about photographs

VII. PHOTO PROJECTS (To be added)

- ISPY (Shingle Creek)
- Abstraction (Bannaker and Whittier)
- Self Portraits (Bannaker and Willard)
 1. In natural settings
 2. In studio setting with controlled light

INTRODUCTION

CLICK: Creating Digital Photographs introduces students and teachers to a new art form. The booklet is based on the experience of teaching digital photography to teachers and students participating in the Minneapolis Public School's *A Choice of Weapons* pilot project. * It treats digital photography as an art form, rather than as a technical skill. As an art form, digital photography engages students and teachers in:

- **Inquiry**
- **Reading images** (analyzing, predicting, drawing conclusions, interpreting)
- **The creative process** (using the visual and technical elements of the photography, creative decision making, refining, sharing and responding to your own and other's photographs)
- **Writing about and discussing images.**

Each section provides background information about a topic and inquiry-based activities called, Try and See, which outline a hands-on method to explore and reflect on that topic. We have used digital photographs by 4th and 6th graders involved in *A Choice of Weapons* throughout the booklet to demonstrate concepts. As works by young artists, these images also remind us of the ability of children to create compelling and meaningful work that conveys their points of view. The final section, to be added, will provide examples of successful student projects from *A Choice of Weapons*,

CLICK adapts the *Literacy through Photography* approach, developed by photographer Wendy Ewald, to the digital medium. Her essay, "Using Photography in the Classroom," (see Section VII) explains how this approach can be used in classroom. The *Art Connections* curriculum series used by Minneapolis visual arts teachers, was our reference for defining visual elements and the process for reading images.

A Choice of Weapons artist mentors will use CLICK as an instructional tool during the 2002-03 school year for teachers and students. Because this is the "prototype" of CLICK, we are very interested in your feedback. We invite you to complete and return the CLICK questionnaire; your views will help us improve the booklet. Thank you.

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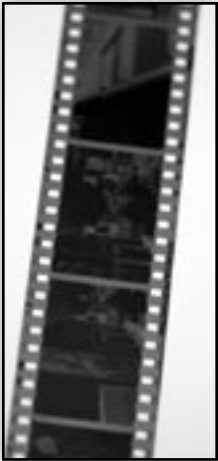
**"A Choice of Weapons" is a collaboration between the Minneapolis Public Schools Media and Technology and Fine Arts departments, and is funded by the U.S. Department of Education. The initiative involves students in grades 4-6, media and visual arts specialists and classroom teachers in Minneapolis schools with 75% free and reduced lunch. The projects' goals are for students to learn to: 1) critically view, interpret and analyze electronic and other forms of media and 2) create and share media arts work that presents their voice.*

Toward these ends the project provides: Teacher staff development and mentoring by media artists (2) student learning, making and presenting original media arts work; analyzing and writing about media (3) Parent learning media literacy skills and (4) Community learning by viewing and discussing student media arts work.

PHOTOGRAPHY IS DRAWING WITH LIGHT

photo = *light*

graph = *draw*



Film

Traditional photography has several steps:
A. **Expose** a piece of plastic coated with light sensitive chemicals called **film** to light.
B. **Process** the film with chemicals to create a **negative** or **positive** (a slide).
C. Create a **print** by shining light through the film on to the surface of a piece of photographic paper with an enlarger.
D. **Process** the photographic paper to create a print.



CCD

Digital photography replaces film with a light sensitive computer chip and memory:
A. **Expose** a computer chip called a **CCD** (Charged Coupled Device) to light to create an electronic image.
B. Store the **electronic** image from the CCD in the camera's memory.
C. **Download** the image from the camera's memory to a computer.
D. **Print** the image with a laser or inkjet printer. Prints can also be made directly from some digital cameras or their memory cards.

DIGITAL STILL CAMERA MEMORY

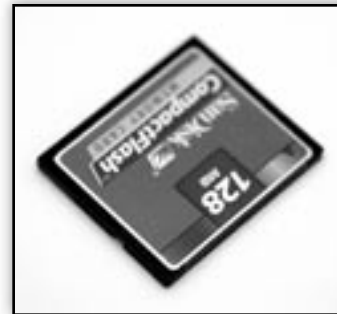
The most common memory devices used in digital cameras are:



A. A floppy disk or diskette



D. A CD or Compact Disk



B. A compact flash card



E. A Memory Stick (Sony)



C. A smart media card



F. A hard drive or Microdrive

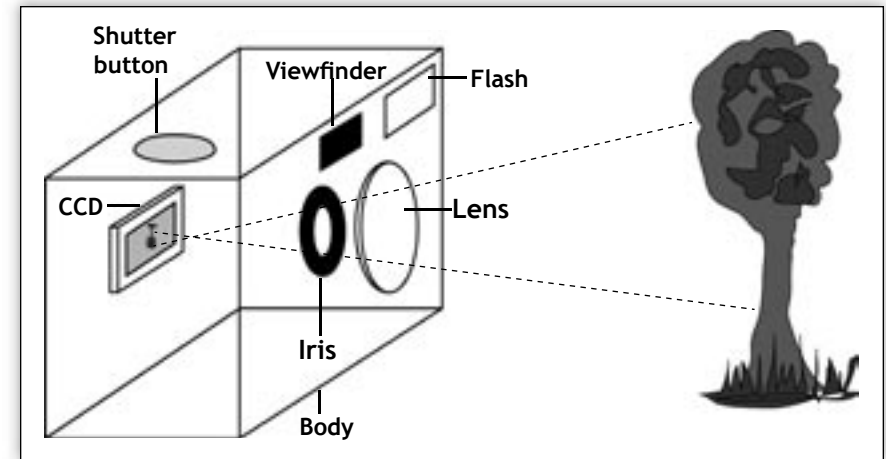
BASIC CAMERA PARTS

Most digital cameras have the same basic parts: lens, body, viewfinder, iris, and shutter button.



A digital camera

The lens is located at the front of the camera. It **focuses** or concentrates the light reflected from the **subject** onto the **CCD**. A lens can be **manual-focus**, **auto-focus** or **fixed focus**. A manually focused lens allows the photographer to decide what will be sharp in the picture. An auto-focus lens focuses automatically. A fixed focus lens puts everything between 3 and 6 feet from the camera into sharp focus. The **focal length** determines how close your subject appears to be from your camera. The focal length of your lens can be **fixed** or **variable**. On your digital camera the **zoom** button controls the focal length.



Inside a basic digital camera

Body - The **body** of the camera holds the CCD and all the electronic parts of the camera.

Viewfinder - The viewfinder allows the photographer to see the image before the picture is taken. Many digital cameras also have electronic viewfinders or **LCD** (liquid crystal display) screens.

Shutter button - Pressing the shutter button exposes the camera's CCD to light.

Iris - The iris is a small hole between the lens and the CCD. It can change size like the pupil of your eye. When it's big, a lot of light reaches the CCD. When it's small, less light reaches the CCD.

Flash - When there is not enough light, the flash adds enough light for the picture.

DIGITAL CAMERA TECH

Menu Button - This button allows you to adjust various camera settings.

Flash Button - This button controls your camera's flash settings.



Flash on



Flash off



Red eye elimination



Auto flash

Quality - This setting adjusts the amount of memory used to store the picture and the sharpness of the image. For prints use the highest setting. Usually this is shown by the word *Fine*, *HQ*, or *SHQ*.

Resolution - This setting adjusts the size of your picture. Some common settings are:

- VGA 640X480 - best for internet, video and 3X4 prints
- SVGA 1024X768 - good for 4X6 inch prints
- 1 megapixel - 1280X960 and up - good for 4X6 to 5X7 prints

Delete - This button erases images from the camera's memory device.

Format - This button prepares the camera's memory device for use and erases all images.



Timer - Press this button and then the shutter release button. You will have about 10 seconds to pose yourself in front of the camera before it takes a picture.



Macro Button - Switch this button on to take a close-up.



Playback Button- Press this button to review pictures.



Display Button - Press this button to turn the LCD screen on and off.

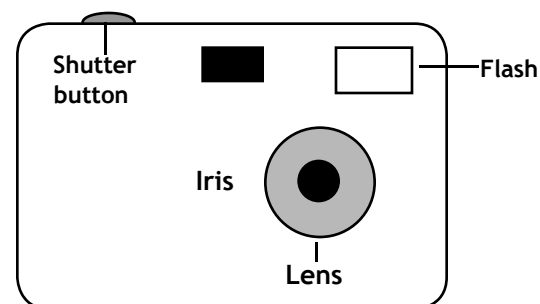


White Balance setting - Use this setting to adjust your camera to different types of light.

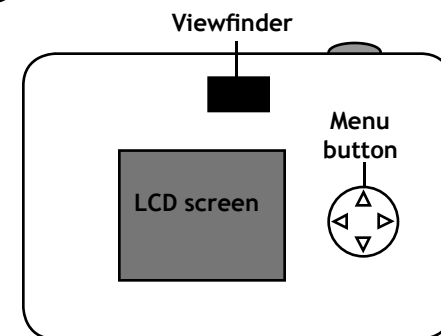


TRY AND SEE - CAMERA PARTS

Copy the drawings below and label the camera parts. Add and label the buttons for the camera you are using.



Front of a digital camera



Back of a digital camera

COMPOSITION - WHO, WHAT, WHERE, WHEN, WHY

When you make a picture you are trying to make someone see something in a certain way. Imagine you (who) are standing on a downtown street (where) at 6 p.m. on a Monday afternoon (when). You see a piece of red tissue paper suddenly fly up into the air (what). Suddenly you're very excited and you shout to your friend, standing next to you, "Look over there!" Excitedly, you tell your friend about the wonderful experience of flying your first kite (why).

When your **audience** is nearby you can use words, sentences, the tone of your voice and your body language to show the **meaning** of what you see. It is much more challenging to show meaning when you create a photograph, because photographs can't talk. You can include text along with your image when it's displayed, but it should only strengthen your image not be fill-in for things that should have been included within the **frame**.



TRY AND SEE - COMPOSITION

Use the photograph C1. See if you can figure out the, *who*, *what*, *where*, *when*, and *why* of the picture. Does the photographer have an idea she or he is trying to pass on? What is it? Write down your thoughts about the photograph and discuss them with your class.



Photo by 6th grade student

C1

1. List everything you see in this picture.
2. What is in the background?
3. What seems to be happening in the picture?
4. How do you think this person is feeling? Why do you think so?
5. What is this photograph about?

READING PICTURES



RP1

Describe

Reading a photograph means asking questions about what you see in the frame and what may be missing. It also means using what you see to draw conclusions. Not everyone sees the same things in the same image. Look at photographs RP1 or RP2 and begin by asking questions about what's in the frame:

1. **Identify everything you SEE** even if it seems obvious. (facial expression, gestures, body posture, clothing, colors, etc.)
2. Identify the type of shot used. (close-up, medium shot, wide shot and long shot)
3. Identify the camera angle used. (high angle, low angle, eye level, diagonal or Dutch angle, portrait and landscape)
4. What catches your eye first? (focal point)
5. How are the visual elements, foreground and background, line, shape, pattern, texture and

light, contrast and color used in the image? Which elements are emphasized?

Now that you have described the photograph you're ready to interpret it.

A photograph tells a story or stories. The whole story is not always inside the frame. To find the story you need to draw **conclusions** about what you see. Now ask questions about what **seems** to be happening in the picture, for example:

1. How is the person feeling or what is the mood of the picture? How do you know? (Use evidence in the photo.)
2. What does the background tell you about the place and time, season or era ?
3. Why do think the photographer took this picture?
4. What do you think happened just before the photo was taken?
5. Give the photograph a title that shows your point of view about the image?



RP2

FRAMING & CAMERA SHOTS

Framing is choosing what is within the borders of your picture and what is not. Photographers frame **shots** to present a **point of view** about the subject. There are four basic types of **shots**:



Close-up

CS1

Close-up (CU)- move close to your subject so that only a small portion of the subject is within your viewfinder. (Note: when taking close-up shots remember to press the macro button on your camera's body.



Medium Shot

CS2

Medium shot (MS)- frame your subject so half of its full size is visible.



Wide Shot

CS4

Wide shot (WS)- stand back so you can see the full size of your subject

Long shot (LS) - stand very far away from your subject so it occupies only a small part of your frame.



Long Shot

CS5

Look at photos CS1, CS2, CS3 and CS4. Discuss how these shots affect how you feel about the subject.



TRY AND SEE - FRAMING



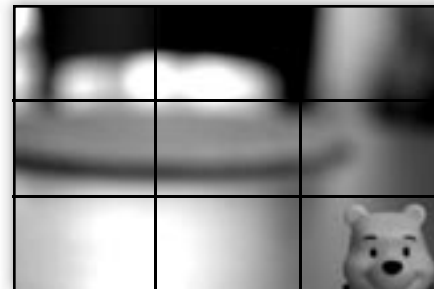
F1



F2

Discuss the framing in photos F1 and F2. How does the framing affect how you feel about the subject?

Where you place objects or people (your **subject**) in the viewfinder can influence how your audience reads or gets meaning from your picture.



F3

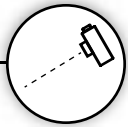
Find something or someone to photograph. Imagine a grid, three rectangles down by three rectangles across (F3). Frame your subject in different sections of the grid then take photographs.

Discuss how the placement of your subject in the frame affects the meaning of the picture.

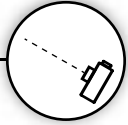
Pay attention to everything you see in the viewfinder, because if something is in the viewfinder it will be in your picture.

CAMERA ANGLES

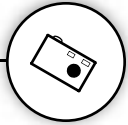
Objects in the world have three dimensions, length, width, and depth. The surface of a photograph is two-dimensional so in order to show all three dimensions we need to pay attention to **perspective, or camera angle**. There are four basic camera angles and two camera orientations:



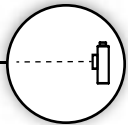
High angle (HA) - Point your camera down toward the subject.



Low angle (LA) - Point your camera up at the subject.



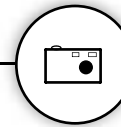
Diagonal or Dutch Angle (DA) - Tilt your camera toward your left or right shoulder.



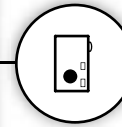
Eye level (EL) - Hold your camera parallel to the ground. When doing portraits, pay attention to the eye level of the subject.

Camera angles above or below eye level can say very different things about your subject.

Camera Orientation



Landscape - Hold your camera so the viewfinder is horizontal like a car.



Portrait - Hold your camera so the viewfinder is vertical like a door.



TRY AND SEE - CAMERA ANGLES

Look at photo CA1. What camera angle is the photographer using? Discuss it with your class.



Photo by 4th grade student

CA1

Photograph a subject using the four basic angles. How does the camera change the meaning of the image? Discuss the results with your group.

FOCAL POINT

The focal point is part of the photograph you want your viewer pay the most attention to. Here are several ways to create a focal point:



A. Place the subject in the **center** of the frame.



B. Focus the camera so the **subject** is sharp and the **ground** is out of focus.



C. Use **contrast** or **special lighting** and to highlight the subject.



D. Place the subject in an unusual part of the frame (review framing for ideas).



E. Fill the frame with your subject (close-up).

CLICK!

TRY AND SEE - FOCAL POINT

1. Look at photo FP1. What is the focal point? How did the photographer create a focal point?



FP1

2. Take several photographs of a subject using techniques A, B, C, D, and E from the Focal Point lesson.

3. See if you can discover your own way of creating a focal point in a photograph.

FOREGROUND & BACKGROUND



Photo by 4th grade student

FB1

When you take a photograph, whatever is closest to you is the **foreground** (front of your picture). Whatever is behind your closest subject is in the **background**.

In a photograph the foreground and background are equally important. The background adds meaning to your photograph. The background tells you where the subject is. But if your background is too busy your subject may be lost.

Once you have framed your subject, look at the edges of the frame to make sure nothing unwanted is being photographed. If you see things you don't want in the background, move closer to the subject or change your camera angle.



TRY AND SEE - FOREGROUND & BACKGROUND

Discuss photos FB1 and FB2. What camera angles and shots did the photographers use? Describe the photos. Describe the background and foreground in each picture. Discuss the sizes of the subjects in each photo. How does moving closer to your subject affect the **proportions** of subjects in your picture? How does size change the focal point of your picture?



Photo by 4th grade student

FB2

Find a person or object you can place in different settings. Place the subject in front of different backgrounds. Take several pictures using different camera shots and angles. Look at the photos. How do the proportions change? Compare the moods in each photo? Does your subject have the same importance in each picture?

LINE

There are many types of lines. Imagine gentle swaying lines on the surface of a quiet pond or the jagged broken lines of lightning, tree branches or the long vertical lines of a skyscraper.

Compare the photos L1 and L2. Trace the movement of the lines with your fingers. How are the lines different? What camera angles were used? How does the movement of the line make you feel when you look at the photograph?



L1



L2



TRY AND SEE - LINE

Take several photographs that emphasize line. To emphasize the importance of the lines, place your camera in an unusual position in an unusual angle. Look through the viewfinder and try out different camera angles before you take any pictures. For example, place your camera on or parallel to a wall instead of facing the wall. Take several pictures of the lines from different angles. Discuss the results with your class.



Photo by 4th grade student

L3

SHAPE



Photo by 6th grade student

S1

If you take a line, stretch it out, bend it in a few different directions and reconnect it to its beginning you will have a shape. If you want to emphasize the shape of something in a picture you will often have to ignore its surface details. Imagine a silhouette of a person's head or the sight of your hand held up against the sun. You may not be able to see the details of the person's face or the wrinkles in your skin, but you can clearly see the shape of these subjects against the light in background.



TRY AND SEE - SHAPE

Discuss how pictures S1 and S2 emphasize shape. Describe the shapes in these photos. What camera angles and shots were used in these photographs?

Find subjects with interesting shapes. Place the subject so that the brightest light is behind them. Take a photograph. Discuss the results with your class.



S2

PATTERN



P1

Shapes, lines, and forms will often repeat themselves in the real world. This is pattern. Buildings and sidewalks often use repeating shapes. Windows, bricks and squares of concrete repeat to create patterns. Leaves on trees, ripples on water, hair, and petals on flowers are examples of patterns in nature. It's very common to have multiple patterns occurring at once. When you photograph a pattern it's a good idea to find the point where a pattern changes or overlaps with another pattern. Capturing the change in the pattern often makes a photograph stronger.

In photographs P1 and P2 what patterns do you see? Point to where the patterns change and overlap. What shot is the photographer using in photo P1? What camera angle is the photographer using in photo P2? Discuss the way patterns,

shots and camera angles are used.



TRY AND SEE - PATTERN

Find patterns in the spaces around you. Photograph these patterns. Find places where multiple patterns coexist. As you take photos use different camera angles and shots. Look at your photos and discuss the types of patterns you see. Find places where multiple patterns coexist. Are they dense, open, organic or manufactured? How do different camera angles affect the way you see the pattern? What gets your attention first?



P2

TEXTURE



Photo by 6th grade student

T1

Texture is the **tactile (rough, matte, smooth, shiny)** quality of a surface. **Contrast** allows us to see texture in a photograph. In photos T1 and T2 describe the textures you see. Make a list. For example, the hair is _____. The ornaments are _____.

To emphasize texture, photographers use light and contrasting surfaces.

On rough and matte surfaces, deep shadows and diffuse highlights show texture. On smooth and shiny surfaces, bright highlights and reflections show texture. Sometimes you need to use a close-up to emphasize texture.

CLICK!

TRY AND SEE - TEXTURE

Find subjects with different types of surfaces. If these subjects can be moved photograph them in different types of light. Photograph the subject using indoor and outdoor light sources. Use different camera angles and shots in each photo.



Photo by 4th grade student

T2

LIGHT



Photo by 4th grade student

L1

Light, like air, is all around us. We use some of the same words to both describe things. Light and air can be warm or cool. **Cool** light will seem blue or green. **Warm** light has a reddish glow.

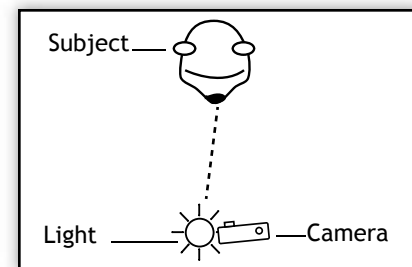
Cool light occurs in the middle of the day when the sky is clear or when you stand in the shade. Indoor, fluorescent light is cool.

Warm light can be seen during sunrise or sunset. Indoor household bulbs also produce warm light.

Like wind, light can come from different directions. Here are some examples of a subject lit from different directions:

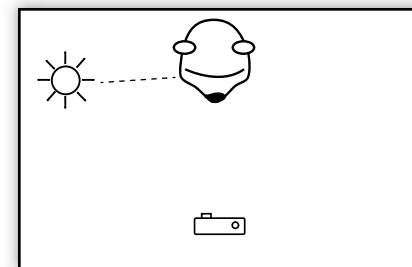
CLICK!

TRY AND SEE - LIGHT



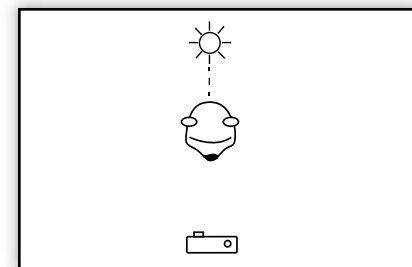
Front lighting

Front lighting. The light is in front of the subject. The flash on your camera will produce front lighting.



Side lighting

Side lighting. Place your subject next to a window or desk lamp to produce side lighting.



Back lighting

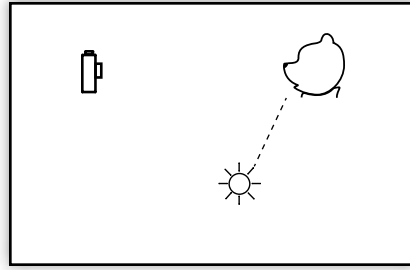
Backlighting. Place your subject with his or her back toward a window. Without a flash, this will create a silhouette.

14



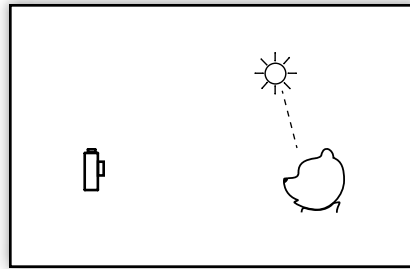
Bottom lighting

Bottom lighting. Place a desk lamp on the floor below your subject's head.



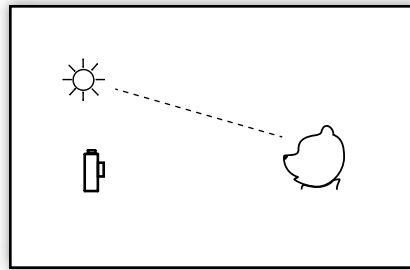
Top lighting

Top lighting. Sit your subject on the floor and place a desk lamp above his or her head.



Direct lighting

Direct lighting. Aim your desk lamp directly at the subject.



Diffused lighting

Diffused lighting. Reflect your desk lamp off of a white wall or large piece of cardboard.

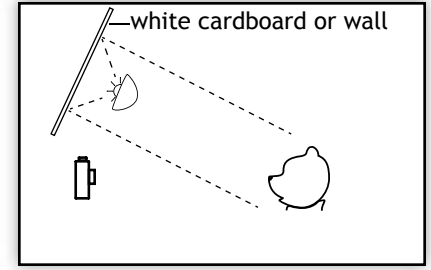


Photo by 6th grade student

L2

Discuss photo L2. What camera angle and shot did the photographer use? Did the photographer use direct or diffused lighting? Where was the light placed? How can you tell?

WRITING ABOUT PHOTOGRAPHS



WAP1

There are many different ways to write about pictures. Here are some suggestions:

1. **A short report (non-fiction)** that describes the picture. Look at WAP1.

- A. Make a list of everything you see in this picture.
- B. What camera shot and angle did the photographer use?
- C. What is in the foreground and background?
- D. Describe the subject's facial expression and posture?
- E. What is the subject doing?
- F. Now organize your responses into paragraphs.

2. **A Story (fiction).** Use the picture, WAP1, to tell a story. In your mind, ask and answer as many questions as you can about the subject? Use your answers to write an imaginary story about the subject? Here are some ways to begin:

- A. Give the subject a name.
- B. Where does the subject live?
- C. How old is the subject?

- D. What is the subject doing and why?
- E. Why is the subject on the table?
- F. When did the subject start behaving this way?
- G. What is the subject looking at? Why?
- H. Who are the subject's friends? Imagine what the subject's friends might say about him or her.
- I. What does the subject like to eat and why? Is the subject behaving this way because of something he or she ate?

3. **First person story (fiction).** Pretend you are the subject in WAP1. In your mind, ask and answer as many questions as you can about yourself? Use your answers to write an imaginary story about yourself? Here are some sample questions?

- A. What is your name?
- B. How old are you?
- C. Where were you born?
- D. Where do you live now? Tell us about the place where you live?
- E. Tell us about your family?
- F. Before someone took a picture of you, what were you doing?
- G. What are you doing now and why?
- H. What will you do next?
- I. How do you feel and why?

4. **What I see...** A point of view poem. Pretend you are the subject in WAP1. Imagine you're looking at something outside of the picture. What is it? Create a poem describing what "you see". Your poem does not have to rhyme.