

Digital Camera Workshop - Building Projects



Bring Tool Factory to your school for a digital camera workshop!

We'll conduct a hands-on staff development day in your computer lab and leave the cameras and software behind. This program typically qualifies for training grants. Contact Gordon Woodrow for details.

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Many more lesson plans are available at
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Just click on the "Curriculum" button in the
banner.

Flash

Where do I find the flash settings? Look for the lightening bolt either on the back of your camera or in the menus. There are various flash settings on your camera but you'll need to be in picture taking mode to change flash settings. Flash settings include: "Flash Always On", "Flash Always Off", "Red-eye Reduction", and "Auto Flash" (the camera decides when to flash).

What is Red-eye? Red-eye is caused by the light reflecting off the inner surface of your eye. Using the red-eye flash setting gives an extra flash before it takes the picture causing your iris to close down and minimize the reflection. You can also bend down on one knee to take a picture causing the red eye reflection to travel above the camera's lens and minimize the problem. A hot shoe attachment separates the flash from the lens and also lessens the reflection.

Shooting Tips:

*When taking an important shot, take it first using "Flash Always On", then take it again using "Flash Always Off". One photo will inevitably be much better, but you won't know which one until you enlarge the photos on your computer.

Resolution

What is Resolution? Every photo is made up of pixels or dots. The more dots you have, the higher quality your photograph will be. If you multiply the number of pixels across the bottom by the number of pixels up the side of a photo, you'll have the total number of pixels in the photograph, also known as resolution.

Mega = Million, Pixel = Dots, Megapixel = Million Dots

2048x1536 Pixels = 3.1 Million Dots = 3.1 Megapixels

Higher priced cameras will have more megapixels. Cameras with higher megapixels allow you to print much larger images.

Once you find the resolution icon in the menus, use the arrow keys to change it to your needs. Shoot on lower resolution for photos in class projects or taking field trips. Use higher resolutions when you intend to print your photos for the yearbook or framing.

Shooting Tips:

*Lower resolution photos take up less space on the memory card so you can take more photos.

*Lower resolution gives you smaller file sizes-images will travel faster across email networks and you will have faster computer performance in older computers.

*Only use the highest resolution when you are planning to print a photo. This way you will save space on your memory card.

*You can always reduce the quality level of a picture, but you can never increase it!

Macro and Super Macro

What is Macro? Macro means close-up, and a good macro feature has the ability to turn your camera into a mini-microscope. The Macro icon looks like a flower and it will typically be located on the back of the camera, or in the menus. Use your arrow keys to toggle it on and off. Macro mode lets you hold the camera as close as eight inches (20 cm) from the subject. The flower icon will appear in the monitor in Macro mode.

What is Super Macro? Olympus cameras are equipped with Super Macro mode which lets you get as close as one inch (2 cm) from the subject. Super Macro photography requires more light than regular shooting. Don't use your viewfinder when shooting Super Macro photos! The viewfinder is slightly offset from the camera's lens, so you'll miss the shot.

Shooting Tip:

*Don't forget to turn macro off after you finish shooting, otherwise your normal shots will be blurry!

Optical and Digital Zoom

What is Zoom? Zoom allows you to get closer to your subject by way of the camera. There are two types of zoom, digital and optical. To determine the total range of the zoom for your camera, multiply together the strength of each type of zoom. For example: 3x optical zoom combined with 4x digital zoom = 12x zoom. A zoom lens is a lens of variable focal length. A 3:1 ratio is most common in a digital camera.

What is Optical Zoom? Optical Zoom is a zoom that is accomplished through the camera's glass lens. Picture quality will be consistently high throughout the range of the optical zoom. Optical zoom uses a multi-focal lens to "zoom" in on an image like a telescope. Think glass.

What is Digital Zoom? Digital Zoom is accomplished mathematically by stretching a small number of pixels across a large area. It digitally magnifies the center of the image by interpolating it, resulting in less sharpness. Remember when you stuck Silly Putty to a newspaper and then stretched it out? The more you stretched the image, the more the quality of the image deteriorated. Digital zoom does exactly that-it reduces the quality of the image. If you are shooting at high resolution, you may not notice the quality loss, and you'll be thankful for the extra zoom boost.

Shooting Tips:

*If zoom is important, budget for better optical zoom, but don't pay extra for digital zoom.

*Digital zoom will cut your resolution in half, making your image less clear.

Frame a Photograph

Overview

Open a photograph and use the Symmetry tool to draw a zany frame around the picture. Then use your image to make greeting cards or pen pal letters.

Instructions

Open Tool Factory Painter

DRAW A FRAME ONTO AN EXISTING PHOTO

Select FILE>OPEN

Browse and select a photograph.

****Note-If folders are empty**** Painter automatically looks for BMP files and digital photographs are JPEG. After FILE>OPEN, you may have to change "Files of Type" to JPEG in order to find your photos.

Turn the symmetry tool on. It's on the top toolbar and looks like a man with his arms out to the side. Click it.

Go to the second bank and click the freehand pen.

Now draw swirly lines around your picture.

BORDERS MADE WITH SHAPES

****This can be done with or without the symmetry tool turned on.**

Click the first Bank button.

Select stars.

Draw stars all around your picture.

Try other shapes.

*****Right mouse clicking on any shape lets you change the properties. For example, you can make a 10 pointed star, rather than a 5 pointed star.**

BORDERS MADE WITH STAMPS

****This can be done with or without the symmetry tool turned on.**

Click the second Bank button.

Select the stamp tool.

Go to the third or 4th bank.

Draw Stamps all around your picture.

USING A DIGITAL PHOTO AS A STAMP

Click the second Bank button.

Select the stamp tool.

Click the third Bank button.

Use Menu for STAMP>OPEN FROM FILE and browse for your digital photo.

****Note-If folders are empty****Painter automatically looks for BMP files. After STAMP>OPEN FROM FILE, you may have to change "Files of Type" to JPEG in order to find your photos.

The picture will be entered into the third bank automatically.

Right mouse click on the photo in the third bank and "Decrease Size" if it's too big.

SWOOSHY FRAME

Use a photo as a stamp as described above.

Hold the mouse button down and paint a border around the outside of the page.

Don't let go until you drop the photo right in the middle of the page.

It should look like the photograph swooshed onto the page.

Follow-up Activities

Use your photos for pen pal letters, greeting cards, or in stories.

You can Paste your project into Tool Factory Word Processor, then create your greeting cards there. Cross-Curriculum Ideas

Art/English-Work out your page layout in Tool Factory Word Processor, so that you can fold the paper into 4 quadrants for the greeting card after printing. Be aware that some quadrant will have to be created upside down!

Star Student

Grade: K-8

Subject(s): Writing

Required products: Tool Factory Word Processor Materials

Tool Factory Word Processor

Digital camera or traditional camera and scanner Overview

Feature one student in each edition of the school newspaper. Include a photo of the student, and personal statistics such as grade, family info, hobbies, favorite subject, and quotes about him/her from friends. Instructions

- 1) Open one of the Star Student templates. If the student would like to use one of these templates, have them save it as their own worksheet.
- 2) The photographs in each template, as well as the headlines and categories, can be deleted and replaced with the student's or class' own.
- 3) Have each student in the class give a quote about the "Star Student" of the week/month. Select two or three of these quotes to include on the page. Help students complete the rest of the worksheet by typing in information about the student, such as his/her hobbies, names of family members, and favorite things.
- 4) Remind student to save their work, then print out the completed page.
- 5) When each student in the class has been featured, create a "Star Student" book for the classroom.

School News Direct

Reported By _____

Straight "A" Boy Scout Saves The Day!



Place a photo of
yours here ←

Type name of Star Student here

Straight "A" student runs into burning house to save a family of kittens. He used his boy scout survival training skills to find his way through the smoke. People in his home town say he is a hero.

Create a story about the star student of the week/month. Add personal information such as grade, hobbies, family, favorite subject, quotes from friends and family etc.