



Northwest Designer Craftsmen

How To Photograph Dimensional Artwork

A Guide to Artist's Photo Studio, Digital Cameras & Basic Lighting

Topics Include:

- A Photo Studio of Your Own
- The "Best" Camera?
- Working With a DSLR
- Basic Lighting Setup
- Photograph Small Objects
- Photograph Large Objects
- Photograph Shiny Objects
- Photograph Glass Objects
- Photograph Dark Objects
- Photograph Ceramics
- Photograph Mixed Media
- Working With Photoshop
- How to Control Color
- Sharpening Images
- Getting Rid of Little Spots
- Preparing for Art Shows
- Preparing Images for Web
- Preparing Images for Print
and more



Art work by Loren Lukens



Art work by Patti King

Art work on cover by Jan Koutsky

DPIX
DIGITAL STUDIOS

A Photo Tutorial by
Craig Ingle

A Photo Studio of Your Own

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At some point, every artist, designer and craftsman needs photos of their work. Should you pay a professional photographer? Or is it possible to do it yourself? The answer is, you can do it yourself if you're willing to spend some time learning the basics.

Let me say up front, there are trade-offs between "low cost" and "effort". In this **NWDC Guide**, I will show you how to build a low cost studio that will let you take professional quality photos of your artwork. All of the "How To" examples and finished photographs were done with this low cost setup.

What Goes Into A Studio?

The first thing you need to do is decide where to set up. You will need about 8 x 10 ft of clear space. When the photo studio is not in use, it should come apart for storage.

Here are pieces that make up the photo studio:

1	8 x 10 ft space	House or Garage	0
1	Table (folding)	Office Max	\$ 49
4	Clamp lights 10.5"	Home Depot	\$ 44
2	Diffusion sheets 21" x 24"	B&H Photo	\$ 12
4	CF bulbs 100W daylight	Home Depot	\$ 15
6	"Stick-In-Can" light stands	Home Depot	\$ 54
2	Extra sticks	Home Depot	\$ 4
2	Foam core boards 20" x 30"	Office Max	\$ 12
1	Roll seamless paper	B&H Photo	\$ 26
10	Clamps 6"	Home Depot	\$ 35
1	Color chart	B&H Photo	\$ 18
1	Tripod	B&H Photo	\$ 60
		Total	\$329

8 x 10 ft Space: You need to be able to darken the room. It is critical that the only light hitting the art object is from the CF Daylight Bulbs. If it is not possible to block other light, you will have to shoot at night when you can control the light.

Table: It should be easy to store when not in use. Size depends on what you are shooting, 2' x 4' or 3' x 4' are good. Adjustable height and separate legs are a plus. Folding table will work.

Clamp Lights: Bigger is better. Get the larger 10.5" lights.

Diffusion Sheets: Available in sheets and rolls. It is used to make light softer. Rosco is good brand.



The photo studio requires about 8' x 10' clear space, as shown by blue lines on floor. My table has 44" x 48" top resting (not connected) on adjustable height IKEA legs. Two 2' Stick-In-Cans are on table.



This photo studio setup shows seamless grey paper backdrop, single CF Clamp Light attached to Stick-In-Can at right. A 20" x 30" reflector at left side. A second 20" x 30" poster board between light and table, blocks light from backdrop.



Adjustable Table



Clamp Light 10.5"



Diffusion Sheet 21" x 24"

CF Bulbs: The Ecosmart Daylight (100W equivalent) bulbs from Home Depot have good color. All photos shot for this guide used Ecosmart bulbs.



Ecosmart Daylight CF Bulbs

“Stick-In-Can” Light Stands: This low cost solution works well. Buy 1” x 4” x 8’ lumber (about \$2). Cut two 7’, two 6’, and two 2’ lengths. Each stick goes in empty gallon paint can (\$5 each or scrounge), short sticks in quart cans. Buy bag of quick Concrete (\$6), mix and fill each can 3/4 full, put stick in and hold in place until cement sets.



Stick-In-Can Light Stands

Extra Sticks: These are 1” x 4” used to hold background paper and lights above art object.

Foam Core Boards: These 20” x 30” boards are used as reflectors (and sometimes as flags to block light).



Foam Core 20” x 30”

Roll Seamless Paper: They are available in 53” and 26” width 36’ rolls. Photos in this guide were shot on Savage #56 Fashion Gray.



Roll Seamless Paper

http://www.bhphotovideo.com/c/product/45622-REG/Savage_27_1253_Widetone_Seamless_Background_Paper.html

Clamps: Get the 6” kind, they hold the sticks better.



Clamp 6”

White Balance Card: This is critical for getting accurate color. I recommend the kind with white, gray and black patches, like the QP101 Calibration Card.



QP101 White Balance Card

http://www.bhphotovideo.com/c/product/286667-REG/QP_Card_GQP101_Qp_Calibration_Card_101.html

Tripod: The camera must remain absolutely still during long exposure times required for CF bulb lighting. This makes the use of a tripod critical. The basic Slik tripod is fine if it is treated properly. The Manfrotto tripod is better, because it is all metal and will last longer.

Basic: Slik U9000 Tripod

http://www.bhphotovideo.com/c/product/98268-REG/Slik_617_900_U9000_Tripod.html



Basic Slik Tripod \$50

Better: Manfrotto 190XB Legs + 804RC2 Head

http://www.bhphotovideo.com/c/product/480279-REG/Manfrotto_190XB_804RC2_190XB_Tripod_Legs_Black.html



Better Manfrotto Tripod \$200

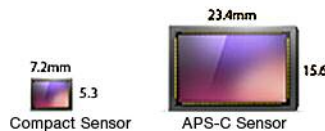
The camera is the single most expensive item in your studio. What you want is a camera capable of capturing “publication quality” photos in a controlled light studio. Your “best” choice for this is a Digital Single Lens Reflex (DSLR) camera. The cameras shown at the right are capable of the job and are considered “low priced”.

1. Types of Cameras

Digital cameras are generally divided into two categories: **1) Point-And-Shoots (PAS)** are compact, easy to use, have small sensors and lenses, take good automatic snapshots, and sell for \$100 - \$500. **2) Digital Single Lens Reflex (DSLRs)** are bulkier, have manual controls, larger sensors, interchangeable lenses, and sell for \$600 - \$6000.

1. A Large Sensor Is Key To Quality

The size of the sensor is what primarily determines how well the camera can capture clear details and accurate colors. The DSLR cameras shown at right all use 23.4mm (APS-C) sensors. This is 400% larger than PAS cameras which all (regardless of price) use small (7.2mm) sensors.



2. Manual Controls

It is important that your camera has physical knobs and buttons for controlling the basic functions, such as aperture, shutter speed, ISO, lens focus and the ability to work in complete manual mode. DSLRs offer manual controls, while PAS cameras require you to navigate through menus.

3. Focusing Through The Lens

It is important to be able to make critical focus choices while looking at the art work through the actual lens. True DSLRs allow you to easily do this. Compact PAS cameras typically autofocus while you watch on an LCD. User focus, if available, will be via a servo switch which can be frustrating to control.

4. Forget It, I'm Not Buying A New Camera!

Not everyone wants to spend \$500 (or more) on the “best” DSLR. So is it possible to get good photos with a point-and-shoot? The answer is: good yes, great no. If you apply the “Basic Settings For A DSLR” to your PAS camera and you follow the other steps in this tutorial, your finished photos will be greatly improved. Remember, the quality of the finished photo is affected by many things, not just by which camera you use.

Canon Rebel T2i
with 18-55mm lens
\$579 B&H Photo
Review:
<http://www.dpreview.com/reviews/canoneos550d/>



Nikon D3100
with 18-55mm lens
\$597 B&H Photo
review:
<http://www.dpreview.com/reviews/nikond3100/>



Canon Rebel T3i
with 18-55mm lens
\$711 B&H Photo
Review:
<http://www.dpreview.com/reviews/canoneos600d/>



Nikon D5100
with 18-55mm lens
\$747 B&H Photo
Review:
<http://www.dpreview.com/reviews/nikond5100/>



Nikon D7000
with 18-105mm lens
\$1497 B&H Photo
Review:
<http://www.dpreview.com/reviews/nikond7000/>



Canon 7D
with 18-135mm lens
\$1615 B&H Photo
Review:
<http://www.dpreview.com/reviews/canoneos7d/>



This may sound weird, but now that you own a DSLR camera, the best way to photograph art work is to turn off all of its automatic features. Automatic cameras are fine for taking family snap-shots. However, when photographing art work, you want to be in direct control of critical issues like color, lighting and focus.

These instructions are based on a Canon T2i camera. The names and placement of controls may be different on other camera models or brands.

1. Set Lens to Manual Focus

Move the switch to **MF** Manual Focus. The switch is located on the side of the lens.

FYI: You will manually focus the camera while looking through the optical viewfinder. This lets you select what part of the art work is most in focus.

2. Set Stabilizer to Off


If your lens (or camera) has a stabilizer, turn it off. Since the camera will be tripod mounted, the stabilizer is not needed and it might add jitter to long exposures.

3. Set Mode to AV Aperture-Priority

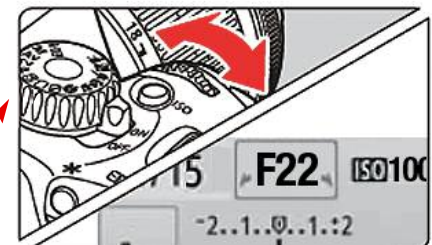
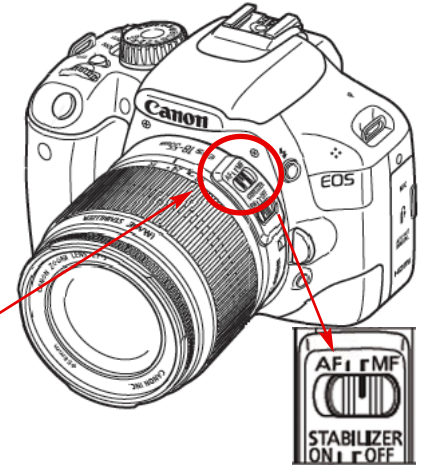
Rotate the mode dial to **AV** on Canon (or **A** on Nikon). The dial is located on top of the camera. By setting the mode to aperture-priority, you control how large or small the aperture (f-number) is. The camera will then calculate how long to keep the shutter open.

FYI: So why do you want to control the aperture? The aperture (the opening inside the lens) does two things: 1) It lets light into the camera, and 2) It controls the depth of field (which objects are in focus). What we are interested in is improving the depth of field.

4. Set the Aperture to F22

Set the aperture to the highest f-number available on your lens (usually F22). Turn the  dial to the right for a higher f-number. You will see F22 appear on the LCD display on the back of the camera.

FYI: One of the problems you face when photographing dimensional art work is getting everything into focus. For example, if you focus on an object close to the camera, objects farther away will appear blurry. Using a high f-number helps to reduce this problem by extending the depth of field to include objects that are farther away. Note: the high f-number will cause the exposure time to be much longer, so the camera must be on a tripod.






Blurred background with low aperture f-number (like f/5.6).



Sharp foreground and background with high aperture f-number (like f/22).

5. Set ISO to 100




Press the **ISO** button located on top of the camera. The ISO speed will appear on the LCD display on the back of the camera.

Turn the  dial (on top of the camera) or press the   keys (on back of the camera) to set the ISO to 100.

FYI: The ISO rating is how sensitive the DSLR is to light, kind of like the old days when film was rated as ISO 64 (color) and ISO 400 (fast B&W). Common sense would suggest that you use a high ISO to help offset the light-robbing effect of using a high f-number, but a low ISO is better for art photography. This is because a low ISO does a better job of capturing the full range of colors and shades of light and dark in an art object. Also, a low ISO has less visual noise (graininess). Visual Noise can make shadow areas look bad.







6. Set White Balance to Auto

Press the **WB** button on the back of the camera. The White Balance settings will appear on the LCD display on the back of the camera.

Press the   keys (on back of the camera) to select **AWB** Auto White Balance, then press the  button.

FYI: Unfortunately, none of the White Balance choices will give you accurate enough color for photographing art objects. This step just gets you close. For absolute color control you will place a color chart in the photo, then correct the color in Photoshop.

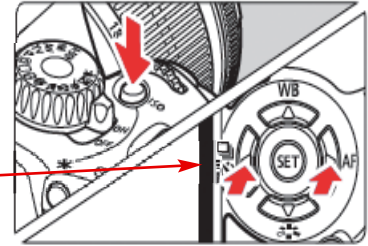
4. Set Quality to RAW + L

Press the **Menu** button on the back of camera to display the menu. Press the   keys to select Quality tab at the right, then press  . Then press the   keys to select **RAW + L** , then press  . When finished, press Menu button to close.

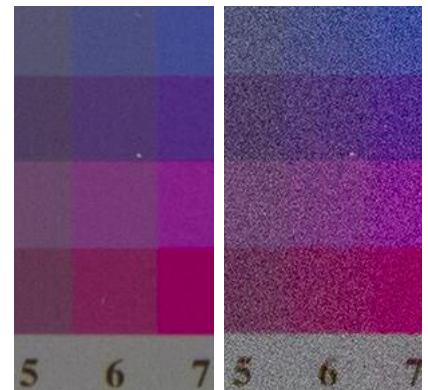
FYI: To get the maximum quality that your camera can provide, you should use the RAW setting. This will require some extra steps in Photoshop.

7. Mount the Camera On a Tripod

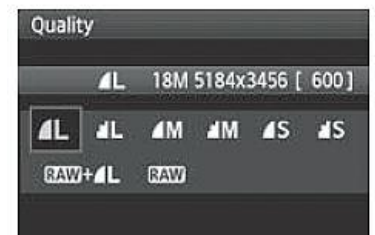
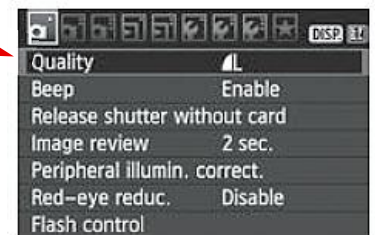
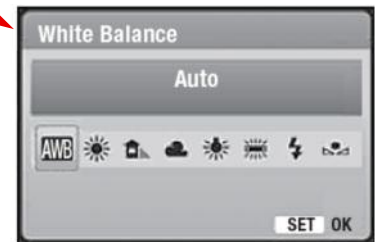
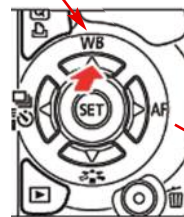
FYI: This section has covered only those camera settings that are specific to photographing art work with CFL lighting. For more information about using your camera read the camera manual or contact support at the camera manufacturer's website.



View on back of camera



ISO 100 ISO 6400
Notice how the colors get grainy and smear together at the higher ISO.



Photographing dimensional art is a bit different than photographing paintings or flat art. You have to use light and shadow to define the shape of the art object. Start with the Basic Lighting Setup, then try moving lights and reflectors (forward, back, left, right) while watching the effect in the camera. It's really more art than science.

1. Key Light, Fill Light, Top Light & Back Light

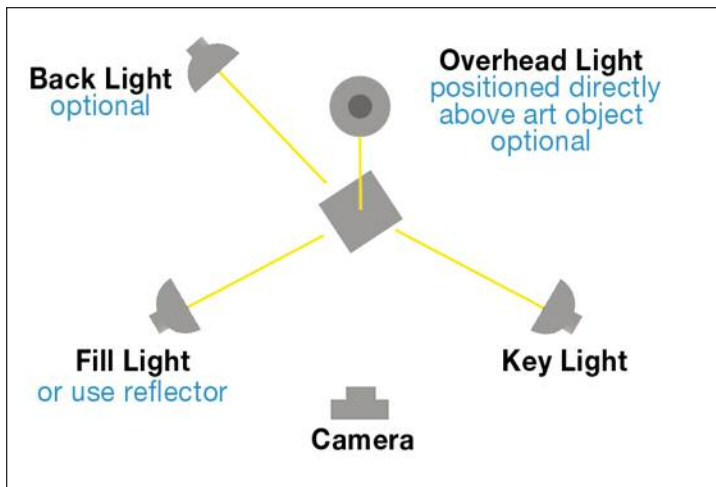
The basic lighting setup for photographing an art object uses a Key Light and a Fill Light. First, place the Key Light pointing at the most important part of the object (usually the front). Adjust the camera for good exposure on front of the object. Next, add Fill Light (or reflector) opposite the Key Light to bring out detail in the shadow area. Some art objects may require a Top Light instead of a Key Light. A Back Light is sometimes added for drama.

2. Add Reflectors & Diffusers to Define Shape

Shadows are important for defining shape. Start with just a Key Light. Add a reflector and move it (left, right, closer, back) to get the best look. Add diffuser sheet between the light and the object to reduce glare in highlights and soften shadows.

3. Going Beyond Basic Lighting

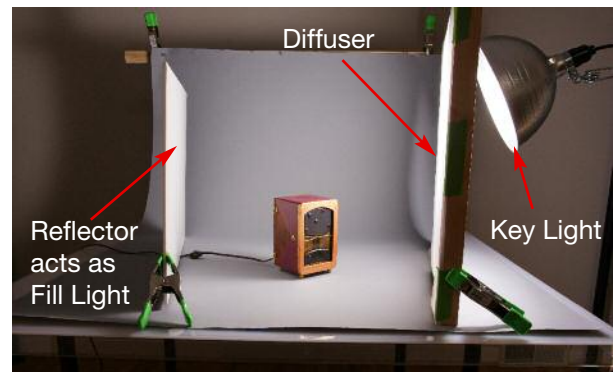
Some art objects, like glass, shiny things, dark things and large/small things can be difficult to photograph. Glass objects may require a Back Light instead of a Key Light. Shiny things require a Top Light instead of a Key Light. Dark things soak up light and require added reflectors.



Place Key Light on left or right, depending on art object. Place Fill opposite Key. Back Light and Overhead Light are optional.



Start with the Key Light placed to the left or right of the art object. Rotate the object slightly towards the light. Adjust the camera for the best exposure on front of the object.



Add a diffuser sheet between the Key Light and the art object. Readjust camera exposure if needed. Next, add a reflector opposite the Key Light to fill in shadows. Try moving the reflector around for the best look.



Art work by Joline El-Hai (with internal light turned on).

When photographing small art objects like jewelry, you want to make sure all the little details are visible. It seems like it should be easy, but it's not. Details tend to wash out in bright shiny areas, while shadows make details in dark areas hard to see.

1. The Best Angle of View

Top View: In the two examples at the right, the camera is looking straight down. This is typically the way jewelry is shot.

Side View: A second way to shoot small objects is to lower your camera and shoot across the surface at an angle. This adds a 3D effect that makes details stand out more (see the textile photo at the bottom right).

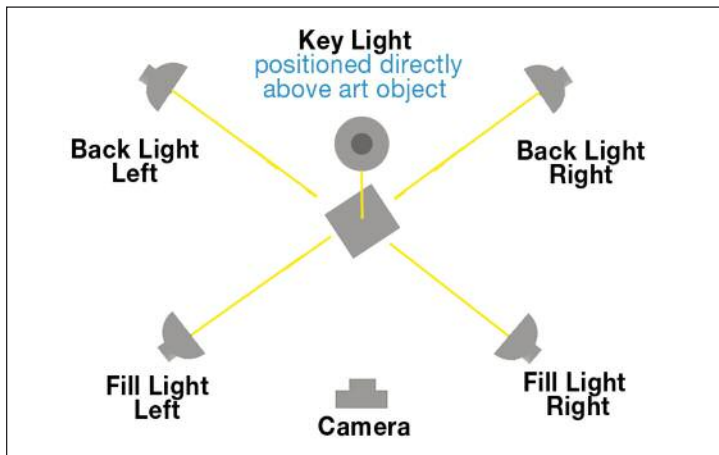
2. Flat Lighting vs Side Lighting

Flat Lighting: A single light placed above the art object will give the art object a flat lighting effect. Next, place reflectors, left and right, to add light under the object. This helps separate the object from the background.

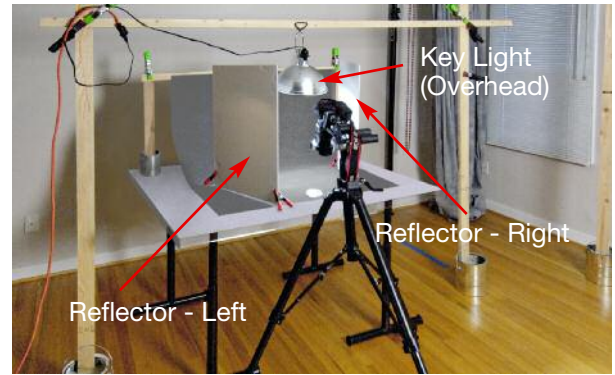
Side Lighting: Another choice is to use light from the sides. This will cause dimensional surface details to cast shadows and enhance the 3D effect. To control which direction shadows point, move side lights closer or farther away from object.

3. Limited Depth of Field

It's usually best to set your camera to telephoto when shooting small objects. This lets you move the camera back a bit and still have the object fill the frame. It also reduces geometric distortion that happens when a wide-angle lens gets close to what it's photographing. The bad news is you lose depth of field with a telephoto setting (see the textile photo at the bottom right).



Flat Lighting: Position single Key Light above art object, optionally add reflectors. Side Lighting: Position one to four lights around the art object.



Flat Lighting Setup: A single overhead Key Light points down at the art object. Two reflectors are used, one at left and one at right, to reduce shadows under the edges of the object.



Art work by Megan Corwin



When photographing small objects, fine detail can be lost or appear distorted. If this is a problem, consider adding a close-up shot showing the detail.



Side Lighting Setup: Lights are positioned around the object at various distances to create interesting shadows. One or more side lights can be used (or added to overhead light).



Overhead light gives this photo a soft look. Notice the overhead light is visible as a reflection in the jade.



Art work by Patti King

This photo was shot with the side lighting setup (right back light is casting shadows to the left).

The larger an art object is, the harder it will be to properly light. You will need to use multiple lights strategically placed around the object to highlight the elements and shapes that make the object unique. Needless to say, the object will be mounted on the floor, not on the table.

1. More Lights From Different Angles

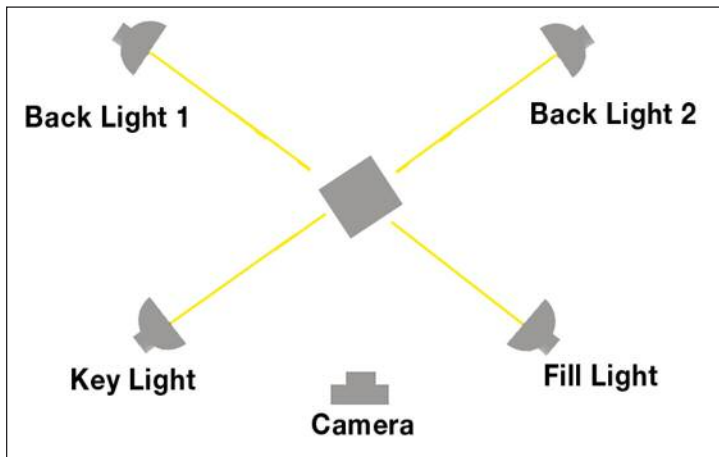
In this example, the mixed media art object is large and has a complex cut-away shape. Simple light from the front would make it look flat and uninteresting. The solution is to use two pairs of lights in the shape of an “X”. The Key Light and Fill Light are placed left and right at a 45° to the camera as usual. Back Lights are placed to shine directly at the Key and Fill. This creates more dramatic lighting that shows off the object’s interesting shape.

2. What Goes Up Must Go Down

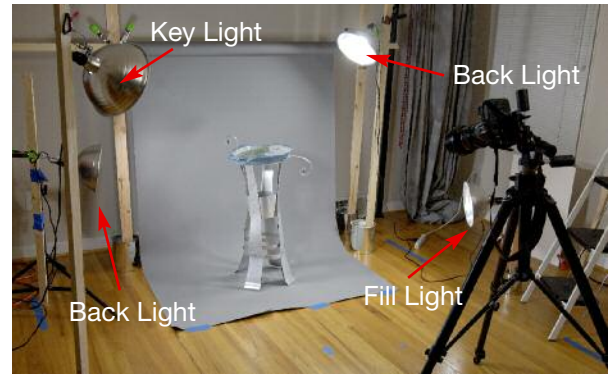
This art object poses a special lighting problem. It has a slightly curved top which is a point of interest, plus a tall vertical shape. The solution is to place the Key Light and its matching Back Light very high so their light goes down to light the top. The Fill Light and its matching Back Light are placed low to light both the vertical shape and the underside of the top.

3. Same Lighting Setup, Different Photos

Once the lighting is correctly setup, leave it alone and try moving the camera and tripod to different positions and heights to get different photos. In this case both the overall photo and the close-up detail photo were shot with the same lighting setup.



Placing the Key Lights, Fill Lights, and Back Lights so they form a large “X”, will give more dramatic lighting. This can be useful when photographing cut-away or see-through objects.



The Key Light and the Fill Light form an “X” with the Back Lights. This gives more dramatic lighting that shows off the interesting shape of the art object.



Large art objects pose a problem for focusing. In this photo, the point of focus is the top. The camera’s aperture was set to F22 for maximum depth of field. Even still, the bottom of the object is not as sharp as the top. C’est la vie.



Art work by Katherine Holzknacht

Shiny objects (like glass, metal, glazed ceramic and jewelry) are especially hard to photograph. There are several reasons for this. 1) They act as mirrors that reflect their surroundings into the camera lens. 2) They are much brighter than the non-shiny parts of the photo. 3) They often have curved surfaces that are even harder to control.

1. Position Light Source Above

First, place the Key Light directly above the art object. This helps define the shape. Try moving the light forward and back to reduce reflections. Accept the fact that the “mirror effect” is part of the photo and is not going to go away. You have to work it so that it adds to your finished photo.

2. Add Reflectors and Diffusion

Give the shiny surface something to reflect. Add a sheet of frosted plastic or thin white cloth between the light source and art object to diffuse the light. Add white foam core board on one or both sides (these will be visible in the photo).

3. Make The Best of Curved Surfaces

Curved surfaces are a problem because they reflect light (and objects) from all directions. Using diffuser sheets and reflectors will usually work (see jewelry box below).

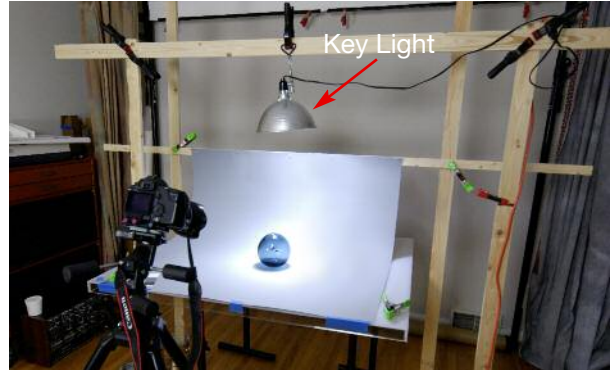
In tough cases, you may need to build a “tent” with diffuser sheets (or reflectors) on all sides and the top of art object. The setup at the right could be made into a “tent” by adding extra sheets at back and front (cut a hole in the front sheet just big enough for the camera lens to see through).



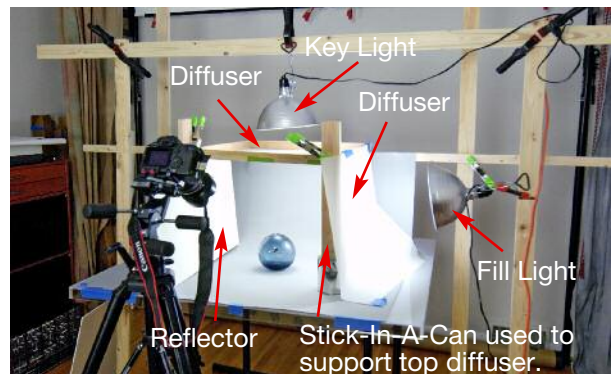
One CF light mounted above object. Details are lost in shadows. Highlight on top edge of chest is whited out.



Add diffuser above and on right, plus reflector on left. Details now visible in both shadows and highlights.



Mount the Key light above the art object (pointing down) to improve reflection. See [DIY Photo Studio](#) in this guide for instructions on how to build the low-cost setup shown.



Here is full setup with a light above and at right. A diffuser sheet is in front of each light. A reflector is set at left. In photo below, the light areas on the art object are actually reflections of the foam core and diffuser sheets.



Glass art objects can be clear, translucent, or colored. However, they all share something in common when it comes to photography - light can go through them. With translucent glass, you need to capture the glow. With clear glass, you need to give it substance and separate it from the background.

1. Clear, Colored & Translucent

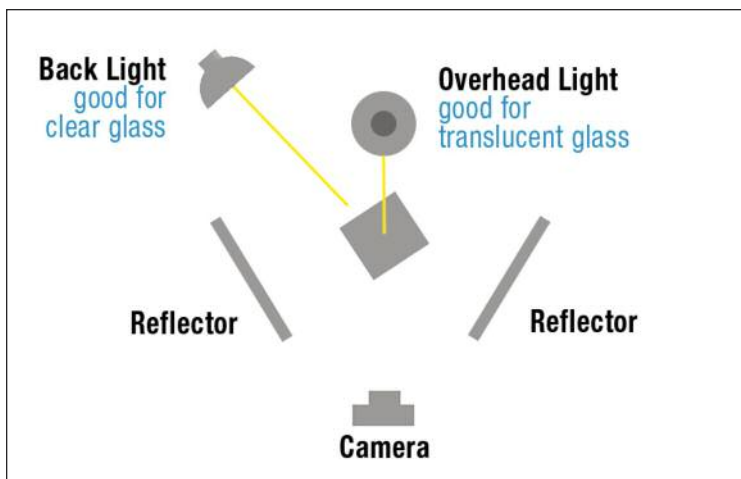
Photographing glass is basically about making the invisible become visible. With translucent glass, start by placing a Top Light above pointing straight down. This makes the glass brighter than the background. Add reflectors to partially fill in the shadows.

2. Front Light vs. Back Light

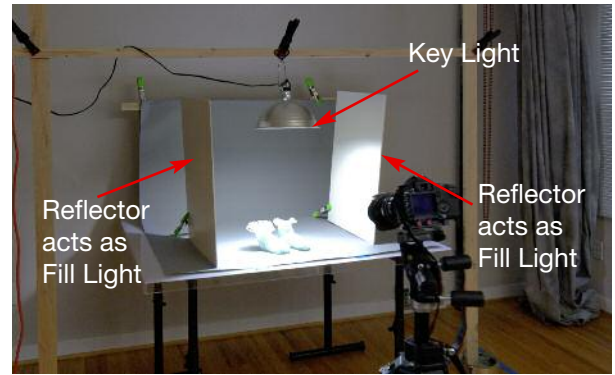
Clear glass (and semi-clear) objects can benefit from a Back Light or strong light bounced off the background. As light travels through the glass, it makes the edges and interior glow. If needed, use separate lights for front and back. Keep moving the lights (just a little at a time) until you get a good look in the camera. This is more art than science.

3. Handling Reflections

In addition to transmitting light, glass can reflect light and surroundings into the camera lens. Keep the photo studio dark to help reduce reflections. Move lights around as needed to get rid of glare. If needed, use foam core board to block light hitting certain areas of the object and which may be causing glare.



Top Light placed above object is good starting place for translucent glass. For clear glass start with Back Light or bright bounce.



The art object of translucent glass is placed on seamless grey paper. A Key Light above adds glow to the object, while light fall-off causes the background to appear dark.



Art work by Carol Milne



You don't need a fancy setup. This real artist's studio uses two lights and a roll of seamless grey paper. A Key Light and Fill Light are placed right and left of the art object to reflect off the background. Spill light also falls on the front of the object.



Art work by Art Messer

One of the toughest problems you may face is how to photograph art objects that contain dark details on a dark background. There are two reasons for this: 1) the camera has difficulty distinguishing between dark colors and 2) the camera generates “digital noise” that makes dark colors blotchy and blurry.

1. Set The ISO Low

Here’s what you can do to improve dark colors. First, set the ISO to 100 (or the lowest setting on your camera). Set the camera to Aperture Priority and the F stop between f11 and f22. Be sure the camera is set to save RAW files (this will give you more data to work with in Photoshop).

2. Use Even Lighting

Good even lighting is important. In this example, the art object is basically flat, so I used 4 lights set at 45 degree angles. A more dimensional art object might require extra light applied to the dark areas.

3. Use Camera Histogram

Next, turn on the camera’s Histogram. Take a test photo and look at the camera’s LCD display (on the back). It is critical that the “hill” on the left does not touch the left side of the graph. This assures you that you will have detail in the darkest areas of the image.

4. Use Exposure Compensation

Just to be safe, take 4 additional photos, each 1/3 F stop brighter than the previous, using the Exposure Compensation control (see instructions at lower right side of this page).

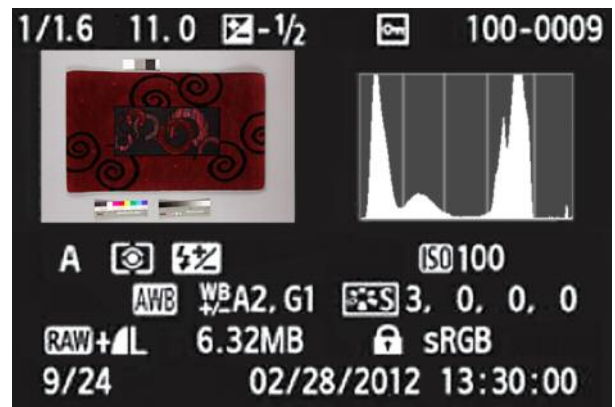
5. Adjust Image in Photoshop

Later, when you view the images in Photoshop, you can pick the one with the best histogram. Even so, the image will most likely require some adjustments using either **Levels** control, the **Curves** control, or the **Shadow/Highlight** Control in Photoshop. This can take a bit of practice.

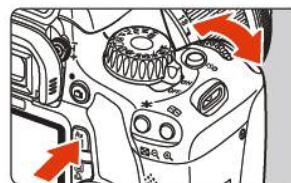
See page 05 of CQA Photo Editing For Artists



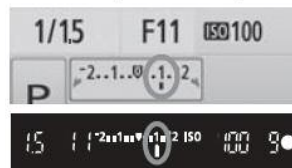
When photographing dark objects, use lots of even light so that shadows do not go black. Put a QP101 White Balance Card in the frame.



On the back of the camera, find the switch to display the Histogram (which will look similar to the image above). The tall “hill” on the left is the darkest part of the photo. It’s **critical** that it does not bump against the left side of the graph.



Increased exposure for a brighter image



In the histogram shown above, the hill on the left side represents the darkest area of object



If you have followed earlier instructions, you will have the camera set for Aperture Priority. This means you have set the aperture between f11 and f22) and the camera is automatically adjusting the exposure time. Take 4 additional photos, each 1/3 F stop brighter than the one before. Do this by setting the Exposure Compensation. Hold down the <Av> button and turn the <Exposure Compensation> dial to the right to increase the exposure. Do this between each exposure.



Art work by Jan Koutsky

How you go about photographing a ceramic art object will depend on the item itself. Is the surface shiny or matte? Does it have curved surfaces? Does it have a lot of dimensional details? Is it best viewed from the front or top? Is it small enough to fit on a table top or does it need to be mounted on the floor?

1. How Big Is It?

In this example, the ceramic bowl will fit nicely on a table top, so you can start with the “Basic Lighting Setup.” Place the Key Light above the object pointing down through a diffusion sheet.

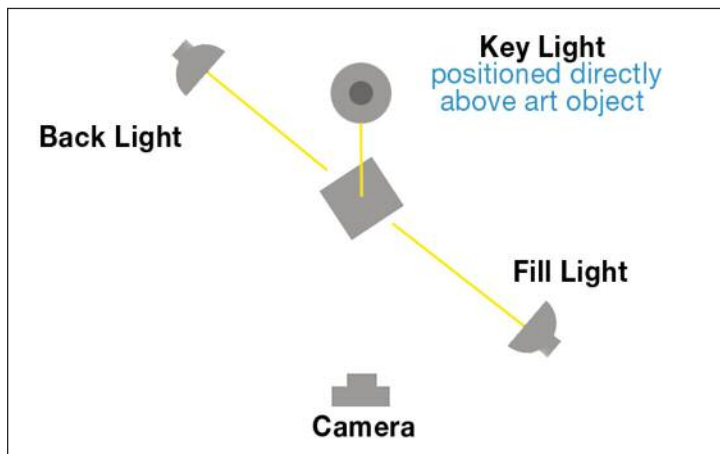
2. What Kind of Shape & Surface Does It Have?

This bowl has a shiny glaze and lots of curved surfaces which will tend to reflect glare into the camera lens. Add a Fill Light to the right and keep it low to fill the shadows under front edge of bowl. Place the Back Light directly opposite the Fill Light. This will put a bright edge on the back of the bowl and help separate it from the background.

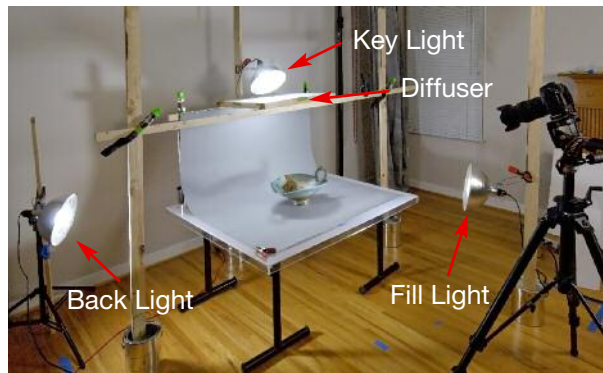
3. What Is The Best Viewing Position?

In this case both front and top are important. For the front view, you want to be able to see into the bowl. You can do this by raising the camera.

For the top shot, place tripod close to table and extend to full height. Add a spacer under the back side of the object to tilt. Adjust the tilt until the camera is facing straight at the top of the object. Use a small step ladder to look through view finder. Weight down the back leg of tripod with 5 lb sack of rice or sand for added stability.



Place Key Light above the art object. Place the Back Light directly opposite the Fill Light for interesting highlights.



Place the Key Light + diffuser above the object for even glare-free light. Adjust the camera height so you can see over the front edge of bowl and into the interior.



Art work by Loren Lukens



For a top shot, add a hidden spacer to tilt art object towards camera. Extend the tripod to full height. If needed, add a foam core board to block the Back Light from hitting the camera’s lens.



Art work by Loren Lukens

This mixed media ceramic art object has mostly matte surfaces that have a lot of dimensional details. The best view is from the front. The height is tall, so it will require the table to be lowered. It could also be mounted on the floor, but using a low table is easier on the camera operator.

1. More Height Means More Lights

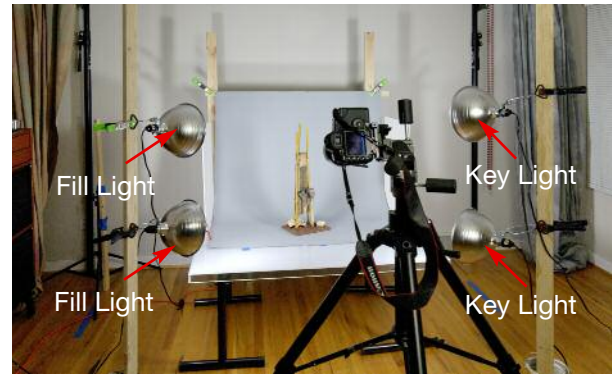
In this example, the mixed media ceramic art object is too tall to be properly illuminated with a single Key Light and a single Fill Light. The solution is to use two lights on each light stand, one above the other. Position two Key Lights on the right and two Fill Lights on the left. The lights should be placed at a 45° to the camera and equal distance from the art object. This will give it a nice even lighting.

2. Should You Use Diffusers On The Lights?

This art object has most non-curved matte surfaces, which will not reflect glare back into the camera's lens. This means you have the option of using direct light or diffused light. Diffused light will give you softer shadows, while direct light will give you shadows with harder edges. This particular art object has a lot of dimensional detail that seems to work with the direct light. This was a subjective call and could have gone either way.

3. What Is The Best Viewing Position?

In this case the front view tells the strongest story. Both the overview shot and the close up shot were taken from the same camera position. The lens was zoomed to telephoto for the close up.

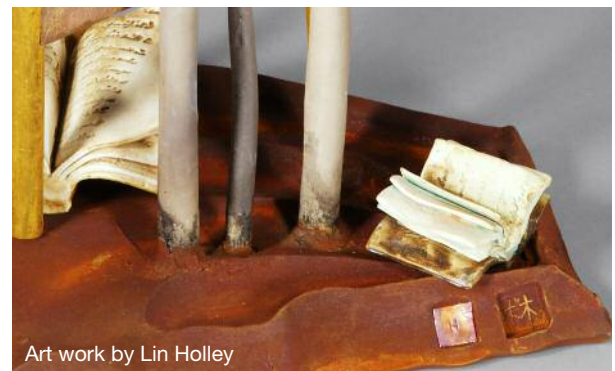


Two Key Lights are stacked on the right light stand and two Fill Light are stacked on the left. This gives even lighting from top to bottom of the art object.

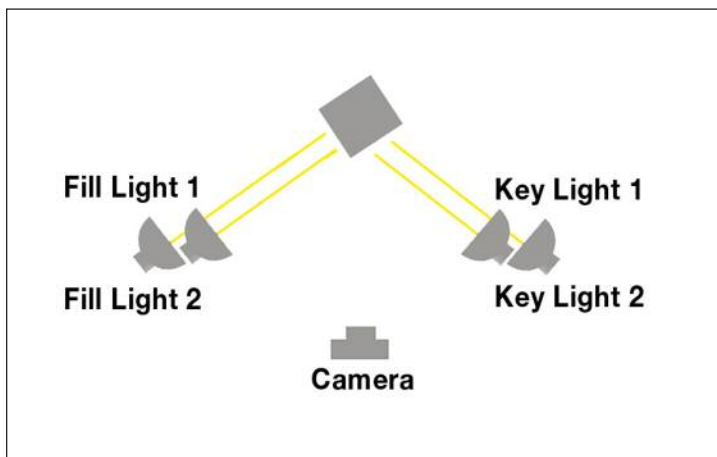


Art work by Lin Holley

When focusing the camera, it's usually best to focus on the closest part of the art object. In the photo above, the camera is focused on the ceramic flowers in the middle. Below the focus is on the small book.



Art work by Lin Holley



Placing the Key Lights and Fill Lights at equal distances from the art object will give you balanced light. Moving lights closer or farther away is how you control the light levels. When in doubt, experiment.

A large book could be filled with the many interesting aspects of photographing dimensional art. In this tutorial we have touched on some of the essentials. In this last section I will cover a few more issues, some of which are covered in the **CQA Photo Editing For Artists** tutorial that is also included on this disc.

1. Post Production With Photoshop

It would be nice if the images that came out of your camera were ready to use as is. That's not usually the case. Remember, these are not just snapshots. They are faithful recordings of your art work that will be viewed by judges, critics and admirers. After capturing the image with a digital camera, it's a good idea to do some post production with Photoshop. The object of using Photoshop is to correct certain shortcomings of digital photography process -- not to alter the look of the art object (which would be a no-no with art judges).

2. How To Control Color

How can you be sure that the colors in your photo are a true representation of your art work? The answer is a two step process. 1) Put a color test chart into the scene when you shoot your art object. Take a photo with the color chart and an identical one without the color chart. Now you have a known reference to check against. 2) In Photoshop, open the photo image and use the Levels control to adjust the image that has the color chart in it until the color chart reads true. Write down your adjustments on a piece of paper, then apply them to the other photos shot using the same lighting setup.

See page 05 of CQA Photo Editing For Artists.

3. Sharpening

When your digital camera takes a photo, a certain amount of blurring happens during the process. This blurring (called anti-aliasing) can reduce the clarity of small details. You can sharpen your photo image in Photoshop by using the **Unsharp Mask**.

See page 07 of CQA Photo Editing For Artists.

4. Getting Rid of Little Spots

Small spots that look like pin holes are caused by light reflecting off bits of dust or irregularities in the surface of the art object. These spots are most visible in the dark areas and are emphasized more by Sharpening. You can remove the spots in Photoshop using the **Clone Tool**, which lets you copy a different bit of the photo and "clone" it on top of the spot.

See page 07 of CQA Photo Editing For Artists.



Art work by Loren Lukens

Straight out of the camera, the image is okay, but a bit dark, off color, and not sharp.

After post production with Photoshop, the image is ready for publication.

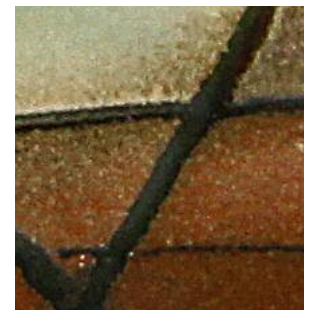


Art work by Joline El-Hai

Put a color test chart into the scene with your art object. Then take one photo with the chart and one without.. In Photoshop you can adjust the color according to the chart.



Image from digital camera before sharpening.



After applying Unsharp Mask in Photoshop.



Little white spots are caused by reflected light.



Spots removed using Clone Tool in Photoshop.

5. Preparing Images for Art Shows

Art shows typically have specific guidelines for formatting submitted digital images. They will ask for pixel dimensions, DPI, file size in MB and file formats like JPG, TIF or PDF. If you are a newbie, this can all be a bit confusing. But, don't despair. It's all doable. The first step is to find out the size of your image using Photoshop. This tells you how many pixels you have to work with. Once you know this, you can make a resized copy that matches their requirements.

See page 08 of CQA Photo Editing For Artists.

6. Preparing Images for Web

It's important to understand that the web images are very low resolution (72dpi) compared to art show images or print images (300dpi). Always start by creating the high resolution version first. After everything is the way you want it, you can make a "distribution copy" of the image file, then use Photoshop to reduce the image size to 8 x 10" at 72dpi. Note: If the original file was named **myimage.tif**, then name the distribution copy **my-image-web.jpg**. This will make it easier to keep track of which one is the original and which is the low resolution (web) version.

See page 08 of CQA Photo Editing For Artists.

7. Preparing Images for Print

As an artist, you should have a set of high resolution digital image files of your art ready to use for interviews, news stories, and marketing. Each publication and commercial printer will have their own requirements. However, here is a set of general print specifications:

• **Image Size: 8" x 10" at 300 DPI** (dots per inch). Multiply inches x DPI and you get 2400 pixels high by 3000 pixels wide. Note: All DSLR digital cameras will capture more than enough pixels for this.

See page 02 of CQA Digital Photography For Artist

• **File Format: RAW, TIF, JPG & PDF**

Digital cameras can be set to save images as either RAW or JPG files. For critical work, RAW is best. Photoshop will convert the RAW files, then you should save the master images as TIFs. These master images are precious, so make backups on CD-ROM. Later, when it is time to submit an image to art shows or publishers, you will send them a JPG or PDF (they will tell you what they want) copy of the master file.

See page 04 of CQA Photo Editing For Artists.

• **Color Mode: RGB vs CMYK**

RGB and CMYK are two ways of representing color. All digital cameras, computers, home printers, and the web use RGB. Commercial printers and publishers use CMYK, so you may get asked for a CMYK file at some point. Note: The only way to convert an image from RGB to CMYK is with the full version of Photoshop (not

Enter by Way of the Internet/Email

1. **Submit your images.** Use your email program and address the email(s) to information@innsbrook-resort.com with a subject line of: "Innsbrook 2011 Art Show Submission." Be sure to include your name, address and contact number in the body of the email.

Attach your art images to the e-mail:

- In .jpg or pdf format
- Each image must be identified in the file name with your name and photo number (i.e. JSmith2of4.jpg) or some other definitive manner
- Photos should be at least 4" wide, 300 dpi
- Send as a single or multiple zipped files, or single or multiple picture attachment(s)
- The total size of any 1 email message with attachment should not exceed 9 MB

This is an example of an actual art show submission form. It specifies the file format (JPG), dimensions (4" at 300dpi), and file size (9MB or smaller).



Image shown at 300 dpi for print quality.



Image shown at 72 dpi for web quality.



Computer monitors show colors as RGB (Red, Green, Blue), but printers show colors as CMYK (Cyan, Magenta, Yellow & Black). CMYK colors will appear duller than RGB. This is one reason that what you see on the monitor doesn't always match the printer output.

Photoshop Elements). If you need a CMYK file and don't have the full version of Photoshop, contact a local graphic design shop and have them do it for you.

You can learn more about RGB and CMYK at:

<http://www.printernational.org/how-does-cmyk-work.php>

<http://sf.massart.edu/docs/v1/SF-Color-Photoshop.pdf>

http://en.wikipedia.org/wiki/CMYK_color_model

8. Going Beyond The Basics

And so we come to the end of the tutorials on How To Photograph Dimensional Art Work. Hopefully you now have some idea of how the whole process works.

But what if you want to go beyond the basics? The best way is to practice. In a way, learning to take good photographs is like learning to play the piano -- the more you practice, the better you get. Don't wait until two days before the due date for that big art show. Instead, spend a weekend setting up one of the tutorial examples and working all the way through it. Keep a notebook of what you do and what gives you problems.

The next big step is to learn more about digital photography in general, and specifically, how to control lighting. It is hard to find books that focus on photographing dimensional art. In fact, I don't know of any. However, here are four books that could be useful. You may be able to find them at your local bookstore or public library. If not, they are available at amazon.com.

Complete Digital Photography, Sixth Edition by Ben Long : Course Technology Cengage Learning (Feb 25, 2011).

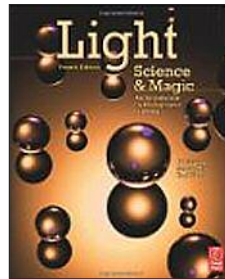
Light Science and Magic, Fourth Edition: An Introduction to Photographic Lighting by Fil Hunter, Paul Fuqua and Steven Biver (Sep 22, 2011).

Photographing Arts, Crafts & Collectibles: Take Great Digital Photos for Portfolios, Documentation, or Selling on the Web (A Lark Photography Book 2007).

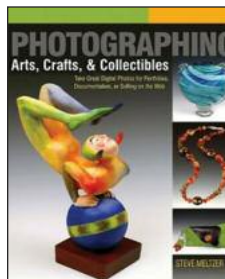
Lighting and Photographing Transparent and Translucent Surfaces: A Comprehensive Guide to Photographing Glass, Water, and More by Glenn Rand (Jan 1, 2009).



Complete Digital Photography
This 500 page book is a good introduction to everything digital, including cameras, software, lighting, techniques, and more.



Light Science and Magic
This book is a more in-depth coverage of how lighting works.



Photographing Arts, Crafts & Collectibles
This book focuses more on creating photos for use on the web. But it also has good ideas on lighting and posing.



Lighting and Photographing Transparent and Translucent Surfaces
The name says it all. This book could be very useful if you work with glass.

