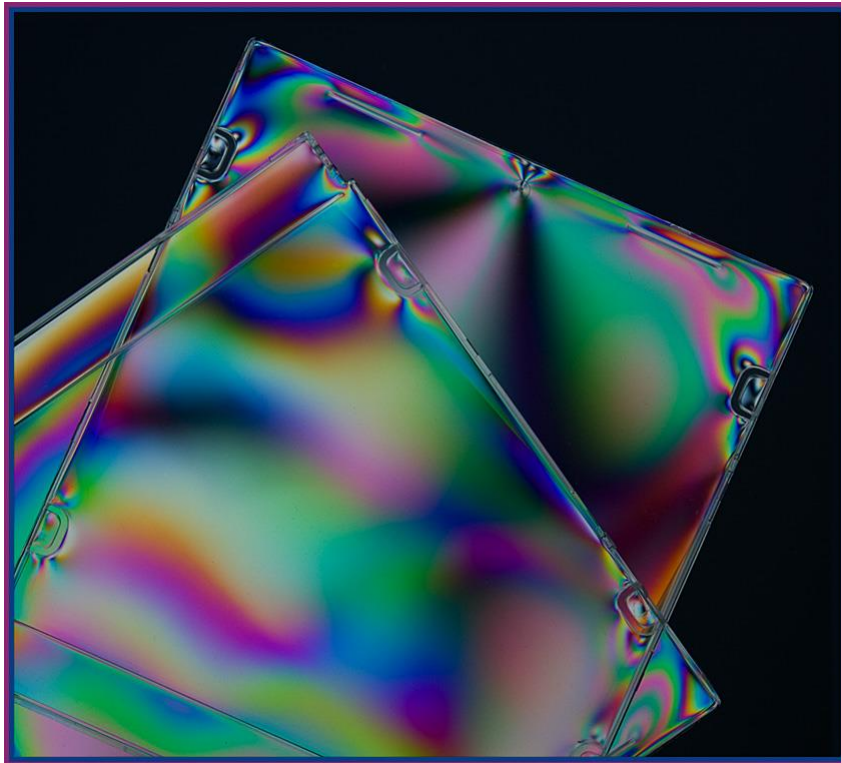


Polarized Plastic Stress Patterns

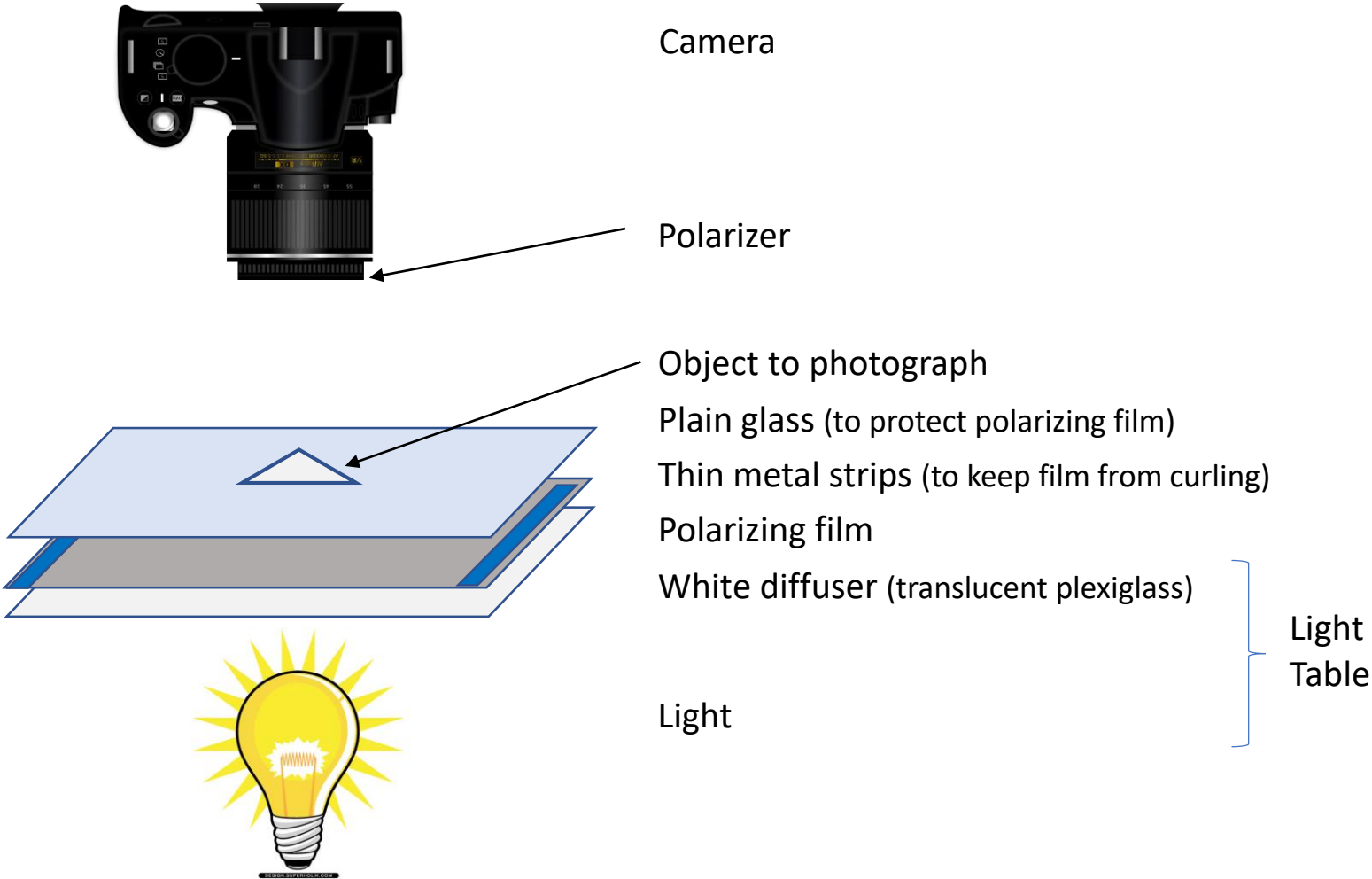


Matt Muskovac
November 2019

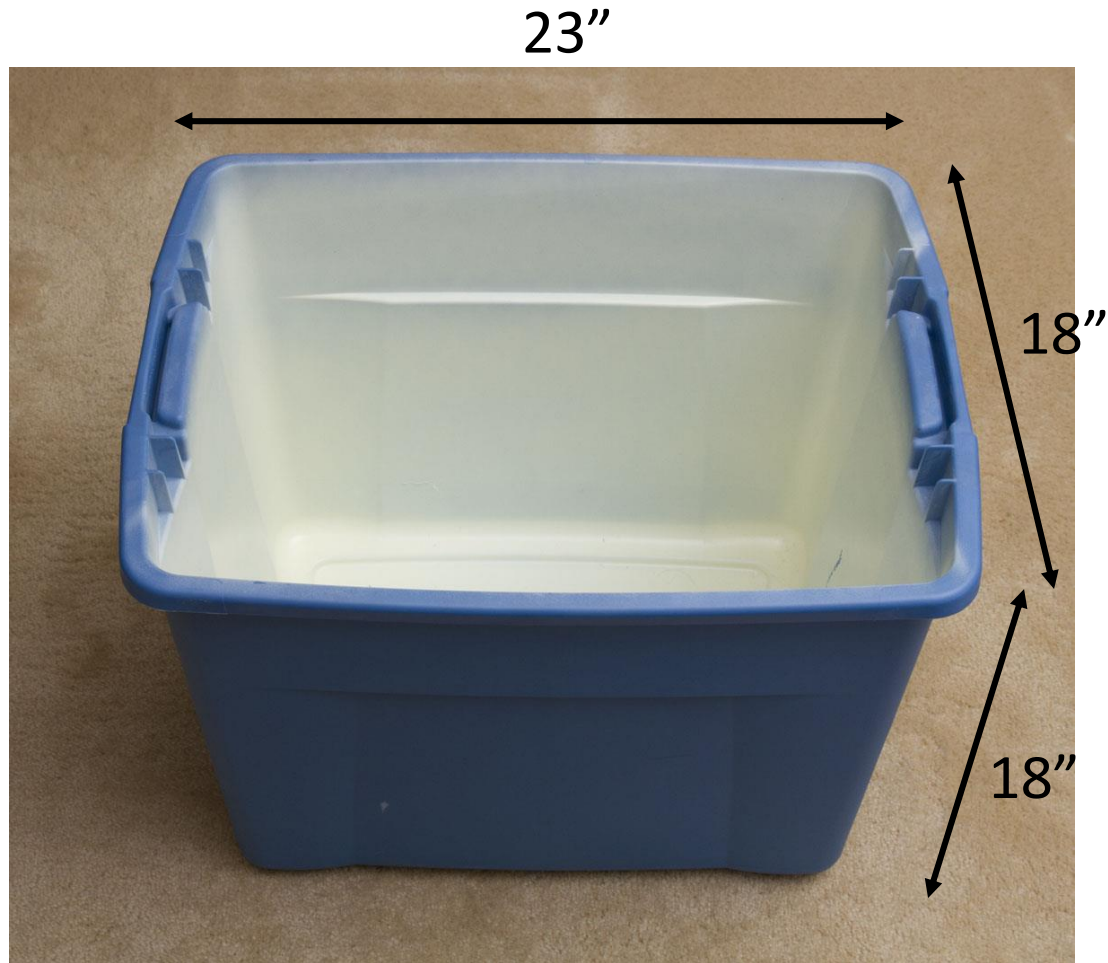
Polarized Plastic Stress Patterns

- Some materials will twist the polarization of light
 - Plastic that has been stressed
 - Injected molded clear plastic (stressed during manufacturing)
 - Mineral crystals
- Amount of twist will vary and amount of twist of may vary for different colors
- Cross-polarization can reveal color patterns

Setup Diagram



Do-It-Yourself Light Table 1



Sterite storage container painted white inside

DIY Light Table 2

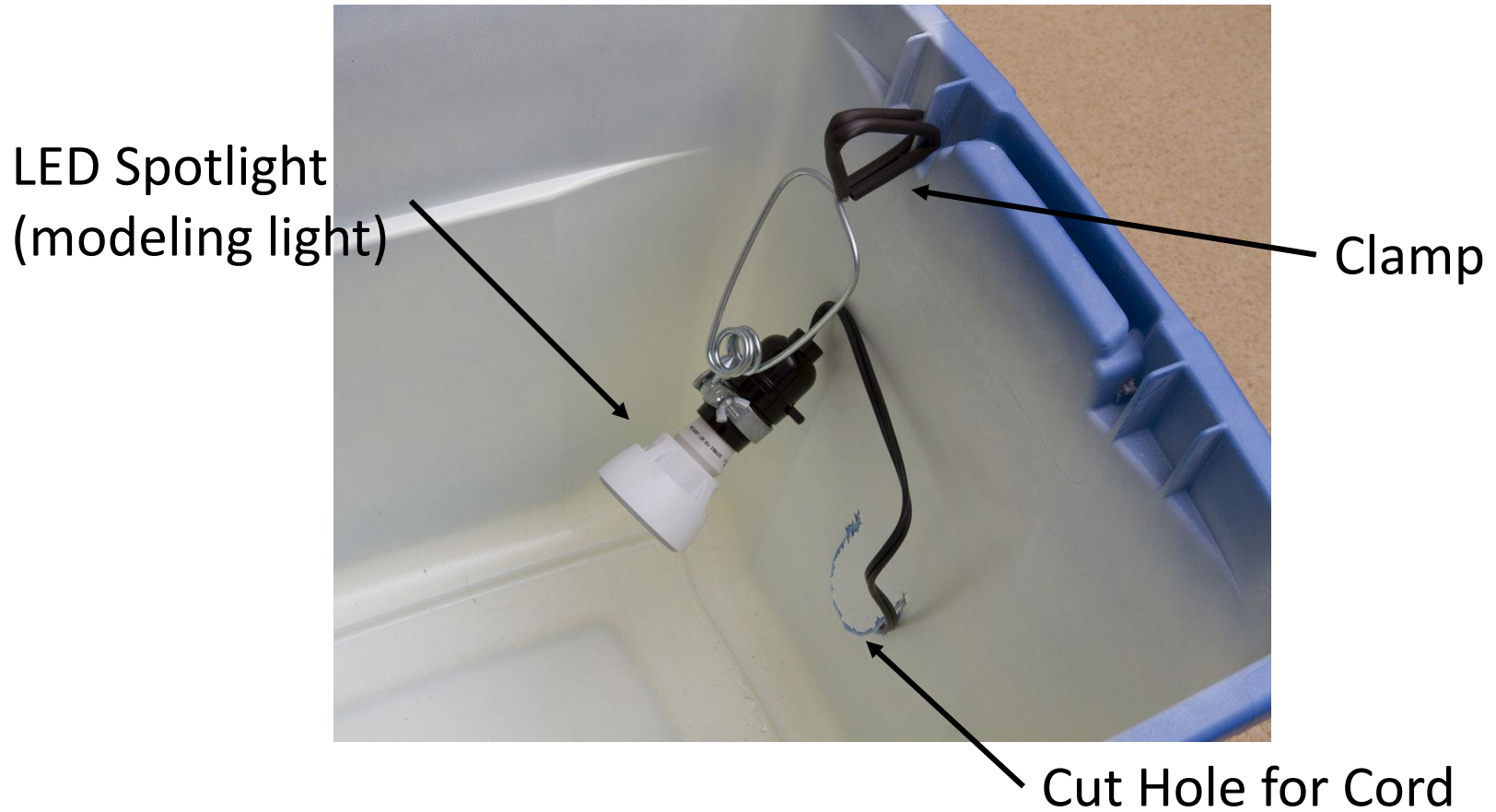


Aim flash/lights at bottom

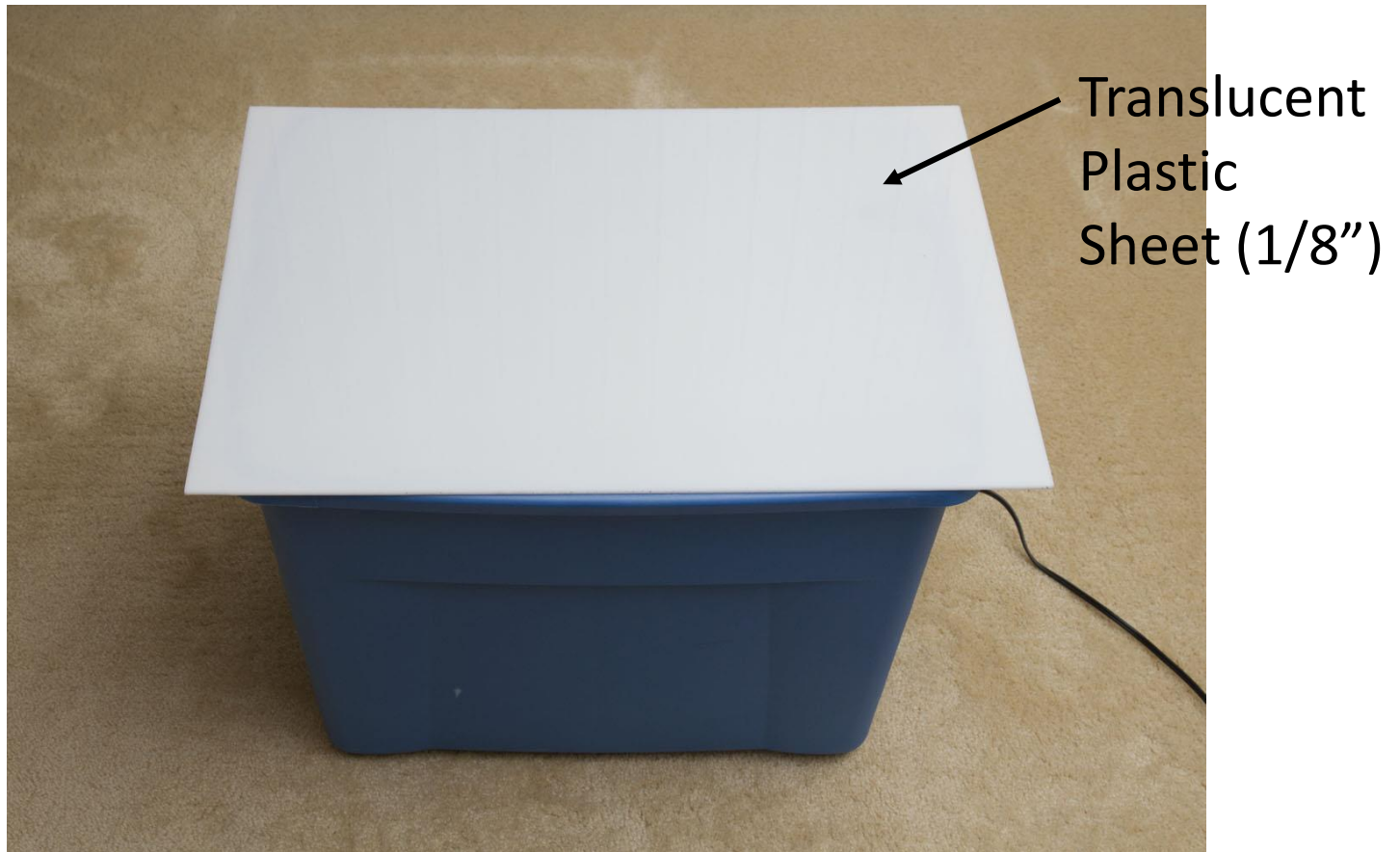
DIY Light Table 3



DIY Light Table 4



DIY Light Table 5



White Plexiglass or similar plastic

DIY Light Table 6



Ready to Use

Polarizer Sheet



Polarizer Sheet

Polarizer Sheet with Glass Cover



Thin Spacers
(to hold down film
and to prevent glass
from rubbing on film)

Black
Posterboard
(to mask any areas
not covered by film)

Plain glass

Polarizer sheet is fragile, protect it with glass

Complete Setup

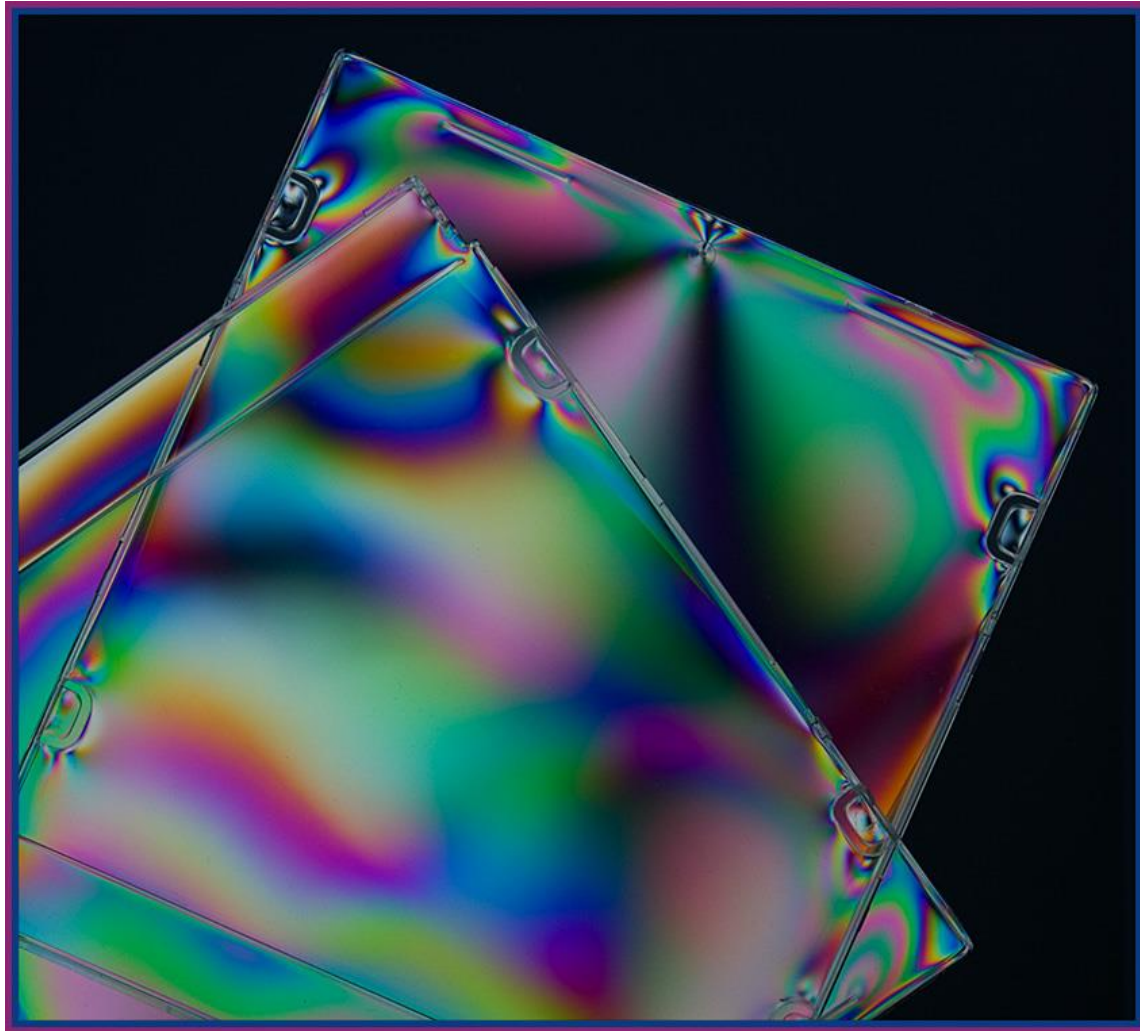
RF flash trigger
on hotshoe

Place objects
on glass

Shooting straight down will
make it easier to get
everything in focus, but you
don't have to shoot this way



Example – CD Jewel Box Covers



Example – Plastic Silverware

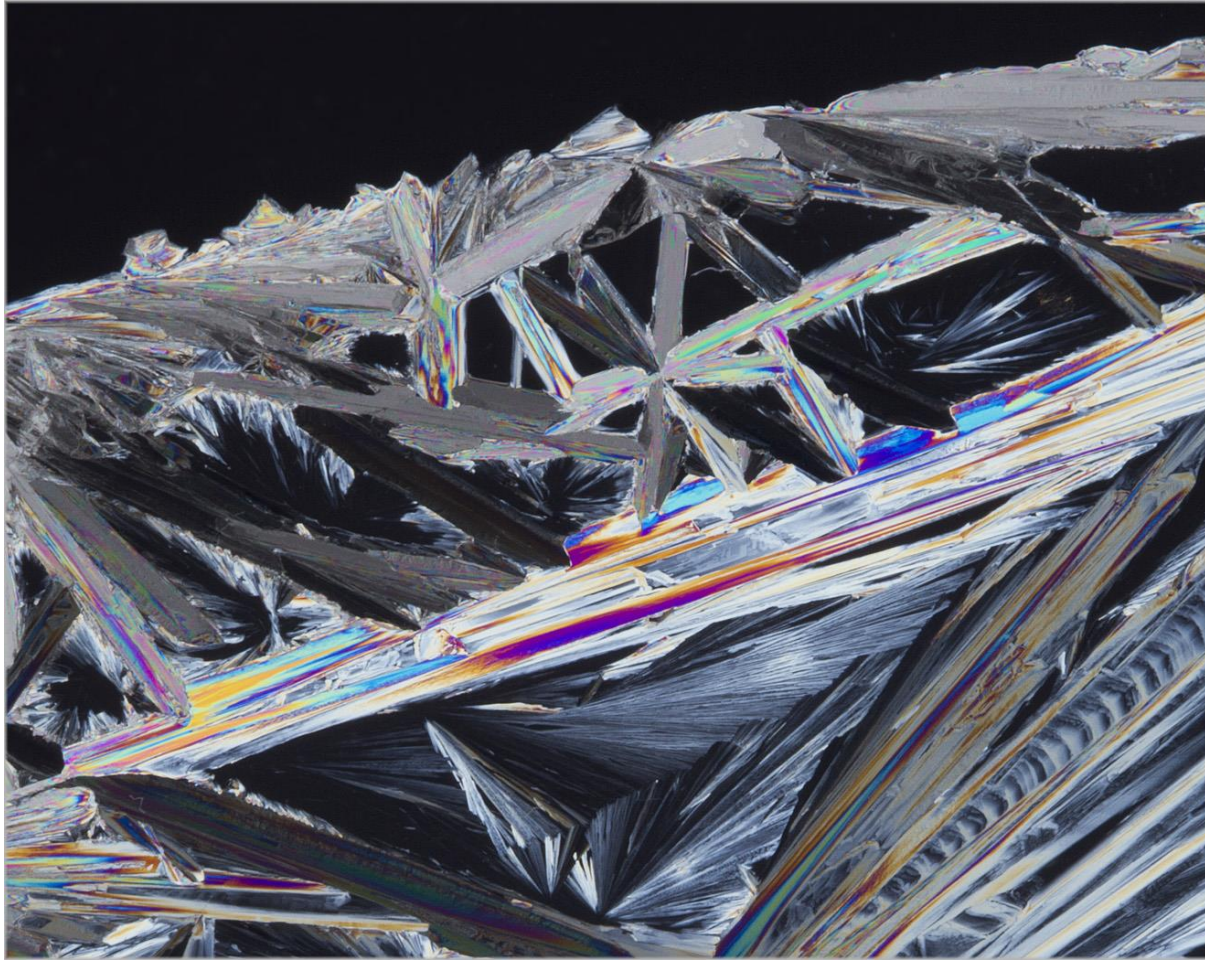


How to Grow Crystals



- Dissolve in liquid (water for Epsom Salt)
- Pour onto glass
- Let dry

Example – Epsom Salt Crystals



About 1" Wide, Need Macro Lens

For Photoshoot – What Will Be Supplied

- Light Table
- Polarizer Sheet
- Various injection molded clear plastic objects
 - CD jewel box covers
 - Silverware
 - Disposable food containers
- Canon and Nikon flash trigger RF transmitters for standard hot-shoe
 - Center pin is universal, should work for other brand cameras, no guarantee
 - Worst case, use modeling light instead

For Photoshoot – What to Bring

- Camera, preferably with standard hot-shoe
- Mid-range zoom(s) to cover these ranges
 - For crop camera: 35 – 85 mm
 - For full-frame camera: 50 – 135 mm
- Polarizer filter (you won't get any colors without a polarizer on your camera)
- Tripod
- Optional – clear injected molded plastic objects

Where to Buy

- Polarizer sheet
 - B&H
 - Amazon
- Translucent white plastic (white Plexiglass)
 - Farco Plastics (cheap if you can find it in the scrap section)
 - Amazon
 - Ebay
- Plastic storage container
 - Home Depot
 - Walmart

DIY Light Table Comment

- Note that I build the light table a long time ago. They now sell LED light tables fairly cheap. But, I don't know how well they would work for this application.