

## Vision & Optics Experiment Tips

Read below for extra tips to help you complete your science experiments.



### Seeing Things

- The camera obscura works best in complete sunlight outside. Remember not to point your camera directly at the Sun.
- Take your time adjusting the vellum sheet to get it into focus as much as possible. The image may not be crystal clear.
- Cutting your cardboard box may be difficult; ask an adult for help.
- You may not need all the clay provided around your lens; discard or repurpose excess clay with step below.
- Transform your camera obscura into a projector with a smartphone. Load a high-contrast image onto the phone's screen and replace the vellum with the phone. Use the excess clay to hold the phone in place. In a dark place, point the lens at a blank wall and move the box around until your projected image is focused and the size you want it to be.
- When necessary, use a soft cloth to clean off the lens and remove smudges.



### Blended Pictures

- Try out these ideas for your flipper templates: bird in a cage, fish in a bowl or letters combining into words.
- Cutting your cardboard box may be difficult; ask an adult for help.



### Phantom Colors

- On the blank disks, use a new permanent black marker for best results.
- On the blank disk, try different swirls and other high-contrast images to create your own illusions.