

Welcome to the Discovery Room!

This hands-on space has lots of things for you to see and do...



ON SITE

Photography

Try the **Guessing Gallery**
See vintage pictures at the **Photo Flashback** wall



Cameras & Technology

Visit the **Sunprint Space** and make a picture
Check out **3-D Machines** and the **Camera Corner**
Look inside a real **Camera Obscura**



Motion Pictures

Draw and see your own cartoons in our **Zoetrope Zone**
Try other early movie toys at the **Animation Station**:
Phenakistoscopes, Mutoscopes, Flipbooks, and Thaumatropes

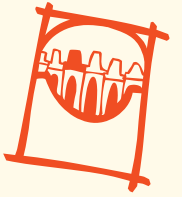


ONLINE

Visit <http://www.eastmanhouse.org/inc/visit/discoveryroom.php>

Download and print out:

Games, puzzles, & activities
Instruction sheets to make **Animation Station** toys
Timelines from the Room
Bibliographies
Tips sheets



Click on fun links to:

Look at more photos and cameras
Find out more about George Eastman
Take a virtual tour of the house



* answer key

1. The Camera Obscura (Latin for *dark room*).
2. Both have a sequence of images.
3. They both need light to make a picture—they just record it in a different way.
4. No, they were taken from slightly different angles to copy how our eyes see the world.
5. Our eye holds an image for a split second and connects it with the next to create the *illusion of motion*.
6. A photogram is made without a camera by placing objects on light-sensitive paper.

Read all about it...

The Kids' Guide to Digital Photography by Jenni Bidner

The History of Moviemaking (Scholastic Books "Voyages of Discovery" series)

The Camera ("Inventions That Shaped the World" series) by Trudi Strain Trueit



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Discovery Room



Family Guide

TIPS:

Take better pictures

Think about composition:

- Camera angle—try a photo from up high or down low
- Framing—is it a close-up or a long shot?
- Color, light, and shadow—these can create strong effects

Tell a story: what are you saying with your picture?

Use your tools: camera settings and flash. Experiment!

Don't move: hold your camera steady—or really jiggle it and go for a blur effect.

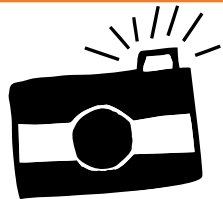
Save family memories

Take care of older family photos and films:

- Store them in a cool, dry place...not attic or basement!
- Use archival, acid-free storage materials
- If you transfer to digital, don't throw away originals!

Find out more about your images and write it down: ask who/when/where?

Better safe than sorry! Always back up digital files.



Think like an animator/filmmaker

Consider the subject:

- Who are your characters and what do they do?
- What is your setting—what's in the background?
- What sounds effects and dialogue go along with the action?

Think about the shot:

What camera angles and movements are happening during a scene?

Remember time:

how long should each scene last?

Plan ahead: storyboard it!

Get more tips at

<http://www.eastmanhouse.org/inc/visit/discoveryroom.php>



Camera

The way cameras look has changed a lot, but they all have the same basic parts. When you press the shutter button, light comes into the camera and records your picture on film or on a digital chip.

Shutter Button

What you press to open the shutter and take a picture.

Viewfinder

So you can see your subject. With digital cameras, there is usually a large screen.

Flash

In case you need more light.

Camera Body

Light-tight box that holds film/chip inside to record a picture.

Lens

Place where light comes in. Helps focus the picture.

Shutter

Opens to let light in.



Visit
Camera Corner!

1. What was the first camera? *

Zoetrope (zoh-a-trohpe)

The Zoetrope (Greek for *wheel of life*) uses a series of pictures on a strip. The drum spins on a stand and has evenly spaced slots cut into the top rim. The slots act as shutters—so that your eyes can connect the pictures inside as they go by—and they appear to move. The effect is called the *illusion of motion*.



mini-movies!

Visit
Zoetrope Zone!

2. How is a Zoetrope strip like a filmstrip? *

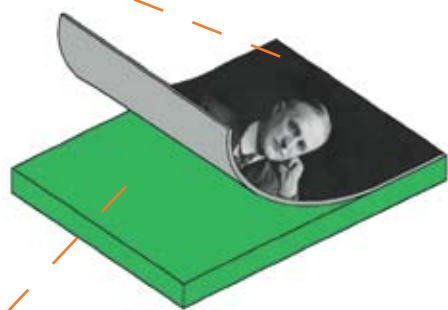
Photograph (pixels vs. silver)

A traditional photograph is made up of at least two layers. The base layer—like paper, metal, or glass—holds the emulsion layer. An emulsion is a mixture of chemicals (like silver) that changes in light to record a picture. A digital photograph is made up of pixels—tiny bits of information recorded electronically on a chip.

Traditional

Digital

Emulsion Layer



Base Layer

Pixels



Visit
Photo Flashback!

3. How are traditional and digital photos the same? *

Stereoviewer

We see the world in 3-D because our eyes see things from two different angles. Our brain combines the images so we see depth and perspective. With a stereoviewer, people could see a 3-D effect because the pictures they use were taken about 2½ inches apart, just like our eyes.

Stereocard

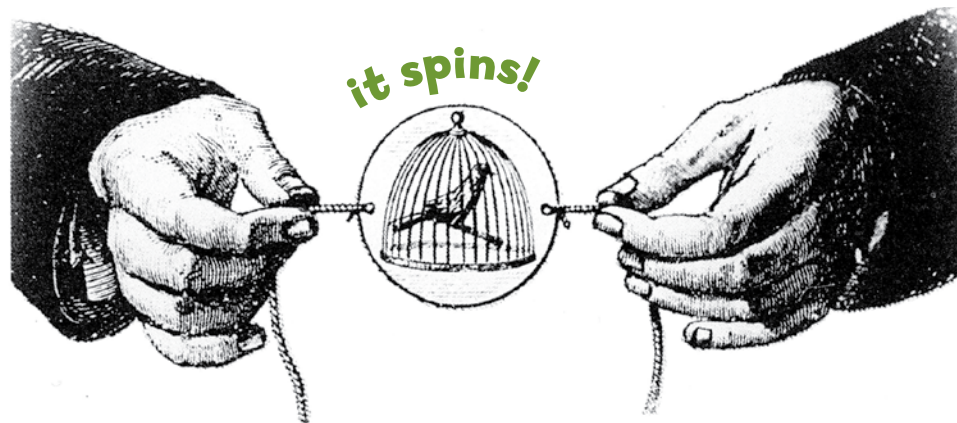


Visit
3-D Machines!

4. Are both stereocard pictures identical? Look closely. *

Thaumatrope (Thaw-MA-trohpe)

A Thaumatrope (Greek for *spinning wonder*) is a disc with a different picture on each side. When you look at one side, that picture stays on the back of your eye for a split second. When you spin the disc, your eye sees the picture on the other side before the first one goes away and your brain combines the two into one. The effect is called *persistence of vision*.



Visit
Animation Station!

5. How does persistence of vision help us see motion? *

Photogram

Photogram paper has a special coating on it that changes in sunlight. When you put an object on the paper and place it in the light, the paper changes—except for what's underneath the object because it blocks the light.



One kind of photogram is a cyanotype or 'sunprint.'

cyan = blue

Visit
Sunprint Space!

6. How is a photogram different from a photograph? *