

# Development of Digital Photography Technology

Name \_\_\_\_\_ Due Date \_\_\_\_\_ Class# \_\_\_\_\_

**Directions:** Read as a class then fill in the blanks using the word bank at the end of this worksheet. Color the magnetic tape red, the camera blue and the computer orange the monitor green. PE S1 O1 History of Digital Photography PE S6 O1-7 Resolution

Prehistoric cave paintings may have been created using the \_\_\_\_\_ camera effect. The Chinese invented the camera obscura in \_\_\_\_\_. In these ancient times, a darkened room with a hole projected an image of the outside world onto the distant opposite wall upside down. This concept of optics was known during the Renaissance by Leonardo DeVinci and \_\_\_\_\_ in 1550.

Thomas Wedgwood in the late 1770's and \_\_\_\_\_ two English scientists, carried out early experiments trying to record images on light-sensitive paper. Their photos were not permanent: they turned black unless permanently stored in a dark place.



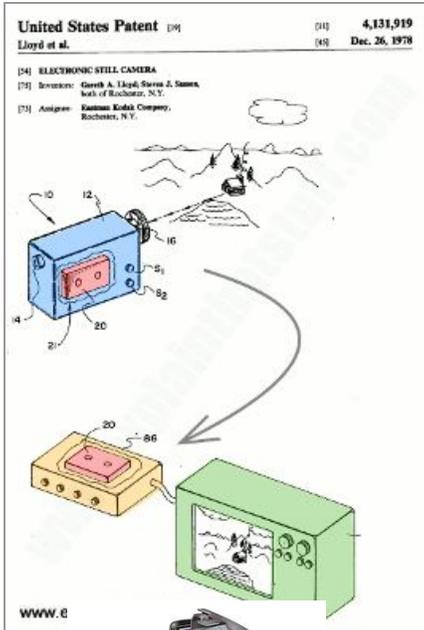
The Frenchmen Joseph Nicéphore Niépce made the world's first permanent photograph in \_\_\_\_\_. His method was no good for taking portraits of people because the camera shutter had to be left open for \_\_\_\_\_.

French opera-house scene painter Louis Daguerre announced the invention of photos on silver plates that became known as \_\_\_\_\_

in 1839. William Henry Fox Talbot (1800–1877) invented the first photographic paper negative process called a \_\_\_\_\_ in 1841. Black is white and whites are black in these images.

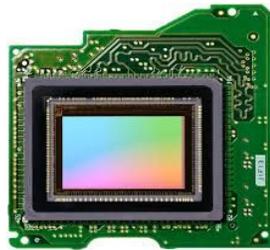
British artist and photographer \_\_\_\_\_ invented a way of taking pin-sharp photos onto wet glass plates in the 1870's. British physician Dr Richard Maddox (1816–1902) developed a way of taking photos using dry plates and gelatin in 1883. American inventor \_\_\_\_\_ invented the modern photographic film in 1888 and launched his easy-to-use \_\_\_\_\_ camera. His slogan was: "You push the button and we do the rest." Edwin Land invented the instant polaroid camera in 1947. \_\_\_\_\_ also invented the color polaroid camera in 1963. The early Brownie, Pentax, Konex, Ricoh, Nikon and Canon all used \_\_\_\_\_ to capture an image until the next great invention in the 1970's.

# Invention of Digital Photography



The original digital camera, invented in the \_\_\_\_\_ by \_\_\_\_\_ worked a bit like an old-style [camcorder](#) and needed a separate playback monitor. First (top), you took your photos with the camera, which used a CCD to record them onto a magnetic tape (red). Later (bottom), when you got back home, you took out the tape, inserted it into a computer (orange), and viewed the pictures you'd taken on a computer monitor or TV (green).  
*Artwork from [US Patent 4,131,919: Electronic still camera](#) by Gareth A. Lloyd, Steven J. Sasson courtesy of US*

\_\_\_\_\_ into sensor equals a sharper \_\_\_\_\_.



\_\_\_\_\_ This is the image sensor of a digital camera used in place of film in vintage cameras. The image sensor changes light \_\_\_\_\_ More **pixels** in the image image \_\_\_\_\_ increasing the \_\_\_\_\_.

US electrical engineer **Steven Sasson** invented the first CCD-based electronic camera with Gareth Lloyd at Eastman Kodak 1975. Digital cameras started to become popular in the \_\_\_\_\_ gradually making film cameras obsolete. Advanced \_\_\_\_\_ with built-in digital cameras began to make standalone digital cameras redundant for everyday snapshot photography.

Smartphones cannot be used with \_\_\_\_\_ a powerful editing software program. Adobe Photoshop is written in Pascal a computer language.

**Photoshop** was invented in 1987 by the American brothers \_\_\_\_\_. John worked for George Lucas while Thomas was finishing his PHD in computer science. The movie \_\_\_\_\_ was written by John Knoll and Gary Whitta.

Digital Cameras have more powerful image sensors, the battery lasts longer, the flash is more powerful and the lens of a camera offers a zoom. The aperture and manual mode is also more versatile as are the video editing capabilities. **Lightroom** and **Bridge** are two other photo \_\_\_\_\_ software programs.

**Premier** and **Rush** are Adobe video editing programs. Other software programs are **Avid Media Composer**, **Final Cut** and **Lumen**. Today we can purchase **4 basic types of cameras**: 1. Phone, tablets and \_\_\_\_\_ 2. Digital \_\_\_\_\_ and Shoot, 3. Digital Single Lens Reflex cameras ( \_\_\_\_\_ ) such as the Canon Rebel T6 and 4. Mirrorless Interchangeable Lens Cameras or ( \_\_\_\_\_). Today images are stored on \_\_\_\_\_ cards, Flash drives, Micro SD, XD and internal storage instead of film negatives. The lens of a camera has changed from a pin hole to an \_\_\_\_\_telescopic lens. Today, the world's largest lens is located in a lighthouse on \_\_\_\_\_ Hawaii. The Fresnel lens at Makapu'u Point, 12 feet tall, 8 feet wide, and painstakingly crafted out of of glass, has held the title since 1893. Recently a larger lens was created and displayed in Times Square. Lawrence Berkeley National Labs just turned on a \$27 million electron microscope. Its ability to make images to a resolution of half the width of a \_\_\_\_\_atom makes it the most powerful microscope in the world.



- |                                  |                             |
|----------------------------------|-----------------------------|
| 1. MILC                          | 18. Kodak                   |
| 2. Pixels                        | 19. Frederick Scott Archer  |
| 3. Sir Humphry Davy              | 20. Point                   |
| 4. Rogue ONE                     | 21. 1,200 mm                |
| 5. 1970s                         | 22. Editing                 |
| 6. DSLR                          | 23. Gopro                   |
| 7. Patent & Trademark Office     | 24. Digital point and shoot |
| 8. cell phones                   | 25. eight hours             |
| 9. George Eastman                | 26. Edwin Land              |
| 10. 1990's                       | 27. 400 BC                  |
| <b>11. pinhole</b>               | 28. SD                      |
| <b>12. Image sensor</b>          | 29. Daguerreotype           |
| <b>13. caleotype</b>             | 30. Film                    |
| <b>14. Thomas and John Knoll</b> | 31. Adobe Photoshop         |
| <b>15. resolution</b>            | 32. Oahu                    |
| <b>16. Steven Sasson</b>         | 33. Hydrogen                |
| 17. 1827                         | 34. Galileo                 |

