ACTIVITY I: The Shortest Movie Possible

Soon after still photography (single frame photographic plates) was invented, a system for creating the illusion of motion with multiple frame photographs, or the movie, was also invented. A modern feature-length motion picture may take millions of still photograph frames to create the epic animated adventures that we enjoy. The shortest movie in the world would require only two still photographic frames.

A “blink comparator” does not tell an epic tale, but it does tell an interesting story of discovery. With only two still photographs, the motion of anything that moves in the time between the exposure of the two photographs can be detected. In this activity you will observe the motion of three large dots representing points of light in the night sky by making a two-frame “flip book.” To construct the “Flip Book Comparator” follow these steps:

1. Photocopy the Flip Book Comparator printed on the next page.
2. Uniformly glue the back of the photocopied book to a file folder and let the glue dry.
3. Cut out each frame along the solid lines.
4. Assemble the frames in a stack, alternating Frame A and Frame B.
5. Just above the dotted line on the first frame in the stack, place two staples to hold the entire stack together.
6. To observe the “Shortest Movie,” grasp the stapled edge with one hand and “flip” the opposite edge with the fingers on your other hand.
7. You should observe the larger “dots” moving with three different actions. Match the letter on the “dot’ that is described by each action below.

   _______ Dot just moves back and forth
   _______ Dot just expands and contracts
   _______ Dot expands, contracts, and moves back and forth
Flip Book Comparator