

**Program Description:**

Students discuss animation and how it works. They learn that an animated film consists of slightly different images seen in quick succession so that we cannot perceive them as different and interpret them as movement. The theater consists of four LED lights wired to a battery and connected in sequence. Touching a “commutator” to the connection completes each circuit. Students develop skills in watching and listening to follow a complex series of steps, then apply their understanding of electricity and circuits to build a working animation theater with four frames.

**Learning Objectives:**

1. Students will understand that animation consists of illuminating slightly different pictures quickly enough that our brains perceive one moving image.
2. Students will review and apply an understanding of circuits, conductive materials, and insulation as they build their ‘theaters.’
3. Students will develop looking and listening skills to follow a complex series of steps

**Alignment with Connecticut Core Science Curriculum**

- 4.4** *Electrical and magnetic energy can be transferred and transformed.*
- Electricity in circuits can be transformed into light, heat, sound, and magnetic effects.
- 5.2** *Perceiving and responding to information about the environment is critical to the survival of organisms.*
- The sense organs perceive stimuli from the environment and send signals to the brain through the nervous system.

**Key Vocabulary:** *circuit, conduction, LED, positive, negative, vision, brain, optic nerve, processing information.*

**Preparation for Visit:**

For students to grasp the electrical concepts needed to understand how the theater works, it is useful for them to have already studied or be involved in the study of electricity, including understanding what a circuit is and the role of conductive and insulating materials in circuits.

Teachers may want to ask students before the visit whether they know how animated films are made and have students share what they know.