

RAFT IDEAS

Topics: The Eye,
Persistence of Vision,
Animation

Materials List

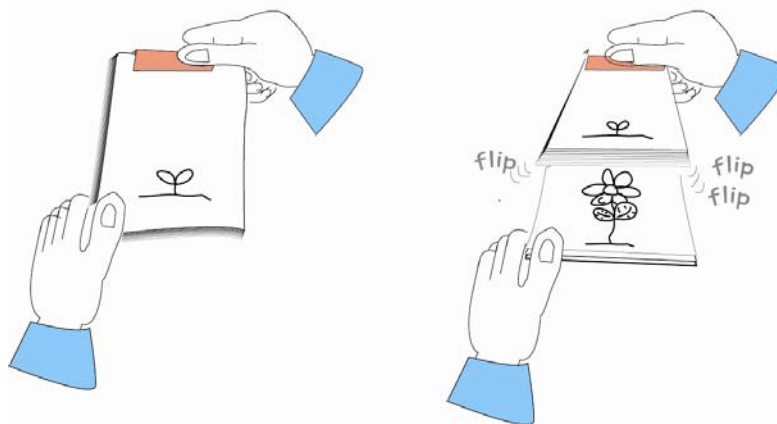
- ✓ 15 card stock pieces or index cards
~ 8 cm x ~13 cm
(~3"x ~5")
- ✓ Paper clip or binder clips that can hold at least 15 index cards
- ✓ Pencils and pens
- ✓ Optional: small stickers to use instead of drawings

This activity can be used to teach:

- Structures of the eye and their functions (CA Science Standards: Grade 7, 5.g)
- Light and vision (CA Science Standards: Grade 3, 2.d)
- Animation and Filmmaking (Art)

Animated Flip Books

Draw some art and make it appear to move



This fun activity will give students the opportunity to create basic animations that can help them understand how motion pictures and the human eye work.

Assembly

1. Create a brief page-by-page, frame-by-frame animation by making a drawing on each of 15 blank cardstock pieces. Simple, dark drawings are best. Think about how the sequence will start and how it will end. Each drawing should be slightly advanced and changed from the previous page. Be careful to keep the images in the correct sequence or number the index cards in case they get out of order.
Note: Animation sequences can be drawn on both sides of the index cards.
2. Slide the clip onto the top edge of the stack of cards.

To Do and Notice

Use the thumb to flip through the entire series of cards in about 1-2 seconds and observe the drawn artwork. The images should to the eye appear as an animation.

The Content Behind the Activity

When an image is sent from the eye to the brain, the image lingers until the next image is perceived. This phenomenon is known as “persistence of vision.” When a sequence of images in an animation is presented to the eye in rapid succession, the brain melds them together and assumes that the images are actually of a moving object. The format for animated feature films displays 24 frames per second. The Disney animated film “Snow White” was the only film that animators drew and inked 24 pictures for each second of the movie. After Snow White was completed it was realized that the human eye can only register 12 picture changes per second. Animated films still have 24 frames per second, but to save on production costs each animation “picture” is shown twice. The human eye can’t tell the difference.

Taking it Further

- Use graph paper to more accurately track the positioning, size and motion of a drawn animation sequence.
- Have students work as a team to create several flip books that can be attached together with a rubber band to create a longer animation.

Web Resources - Visit www.raft.net/more for how-to videos and more ideas!