

DIY Flip Book



FUN FACT

You can see one of the biggest optical illusions right from your own backyard! The moon illusion occurs when the moon appears larger in size. This occurs when the moon is low on the horizon. Check out how the moon looks from your backyard tonight!

MATERIALS

- Colored Pencil
- Index Cards

DIFFICULTY



OPTICAL ILLUSIONS

An optical illusion is something that deceives the eye by appearing to be something other than what it really is. We experience optical illusions quite frequently in our daily lives. Cartoons, animations and even movies are examples you may be familiar with!

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Why do optometrists make great magicians?

*Answer on the next page



*Joke Answer -
They know all about OPTICAL illusions!

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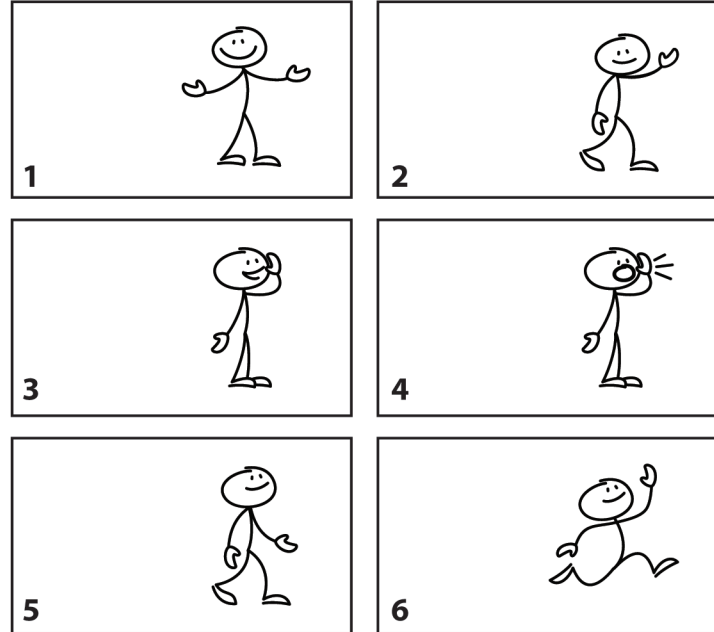
EXPERIMENT

Step 1: Draw your base cartoon figure.

Step 2: Repeat this cartoon figure on the right side of each index card, making small changes as you draw a new card.

Step 3: Stack your index cards on top of each other. While holding with your left hand, flip through the index cards with your right hand, showing each picture quickly in order.

Step 4: Watch as your cartoon figure comes to life and appears to move!



WHY IT WORKS

A flip book is an optical illusion and creates the illusion of motion. You perceive the characters as being in motion, but this effect is created by the sequence of still pictures flashing rapidly before your eyes as you flip pages. Our brains try to make sense of what we are looking at by "smoothing out" the individual images into one continuous scene by filling in what happens between each image. This creates the illusion of movement.

EXTEND YOUR LEARNING

- Can you incorporate color into your designs?
- Does changing the order of your drawing impact the illusion?
- Is the illusion changed by flipping your cards more quickly or more slowly?

WORKFORCE CONNECTION

Optometrists are doctors that care for our eyes. Our eyes are organs in our bodies that collect light information. Optometrists perform vision tests and routine eye health services. One tool they use to examine their patients' eyes is an ophthalmoscope. This small hand-held instrument allows optometrists to carefully examine the retina, the part of our eyes where our rods and cones collect light information that is sent through the optic nerve to our brains. Our brains then interpret this information and allow us to see the world.