



SCIENCE FESTIVAL FAMILY EXPERIMENT GUIDE: CATHCING A BIRD

Do you like cartoons and animated movies?

Do you have any ideas about how these shows are made?

Instructions:

Both: Pick who is going to make the bird and who is going to make the cage.

Student (or Adult): Draw a picture of a bird on an index card.

Adult (or Student): Draw a birdcage on another index card.

Adult: Tape the two cards, drawing sides out, on opposite sides of your straw.

Student: Spin the straw between your hands or fingers and watch your pictures.
Is the bird still free or did you catch it and put it in the cage?

Questions for after:

What did you notice when you were spinning the straw?

Why do you think that was happening?

How it Works:

The bird appears to be caged because of how your eyes and brain work. When you see the image of the bird, your brain holds onto the image for a short time—even though the image appears and disappears quickly. The same thing happens with the image of the cage. The two images actually overlap in your brain, so (if you put them in roughly the same place on the two index cards), the bird appears to be in the cage. The technical name for this effect is persistence.

Vocabulary:

Thaumatrope: A toy with different pictures on opposite sides. When twirled, those pictures appear to combine into one image.

Real-World Application:

Animation artists follow this same process to create cartoons. Rather than using just two images, animation is composed of many different images, all drawn in a way that suggests motion to our minds. The artist draws the cartoon characters in multiple sequential images and presents them to us in a manner that causes our minds to fill in the missing pieces. Understanding how to make optical illusions and work with images is important in many software and media jobs.

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