

Animation is Science

by Katelynn King, Staff Scientist,
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With lots of hard work and under \$1,000.00, a small team created a Student Academy Award winning film in October of 2010. The film was created with stop motion. This filming technique is created by taking pictures of figures and backgrounds and then combining the pictures to create a digital flip book. The students used a computer program to combine the pictures that they took. Materials used to create the characters and backgrounds for this film were collected from junkyards.



Despite the large amount of work that is required to create this type of film, there are several full length movies that have been out in theaters that use these same strategies. The team of student's film is only about six minutes long, but it took about eighty hours each week they spent working on the project.

Computer programs are making this type of film creation easier for anyone to create, including children. There are some free stop motion editing programs that are available on the internet, but there are more expensive programs available with more options. Certain computer programs that are used to create stop motion films can help adjust the lighting, movement, and the way the sounds connect to the characters and story. Other programs allow you to add over two thousand different sounds to your videos. This particular program was inspired by a child and created by an adult. Creating films with stop motion, allows individuals to express themselves in a way that was not always accessible to such a wide range of individuals.

At The Connecticut Science Center you can make your very own stop motion film using simple shapes, and then watch it!

<http://www.nytimes.com/2010/10/21/technology/personaltech/21basics.html>



GET INTO THE NEWS

1. "Science does not know its debt to imagination." – Ralph Waldo Emerson
"Every great advance in science has issued from a new audacity of imagination – John Dewey,
"The important thing in science is not so much to obtain new facts as to discover new ways of thinking about them. – William Laurence Bragg
 - Where does imagination fit into science?
 - Scan the news (archives) and find two examples of creative thinking that resulted in scientific advances.

For students who are blind, learning disabled or print challenged, visit CRIS Radio at <http://www.crisradio.org> and click Kids On-Demand for a free audio version of Science Matters.

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DID YOU KNOW? ∞∞

Have you ever heard the saying Lightning never strikes in the same place twice? This is actually a myth that people have believed for a long time. It has been recorded that the Empire State building is struck by lightning about 25 times a year. This is because it is so tall and the top is made out of metal. Certain materials are better at conducting electricity because they allow electricity to travel through them easily. Some of these conducting materials are copper, silver, and water. Rubber is not a very good conductor.



STUDENT SPOTLIGHT

Ramon Torres And Michael Ashley, Seniors, Academy Of Engineering And Green Technology



From left: Torres, Ashley and Bien-Arnie Sanon. (photo CBIA)

While interning with Northeast Utilities last summer we learned about Ohm's Law (volts = current x resistance ($E = IR$)). If you have a 12 volt battery and resistance along the wire is .6 ohms, you will end up with 22 amps. ($12 \text{ volts} = 22 \text{ amps of current} \times .6 \text{ ohms of resistance}$)

People who work with electricity use this equation to be sure there are enough volts to provide the electricity needed to power homes and businesses, but not too much to cause fires or discharges. We used special meters to measure resistance and current in order to make sure the utility company's system provided the correct amount of current to a customer's house.

MEET THE SCIENTIST ...Katelynn King

Throughout my life I have always been interested in the environment. This interest has always allowed me to do investigations even when there seems to be nothing interesting around. I believe that as long as you are willing to learn, you will never be bored. Biking, filming, and exploring are some of my favorite activities. While at the University of Connecticut, I studied Biology along with Film. Science is my main interest; however when I make short films, I mix these two topics.

DIG INTO SCIENCE

...and experiment!

Static Electricity Investigation:

• Materials needed:

A circle of tissue paper cut into a spiral; a metal plate or pan; silk handkerchief; plastic pen

• Procedure

Place the cut spiral of tissue paper on the metal plate or pan. Rub the silk handkerchief on the plastic pen. This is making the Pen negatively charged because the pen is taking electrons from the silk handkerchief when you rub the two together. Place the pen near the tissue paper.

Questions: What happens?

Can you replace any other materials with the ones used here? What else moves due to static electricity?

