



## Arts In Education 2017-2018 Curriculum Guide

Standards: RL4.4, RI4.5, RL4.1, 4.P.3.1, 4.P.2.1



### Background

To say that Bill Blagg has had a magical life would be no exaggeration. From the moment he received his first magic kit in 1985, his world was never the same. Bill professional launched his magic performing career in 1996, at the ripe age of sixteen. Bill became a stand-out in the magic community, due in part to his off-the-cuff personality and high-energy performance style.

After graduating college with honors, Bill hit the road to perform magic full-time. Today, Bill has one of the largest touring theatrical magic and illusion shows in the country.

Having a love for both magic and science, Bill combined the two to create his one-of-a-kind, educational show The Science of Magic. The show takes students on a rare, exciting, never-before-seen journey behind the scenes of the magic world. Students discover first-hand how magicians utilize science to create the impossible.

### Pre-Show Discussion Topics

- ◆ *What is MAGIC?*
- ◆ *Name some famous magicians.*
- ◆ *What is your favorite magic trick?*
- ◆ *Does anyone know how to do a magic trick?*
- ◆ *If you could learn to do one magic trick, what magic trick would you like to learn?  
Why?*
- ◆ *Do magicians have magical powers or do they use science to fool us?*
- ◆ *Where do magicians learn how to do magic?*

## Post-Show Discussion Topics

Use the following questions for classroom discussion after attending *The Science of Magic*:

### **How do magicians create magic tricks?**

They use the steps of the scientific method. They develop a theory (hypothesis) then they test it. If it fails they change one variable and test it again. They repeat this process over and over until they get their theory to work.

### **Do magic tricks always work?**

No. Just like scientists, magicians must keep experimenting to find ways to make illusions work. Some ideas NEVER work and others take YEARS to create!

### **How do magicians use mirror to make magic?**

They use mirrors to reflect light to make a person think they are seeing something (a mirror image) that is not really there.

### **What type of mirror did Bill use to make things disappear in the magic box?**

Plane mirror

### **Can a solid pass through a solid?**

No. When molecules are tightly packed together they form a solid. In a solid the molecules can't move or separate in order to allow another solid to pass through.

### **Since a solid can't scientifically pass through another solid, how did Bill pass the metal hoop over the floating teacher?**

We can't tell you the secret but here's a tip...misdirection and controlled perspective.

### **What can you do with an object when you find its center of gravity?**

Make it balance.

### **After everything Bill taught us during the show do you think (teacher's name) was really floating in mid-air at the end of the show?**

## Magic Lesson 1: The Floating Egg

Sometimes a magician seems to make things float in air. In this project you won't make things float in air, but you will make an egg float in water.

### Materials

Quart (liter) jar, tap water, scissors, ruler, masking tape, 1/2 cup salt, felt-tip pen, uncooked egg, large spoon

### The Setup

1. Fill the jar half full of water
2. Cut a 3" piece of tape and stick it to the outside of the salt container. Use the pen to write on the tape, "Magic Swimming Powder."
3. Place the egg and spoon on the table

### Magic Science Time!

1. Tell your audience, "I am going to teach an egg how to swim."
2. Begin by showing the audience that the egg doesn't know how to swim by placing the egg in the jar filled with tap water. The egg will sink to the bottom. Remove the egg from the jar with the spoon.
3. Tell the audience that for the egg to swim you need to add magic swimming powder to the water. Pour the salt in the water and stir with the spoon. Say some magic words!
4. Place the egg in the water. The egg will float!

### Discussion

How did the magic powder help the egg float?

What was created by mixing the powder in the water?

Why didn't the egg float without the powder?

### Explanation

All matter floats or sinks depending on its density. Less dense substances float on more dense substances. The egg floats in salt water because the egg is less dense than the salt water. However, the egg is denser than tap water, so it sinks.

Salt water is a solution that contains both salt and water. A solution occurs when a solid is dissolved in a liquid.

## Magic Lesson 2: Keeping Dry

Air can be used in many magic tricks. Try this trick to learn one way air can amaze!

### Materials

Paper towel, drinking glass, plastic tub or bucket filled with enough tap water to reach the height of the glass.

### The Setup

1. Place the materials on the table.

### Magic Science Time!

1. Crumple the paper towel and place it in the bottom of the glass.
2. Turn the glass over and make sure that the paper will stay in place at the bottom of the glass.
3. Slowly lower the upside-down glass into the tub of water. Keep the glass as straight up and down as possible, until the entire glass is under the water. \*Good time for discussion topic #1
4. Take the glass out of the water and let the water drip off the glass.
5. Turn the glass right side up and remove the paper towel. Let the audience feel the paper towel to determine if it is wet or dry.

### Discussion

1. Will the paper towel in the cup get wet? Why or why not?
2. Why didn't the paper towel get wet when it was placed in the water?

### Explanation

Air takes up space. The glass is filled with air when it's right side up and when it is upside down. When you turn the glass over and slowly lower it into the water, air remains in the glass.

The water can not enter the glass because of the air inside the glass. The air creates pressure that is greater than the pressure of the water trying to get in. The towel in the top of the glass stays dry. If you were to tilt the glass on its side in the water, air would exit the glass and form bubbles. Water would then be able to enter the glass and soak the paper towel.

Reference: [www.billblagg.com](http://www.billblagg.com)