

SUPER CIRCUS STUFF

Study Guide

ABOUT THE PERFORMER

Mr. Fish performed with New York City's acclaimed Big Apple Circus for 7 years, from 1986 to 1994.

Since 1994 he has toured to theaters all across the USA, Canada, Mexico and China with his own two person show, The Super Scientific Circus.

He has appeared on national television in the HBO special, "Ballerinas, Horses and Clowns." His performances have also been seen on ABC's "Great Circus Performances of the World."

A graduate of Oberlin College, Mister Fish is the lucky dad of four amazing children; Lexi, Lea, Jacob and Jack.

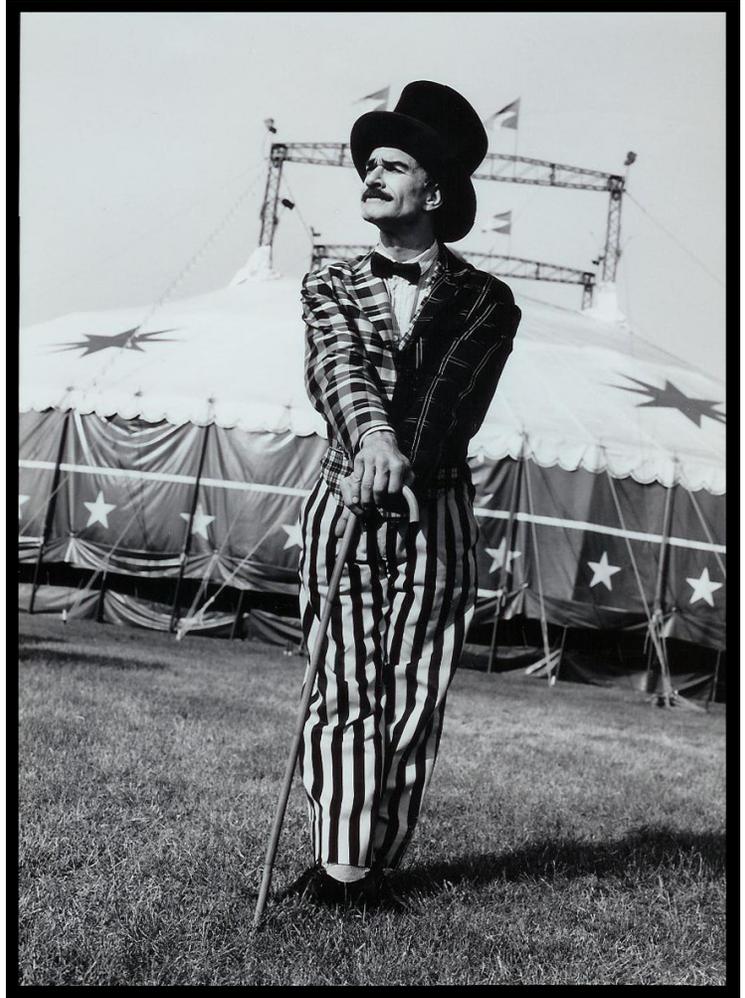
NATURE AND PURPOSE OF PROGRAM

SUPER CIRCUS STUFF is a fast paced, funny and exciting show that introduces students to many amazing circus skills: plate spinning, boomerangs, bubble sculptures, bull whips, balancing and more.

Mr. Fish teaches the students how to do many of these skills during the show. Students learn how to make and throw their own boomerang. They learn how to make bubble sculptures with a plastic straw. They learn how to balance a boom or a feather on their hand.

To help students learn better, Mr. Fish also explains some of the science that makes these skills possible.

SUPER CIRCUS STUFF is a show designed not only to entertain, but also to help students understand that, YOU CAN DO IT TOO.



ACTIVITIES

ACTIVITY: **BALANCING**

You will need: A stick at least 2 feet long or a broom or a plastic baseball bat or a Peacock feather.

Purpose: Try to balance an object in your hand.

1. Long things are easier to balance than short things.
2. Keep your palm flat or your fingers straight.
3. Place the object you are going to balance in the palm of your hand, or on the tip of your finger.
4. Look at the top of the object, not the bottom.
5. Let go of the object with the hand that is holding it, then move your hand so that it stays directly underneath the top.
6. Don't stand still. You may have to move around to keep your hand under the top.
7. Practice balancing things on your chin, elbow and foot. Finding the center of gravity is essential to all balance. See what else you can balance! Remember, always watch the top and keep the bottom underneath it.

ACTIVITY: **MAKE YOUR OWN BOOMERANG**

You will need: Cardboard pizza box, scissors, ruler, marker

1. Take a 12" ruler, and trace around it on a pizza box.
2. Turn the ruler perpendicular to the middle of the tracing and trace it again. You will have drawn a symmetrical cross.
3. Cut it out, and trim the edges so the ends are rounded off a little.
4. With your fingers - curve in each wing just a little.
5. Hold your boomerang straight up like the statue of liberty. The curves should face you.
6. You don't need to throw hard, but do throw it like a baseball, straight in front of you.

EXPERIMENT AND HAVE FUN!

VOCABULARY & HISTORY

Circus - The word Circus comes from the Latin word, Circus, which means, circle or ring.

The circus ring is 42 feet in diameter. This ring size was established in 1768 by Philip Asterly in London. He discovered that a ring of this exact size allows horses to run comfortably at full gallop in a circle. He also discovered that it allowed a trick rider to stand on the horse as it ran around the ring and not fall off.

The first circuses were performed in ancient Rome. They featured: horse races, chariot races, staged battles, jugglers, acrobats, trained animals and clowns.

The biggest circus ever was Circus Maximus, which could seat 250,000 people. Over the centuries, billions of people have enjoyed circus performances in every country of the world.

Gravity - An invisible force that pulls downward on objects. Gravity is stronger on earth than it is on the moon. There is no gravity in outer space.

Balance - When the downward pull of gravity is equal on all sides of an object, so it does not fall.

Center of Gravity - The point at which an object will balance. The weight of the object seems to be centered on that point.

Speed of Sound - Sound travels through the air at a rate of 761 miles per hour, or 1100 feet per second, or 1225 kilometers per hour.

Sonic Boom - The explosive sound that is created when an object travels faster than the speed of sound. The tip of the whip momentarily travels faster than the speed of sound and makes a sonic boom.

Air Pressure - The amount of force that the air exerts upon all objects. Air pressure on the planet earth is 14.7 pounds per square inch at sea level.

Airfoil - Any surface that helps lift or direct an aircraft by making use of air currents. An airplane or boomerang wing provides lift by

causing air to pass at a higher speed over the wing than below it, thereby creating greater air pressure below than above.

Bubbles - Bubbles have been a favorite amusement of children for hundreds of years. Toy bubbles are made of liquid soap. The first soaps were discovered as residue in clay pots dated around 2800 BC in Babylon. These ancient soaps were very harsh and did not make bubbles.

In 1789, an Englishman by the name of Andrew Pears, began adding oil and perfume to the harsh soaps of that time. These new soaps were not only very popular but they also made long lasting bubbles.

Soon after, toy makers began making clay pipes and wands that children could use to make bubbles.

The familiar plastic jar of bubbles with a wand inside was first introduced in the USA in 1940 by a company called Chemtoy.

Although bubbles are considered a toy, the scientists at the Massachusetts Institute of Technology, (MIT) have studied bubbles for over 50 years. Bubbles help scientists understand many complicated scientific principles.

Plate Spinning - Plate spinning was first performed over 4,000 years ago for Emperors of ancient China. It was a court favorite. The skill of plate spinning was passed down from generation to generation as is still performed today in Chinese circuses.

Plate spinning became popular in the USA around 1956 when a German man named Detles Schmidt performed his plate spinning act on the Ed Sullivan Show. He could spin 30 plates at the same time and was seen by millions of viewers on national TV many times.

Bull Whips - Lion tamers have used whips in their circus acts for hundreds of years to help them control the lions and tigers.



However, few people realize that lion tamers never hit the animals with the whip. Rather, they use the whip because it makes a very loud noise. That sound confuses the lions and tigers and they will not move into the space where they just heard the sound.

The sound a whip makes is a Sonic Boom. The tip of the whip momentarily moves faster than the speed of sound. When the whip moves that fast it breaks the sound barrier and makes a Sonic Boom.

Boomerangs - The word, "Boomerang" comes from a single primitive tribe living in New South Wales, Australia. The word, Boomerang, is now used in every language in the world to describe these fascinating returning missiles.

Most people think that boomerangs come from Australia. However, they have also been used in Egypt, India, China and by the Hopi Indians of North America.

Boomerangs are in fact hunting tool. They are used for hunting birds and bats. There are many types of Boomerangs. Boomerangs can have 2,3,4, or 8 wings.

Today boomerangs are primarily used for sport and entertainment. They are used often in American, Mexican, European and Chinese Circuses.

Archeologists believe that people have been using boomerangs for over 10,000 years.



ON THE WEB

The world wide web has some great circus related sites that you can explore. Just Google the sites below and enjoy.

SuperScientificCircus.com - The Super Scientific Circus web site is dedicated to using circus skills to help students better understand Science. It contains: videos, photos, study guides, reference materials and more.

Circopedia.com - Circopedia is a site with videos, pictures, history and much more that helps people understand the great history and variety of the circus.

Wikipedia.com - Wikipedia has a huge amount of information about every aspect of the circus.

BOOK

If I Ran The Circus - Dr. Suess