Professor Wow!
The Invisible World of Science

Teacher's Study Guide

About the Performer

Aytahn Ross has been performing professionally for 20 years having wowed and educated one million people around the world as both a solo artist as well as with his signature character The Great Balanzo. Amongst his achievements, he's been invited to present work at the Banff Arts Centre, performed a solo for Canada's Governor General, and produced a theatre series at the National Arts Centre.

About the Performance

There's a magical world of science all around us, exerting forces that shape our reality. Professor Wow! uses his mind-boggling circus skills to reveal these invisible forces that are right under our noses. The professor uses floating objects to demonstrate how air pressure works. He breaks the sound barrier with the crack of a bullwhip to give students a visceral understanding of sound waves. He brings the concept of lift to life, helping them understand how airplanes fly. With his expert juggling, Professor Wow! demonstrates Newton's three laws of motion and more.

Themes:

- *Aerodynamics*
- *Arches*
- *Balance*
- *Centrifugal Force*
- *Friction*
- *Gravity*
- *Inertia*
- *Knowledge*
- *logic*
- *Mathematics*
- *Pressure*
- *nature*
- *Phenomena*
- *Sonic Boom*
- *Physics*
- *Science*
- *Velocity*

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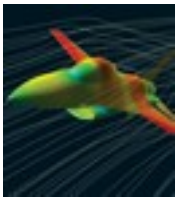
Glossary

The terms below are used and / or explained in *The Invisible World of Science.*

aerodynamics — The study of flight through the air.



gravity—the downward pull on all objects toward the center of the earth.

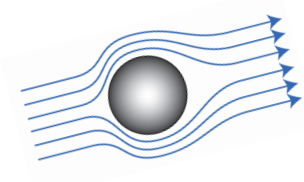
air pressure—An invisible force always pulling in all directions at the same time.

inertia — The resistance that an object has to having its motion changed.

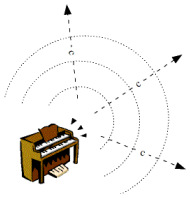
balance — Endless possibilities.

Sir Isaac Newton — Discovered the three laws of motion about 400 years ago.

Bernoulli effect — A ball floats in a stream of air. The air hitting from below cancels the downward force of gravity.



speed of sound — The length of a football field in less than one second.



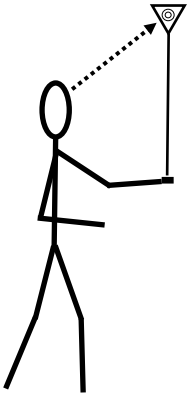
friction — The force that causes a moving object to stop.

velocity — The speed at which an object travels: distance divided by time.

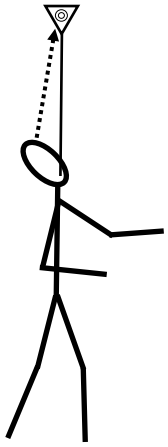
POST-SHOW ACTIVITY SUGGESTION:

BALANCING A PEACOCK FEATHER

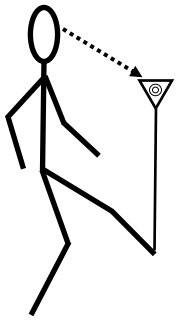
1. With your arm extended, place the tip of the feather in the palm of your hand. Look at the top of the feather (the "eye"). Move underneath the feather as needed to keep it upright. Once you can do this easily, try balancing it on one finger.



2. Once the above has been mastered, try balancing the feather on your chin.



3. More challenging still, try balancing the feather on your foot. Remember to look at the "eye" of the feather.



If you don't have a peacock feather, any lightweight, straight stick that is 75 -100 cm long will do. Remember: the heavier the object you are balancing, the harder it is to balance.