



“DISNEY’S WORLD OF PHYSICS: ENERGY AND WAVES”

PHYSICAL SCIENCE

Grade Levels/Ages: 3rd-12th, ages 8-18
Program Length: 3 hours

This program is aligned with National Standards.

Meeting Location:

Floral Mickey located inside the turnstiles at the front of the train station of the *Magic Kingdom*® Park.

SUPPLEMENTAL EDUCATIONAL MATERIALS AVAILABLE

OBJECTIVE

The world is a mysterious and fascinating place, full of energy that is continually changing form and moving from place to place. At select *Magic Kingdom*® Park attractions, students will investigate light and sound waves, two forms of energy that are so ubiquitous we often take them for granted. Students will discover that understanding the science of light and sound leads to acoustical and optical applications that improve the way we live, work, and even entertain ourselves.

KEY LEARNING HIGHLIGHTS

Waves, Waves, Waves

- Students discover that energy has many forms.
- Students discover that energy moves in waves.

The Science of Sound

Stitch's Great Escape! sets the stage for an introduction into an exploration of sound energy.

- Students discover that sound travels in a compression wave.
- Students learn that the medium in which sound travels affects the efficiency of the sound wave.
- Students learn that the frequency of a sound wave affects what is heard.
- Students gain knowledge of the various factors that affect the speed of sound.
- Students recognize that sound is a huge part of the world around them and its power to generate interest, inspire, and excite humankind.

Did You See That?

Everyday the Earth is bathed with energy from the sun. The energy produced by it is of great interest to scientists who daily strive to understand it, manipulate it, and put it to work for humankind.

- Students discover that light is a complicated phenomenon.

- Students examine the wide range of the electromagnetic spectrum.
- Students learn the parts of a wave and discover that the length of a light wave determines its use.
- Students explore how light can be refracted and absorbed, as well as manipulated to create illusions and other effects.
- The mystery of *The Haunted Mansion* ballroom scene is unlocked as students discover the optical illusion behind the magic!

Putting Waves To Work

With the help of *Mickey's PhilHarmagic*, students experience how the attraction immerses Guests into the story through the application of the science of light and sound energy.

- Students come to realize that the brain store memories and emotions that are associated with specific sounds.
- Students learn that through the knowledge of acoustics, sound can be produced, manipulated, and controlled.
- Students also discover that through the knowledge of optics, light can be manipulated and controlled.

THE DISNEY DIFFERENCE

- Students step behind the scenes at *The Haunted Mansion*.
- Trained and knowledgeable *Disney Youth Education Series* Cast Members facilitate this high-quality and educationally sound program, while never forgetting that fun is a vital part of learning.



Disney Youth Education Series programs are accredited by the Northwest Accreditation Commission.

All programs subject to availability. Program content, times, attractions, and locations subject to change due to inclement weather, availability, or group dynamics.