



Pre-Visit/Post-Visit Guide ***Day!***

Lesson Name: Light Saves the

Summary of Lesson:

Superhero Rohawk has been captured! Working in collaborative teams as members of The Guardians of Greenville, students will use special skills and gadgets to help the hero escape through the assistance of light energy. They will use their engineering expertise to design/modify devices and find solutions to problems by taking advantage of the properties, behaviors, and interactions of light. By exploring light and energy through the use of lights, mirrors, thermal imagers, sensors, and lasers, the Guardians of Greenville will free the superhero and save the world!

South Carolina Science Standards: 4.P.4A.1, 4.P.4A.2, 4.P.4A.4, 4.P.4A.5; 4.S.1A.2

Pre-Visit Resources

- **Teacher/Chaperone Expectations:** Please help us by letting us know of any special accommodations for your children prior to the lesson. Your assistance with classroom management and distribution of supplies will also be greatly appreciated.
- **Instructions for Teachers:** Students will work in groups of three. If you could have the students split into groups of three, it would help students get into the lesson quicker upon arrival to the lab. If your class size is not a multiple of three, one or two groups of two will work.
- **Key Vocabulary:** light energy, thermal energy, spectrum, absorption, reflection, refraction, prism
- **Key Questions Addressed in Lesson:** What are the properties of light? What is the light spectrum? What is reflection? What is refraction? What is absorption? What is the relationship between light intensity and distance? What is the relationship between light and heat?
- **Content Preview Video:** This is a quick video showing and explaining how white light changes as it passes through a prism. https://www.youtube.com/watch?v=JGqsi_LDU0

Post-Visit Resources

- **Writing Prompt:** Write your story of being trained as a Guardian of Greenville and how you used the properties of light to help rescue Rohawk and save the day. Could be done in a graphic novel/comic book format.
- **Possible Lesson Link:** This is a lesson from TeachEngineering that centers around students exploring reflection, refraction, and absorption through a series of stations. https://www.teachengineering.org/activities/view/van_troll_lesson02_activity1
- **Video Link:** This is a Scholastic Study Jams video about light reflection, refraction, and absorption. <http://studyjams.scholastic.com/studyjams/jams/science/energy-light-sound/light-absorb-reflect-refract.htm>