Youth & Education Programs

3-D Images (GA Lesson Plan #4)

Suggested Grade Levels: Grades 6-8

Standards:
MS-PS4-B: Electromagnetic Radiation

Scenario Overview / Introduction:
Students work in pairs to create 3D pictures.

Learning Goal:
Describe how polarized 3D glasses alter light waves to make 2-dimensional objects look 3-dimensional.

Essential Question:
How do 3D glasses affect light waves? What are the different types of 3D glasses?

Learning Objectives:
Students will take stereoscopic pictures and be able to explain the science behind the 3D image.

Vocabulary

- **Polarization of light:** the orientation of a light wave, horizontal or vertical
- **Polarizer:** material that lets light though in one direction and absorbs the light in the other direction.
- **Stereoscopic:** creating or enhancing the illusion of depth in an image
- **Filter:** to absorb some colors and allow others to pass through

Pre-Visit Learning Activities:

1. Review how 3D glasses work. https://science.howstuffworks.com/3-d-glasses2.htm
2. Have students get into pairs.
3. Explain they must take pictures of a still object from about 60 feet away. They will need to take two pictures – one will be the first image, the second from 2.5 inches to the right of left. https://www.instructables.com/id/3D-Stereoscopic-Photography/

Post-Visit Learning Activities:

1. Turn pictures from your visit to Universal Studios into stereoscopic pictures.