WOW Field Study Trip Lessons

Color Wheel – Grades Preschool-Kindergarden

This program provides students with a unique hands-on opportunity to explore primary and secondary colors as they mix colors and uncover new ones! Students will explore all of the colors of the rainbow through a fun sensory experience.

NGSS: N/A

Little Pig Engineering – Grades Pre-1st

Huff, puff, and build it tough! In this playful field trip program, students dive into the classic tale of the Three Little Pigs to discover the science of strong structures. Under everyday materials, they will design and test houses of straw, sticks, and bricks while exploring basic engineering principles like stability, balance, and strength. Filled with high-energy and hands-on building time, this activity will have your students squealing with delight!

NGSS: K-2ETS1-1, K-2ETS1-2, K-2ETS1-3

Imaginimals – Grades K-2

Students will learn about the system used by scientists to classify living things by comparing it to classification systems they already use in their everyday lives. Beginning with the similarities and differences between familiar stuffed animals, the activity ends with the classification of silly WOW imaginimals (imaginary animals) based upon the similar and different traits the students observe!

NGSS: 2-LS4-1, 3-LS3-1, 3-LS4-2

Magical Magnets – Grades K-3

In this program students will learn about the 'magical' invisible force that surrounds magnets. They will explore how magnets attract, repel, and interact with different materials, uncovering the mysteries behind everyday objects. Through a series of interactive investigations, students will determine which types of materials are magnetic then use them to make objects move without even touching them!

NGSS: 3-PS2-1, 3-PS2-2, 3-PS2-3, 3-PS2-4

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Potato Head Genetics – Grades 1-3

In this hands-on program, students become genetic scientists as they explore how traits are passed down from parents to offspring using Potato Head toys as their models. Students begin with observing the different characteristics of their "parent" potatoes then they'll "roll the dice of heredity" to see which traits are inherited by the next generation. By the end, students will have a unique Baby Potato and a deeper understanding of how genetics shape the diversity of life.

NGSS: 3-LS3-1

Fill the Bill – Grades 2-4

Students will learn how all living things have adaptations to help them survive in their habitats by focusing on the interesting variation in bird beaks. Students will be challenged to gather food from four different adaptation stations using a variety of tools that mimic bird beaks, but not all of them are well-adapted to the habitat!

NGSS: 2-LS4-1, 3-LS3-2

The Foaming Fountain Experiment – Grades 2-6

Chemical reactions happen around us all the time, but in this hands-on adventure, students will get to experience one up close! Students will measure and combine a few everyday household materials and watch as a chemical reaction transforms them into a new substance. This is an exciting, foamy chemical reaction that your students won't want to miss.

NGSS: 5-PS1-1, 5-PS1-2, 5-PS1-4, MS-PS1-2

NEW! Earthquake Zone – Grades 3-6 (Available beginning November 1)

California is well-known for its earthquakes - but will your students' towers measure up to withstanding one? Using a collection of wooden bricks, students will be challenged to create the tallest, earthquake-resistant tower possible. They will design their towers, create a prototype, test it, make changes, and test again to find out which will be the last tower standing.

NGSS: 3-PS2-1, 3-5-ETS1-1, 3-5-ETS1-2, 3-5-ETS1-3, MS-ETS1-1, MS-ETS1-2, MS-ETS1-2

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WOW! Pellets – Grades 3-6

In this hands-on field trip, students become nature detectives as they carefully dissect real owl pellets to uncover the hidden remains of an owl's last meal. Using scientific tools, they will identify bones, sort findings, and piece together tiny skeletons - learning about food webs, predator-prey relationships, and owl biology along the way. It's a fascinating mix of discovery, ecology, and a little mystery!

NGSS: 4LS1-1, MS-LS2-2

WaddleBots - Grades 4-6

Students will learn about the autonomous aspect of all robots and the various ways in which they're used in society. After a short lesson on simple circuits, students will use the knowledge to create a WaddleBot that they can redesign to cause different kinds of autonomous behavior!

NGSS: 4-PS3-4, 3-5-ETS1-1, 3-5-ETS1-2

NEW! Zombie Apocalypse: Power Outage Emergency – Grade 4-6 (Available beginning December 1)

The world has been taken over by zombies! Your group of students *were* all safe and sound in The Colony, an isolated location free from zombies - until the generators malfunctioned. Students will work in pairs to experience first-hand how electricity can be converted to heat, light, and motion and use their new understanding of energy conversion to save The Colony.

NGSS: 4-PS3-1, MS-PS3-5

NEW! Slow Your Roll – Grades 5-6 (Available beginning November 1)

Slow and steady is the key in this hands-on engineering challenge where students will be asked to solve a mind-bending design problem: build a ramp that a ball can roll down as **slowly** as possible. Students will transform into mechanical engineers as they work in teams to plan and sketch their design, test it, and use their results to inform their design changes. In the end, the teams' ramp designs will be put to the test - who will have the slowest ramp? Let's find out.

NGSS: 4-PS3-1, 4-PS3-1, 5-PS2-1, 3-5-ETS1-1, 3-5-ETS1-2, 3-5-ETS1-3

WOW Field Study Trip Lessons

Singing Spoons: 3-4

Students will learn about the connection between sound and vibrating material, including the way sound travels all around through those vibrations. In particular, students will explore the pitches of sound with tuning forks and sound travel with 'singing' spoons!

NGSS: ???

Microworld – Grades 5-6

In this eye-opening field trip, students explore the hidden world beneath the lens of a microscope. From plant cells to microorganisms, students will zoom in on details too small to see with the naked eye. Along the way, students will gain a whole new perspective on the amazing structures that make up the living world.

NGSS: ???

Possible Microscopes Lab Ideas:

MS-LS1-1: Conduct an investigation to provide evidence that living things are made of cells; either one cell or many different numbers and types of cells.

MS-LS4-3: Analyze displays of pictorial data to compare patterns of similarities in the embryological development across multiple species to identify relationships not evident in the fully formed anatomy.

Rock Cycle