WOW on Wheels Lessons

Surprising Shells – Preschool-Kindergarten

In this hands-on program, students will step into the incredible world of shells. Students will explore shells of all shapes, sizes, and colors while discovering who once lived inside of them and why they are so important to so many creatures. Students will have an opportunity to make a "fossil" of a shell using air-dry clay to take home. This program blends science, storytelling, and creativity, sparking curiosity about the surprising nature of shells.

NGSS: K-LS1-1, K-ESS3-1

Bubble Engineers – Preschool-Grade 2

Become a bubble engineer and discover the unique physical properties of bubbles. What's inside a soap bubble? Are bubbles always the same shape? Can you shake hands with a friend through a bubble wall? Can you engineer the best bubble wand ever? Investigate the answers to these questions and more at a variety of interactive learning stations. Students and tables will get wet!

NGSS: K-PS2-1, K-2-ETS1-1

Additional Requirements: One room with a sink for clean-up where classes come to us OR an outdoor space, preferably on grass. Students will need access to ## of tables (not desks) with chairs removed

Bee-bots: A Beginner Coding Adventure – Preschool-Grade 1

Introduce your students to the exciting world of coding and computer programming with Bee-Bots! Students will get hands-on experience creating their own sequential program by using directional arrows to instruct their Bee-bots on how to complete different tasks. Students' programming understanding will be put to the test on the racetrack - which Bee-bot will be the winner?

NGSS: N/A

Can't "Bear" the Heat – Grades K-2

Put your little engineers to work designing and building a structure that will prevent their small ice cube bear from melting in the sun! Students will be provided a variety of construction materials to choose from and will work in pairs to construct a home for their bear before it's too late!

NGSS: K-PS3-2, 1-PS4-3, 2-PS1-2, K-2-ETS1-1, K-2-ETS1-2

Additional Requirements: Must be done indoors with access to an electrical outlet required for a large heat lamp. If booked on a very hot day, the activity can be moved outside.

NEW! Potato Head Genetics – Grades 1-3 (Available beginning December 1)

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

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

Slimy Science – Grades 2-6

Grab your safety goggles because in this hands-on science experiment, students will become junior chemists as they create their very own slime while exploring the amazing world of chemical reactions. Students will make scientific observations about their slime while learning more about the scientific processes that make it possible. Students will have the option to take the slime home with them after the lesson.

NGSS: 5-PS1-2, 5-PS1-3, 5-PS1-4,

Additional Requirements: For multiple classes, it is best to have one room where all classes can come to us.

NEW! Exploding Seed Pods and Beyond – Grades 2-4

In this program, students will explore the amazing world of seed dispersal - the clever ways plants send their seeds off to grow in new places. From floating on the wind to hitchhiking on animal fur, seeds have some pretty wild strategies for travel! Students will explore each method of seed dispersal through fun, interactive demonstration stations. The highlight of the day? Building and testing their very own model of an exploding seed pod! Just like in nature, the pod will pop open with a burst of energy, sending "seeds" flying through the air.

NGSS: 2-LS2-2, K-2-ETS1-2, K-2-ETS1-3

Balloon Rockets – Grades 3-5

Ready, set, WHOOSH! In this program, students will discover how the power of air can send rockets zooming. With just balloons, string, and a little bit of teamwork, students will build their own rockets

and explore how changing variables, like the type of string used, can alter their rocket's performance. Students will then put their rockets to the test and race them to the finish line. Who will be the winner?

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

Additional Requirements: a large space for pairs of students to space two chairs 5 meters apart (i.e. empty classroom or multipurpose room).

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

Additional Requirements: a room with a sink, access to an electrical outlet, and space for 4 measurement stations; for multiple classes PREFER one room where classes come to us.

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

Slow Your Roll – Grades 3-6

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

Soda Bottle Rocketry – Grades 3-6

3... 2... 1... Launch! In this program, students become rocket engineers as they design, build, and launch their very own bottle rockets. Using simple materials and big imaginations, students will discover how science and teamwork can send their creations soaring sky-high.

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

Additional Requirements: An indoor location with sink access for constructing the rockets and a 50 ft. x 100 ft. outdoor location for launching the bottle rockets. 90 minute lesson to allow for launch time. Maximum of 3 sessions per day.

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

Needs to be Repaired:

Robot vs Robot (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!

Which robot will be the last one standing? In this exciting engineering challenge, students will use their understanding of simple circuits to create a WaddleBot that is built to compete. WaddleBots will be put through a series of challenges to determine which is the World's Best WaddleBot.

New Book Option: Betty Builds It

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