

EXPERIMENTATION NATION

Join the Experimentation Nation for an exciting exploration of STEM! Engage your mind and challenge your science skills as we investigate chemistry creations, have some FUN with physics, explore earth & shuttle into space, hunt down human biology, ride some soundwaves, and complete the circuit! You'll experience the entire science spectrum during this hands-on & creative program!

WEEK 1 - COLOR CRAZE

Explore chemical reactions while creating a rainbow of colors. Cause substances to change color right before your eyes as you diffuse and dissolve, make invisible ink, and make all sorts of colorful solutions!

Learning objectives

- Observe chemical reactions by witnessing color changes
- Identify a chemical reaction through color change

WEEK 4 - MARVELOUS MACHINES

What does a machine do? This deep dive into simple and complex machines will bring out the engineer in you! Create a cool catapult that launches balls, or create a human pulley. You can even make a rubber band race car!

Learning objectives

- Learn the difference between simple and complex machines.
- Build and demonstrate some simple machines; discover how these simple machines could solve a problem.

WEEK 2 - ATOMIC ADVENTURE

Explore chemistry with chemical mysteries! Make a non-Newtonian fluid that defies gravity make a colorful density tube, and create a playful polymer. This intro to atoms will leave you wondering about the atoms in everything.

Learning objectives

- Learn how molecules are made of atoms
- Make polymers and liquids of varying density to witness the role that molecules play

WEEK 5 - AVIATION ANTICS

Air is all around us, but we only feel it as it moves. The billions of gaseous molecules around us creates forces, and we explore them through aeronautics and aerodynamic by understanding propulsion, drag and control. Create the best paper glider, a hovering disk, and a hot air balloon!

Learning objectives

- Examine designs and construct flying objects.
- Build flying objects and explore the rules of aerodynamics

WEEK 3 - ENGINEERING ADVENTURE

Discover architecture, have FUN as we build buildings, bridges, and more!

Learning objectives

- Explore how inventions use physics to solve problems
- Engineer your own invention and solve a problem

WEEK 6 - ZOOM TO THE MOON

Discover the patterns of our living planet! Have FUN as we reach for the sky and get a feel for the clouds...literally! Make a real impact as we become Crater Makers & find out how delicious the phases of the moon can be. We'll study the planets, the Moon, eclipses & more through FUN, hands-on investigations.

Learning objectives

- Explore the factors that formed the moon
- Make impact craters, define the cause of the phases of the moon, understand the impact of atmosphere on forming the moon



WEEK 7 - DNA DETECTIVES

Dive deep into the double helix. Explore DNA by extracting the DNA of fruit and making your own DNA! Understanding our own genetics has never been more fun!

Learning objectives

Learn the basics of DNA and what it contains.

- Extract the DNA, build a double helix, and solve a crime using electrophoresis.

WEEK 9 - STEVE SPANGLER SCIENCE

Create light from household items! You can use a piece of fruit to produce light, build your own light bulb, and make an LED light out of an ice cube tray!

Learning objectives

Learn how household materials can be turned into light emitting objects.

- Build a fruit powered battery, make an led light from an ice cube tray, and make a light bulb.

WEEK 8 - ALL SYSTEM GO

Investigate the wonders of the human body from the inside out! Students will have FUN studying the structures & systems of the human body and discover how they all come together to create one bodacious body machine. From brains to blood cells, students will gain a whole new "funderstanding" of their own body as they find out what makes them tick! Set out on a quest to digest, expand your knowledge of the respiratory system, get hands-on with real organs, and make your very own spinal column!

Learning objectives

Explore human anatomy by building the human body systems.

- Build a model that displays the skeletal system, digestive system, and endocrine systems.

WEEK 10 - SOUND LIKE FUN

Do you hear what I hear? It's the sweet sound of science! Have FUN as we tune into different types of sound and discover how sound travels through different elements. Students will pick up good vibrations as they get hands-on with sound waves, make salt dance, send water flying & build their very own ear drum to keep!

Learning objectives

Learn about sounds waves and how the ear interprets sound.

- Perform an ear drum demonstration and make sound waves

