GROWING FUTURE INNOVATORS, CREATORS, AND MAKERS FOR THE 21ST CENTURY

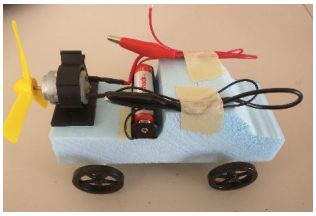
STEM NOLA

SCIENCE • TECHNOLOGY • ENGINEERING • MATH

POWERED BY Entergy

STEM NOLA MODULES

CARS, CARS, CARS: Force and Motion

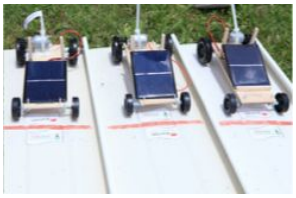


Students will learn about the principles of Force and Motion, including the Newton Laws of Motion, drag and friction. Students will design, build and test their own car using experimentation and investigation that they will race in a competition!

The Force of Friction

Students work with hands-on projects to learn about the principles of Force, Motion and Friction. Students will design, build and test their own hovercraft, which slides across the surface due to a bed of air between the craft and surface, thus reducing the friction.

The Power of the Sun: RENEWABLE SOLAR ENERGY

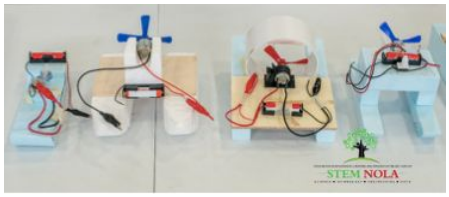


Students will work on projects to learn about the principles of simple circuits, electricity and Solar Energy. Students will build simple circuits powered by solar energy.Students will design, build, test and race their own Solar energy cars.

Lights, Electricity and Illuminated Minds: Completing the Circuit!

Students will design and build his or her simple electrical circuit like a traffic light or flashlight!. Through hands-on experimentation students will be able to describe how a circuit works and follow directions to create open, closed, series and parallel circuits.

What Floats your Boat? Buoyancy and Density



Students will work on projects to learn about the principles of Buoyancy and Density and understand why things float. The day will end with each student designing and building their own boat and testing it competitively in small shallow STEM NOLA made ponds.

Hydraulics

Students will work on projects to learn about the fundamentals of hydraulics and pressure as it relates to usage of everyday simple machines. Students will end the session by building their own hydraulic bridge or elevator.

1-2-3 BLAST OFF: ROCKETS!

Students will work on projects to learn about the fundamentals of Rockets and participate in hands-on activities to build and launch actual rockets. The rocket activities will not only teach children Newton's Three Laws of Motion, but also teach children the engineering design process and teamwork.

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Chemistry and Nanoscience

Students will work on projects to perform experiments, separate mixtures, observe reactions including electrochemical reactions while building a strong foundation in chemistry with exposure to a broad range of chemical phenomena and hands-on lab experience.

Heart and the Circulatory System!

Students will dissect a Sheep Heart and examine its properties and relate them to the circulatory system; and the kids will then build a working mechanical heart with four chambers to take home.

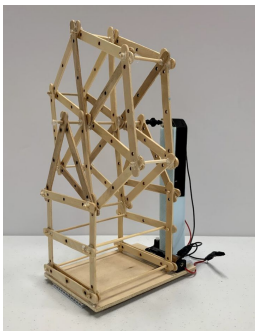
A Breath of Fresh Air: Lungs and the Respiratory System!

Students will dissect a pig or sheep lung and examine its properties and relate them to the respiratory system; through dissecting the lung students will explore lung issues and challenges impacting their communities and possible career opportunities in healthcare in the 21st Century!

The Power of Wind: RENEWABLE WIND ENERGY

Students will work on projects to learn about the principles of simple circuits, electricity and Wind Energy. Students will build simple circuits powered by Wind energy. Students will be able to describe how a circuit works and follow directions to create different kinds of circuits. Students will design, build, test and evaluate their own windmill and turbine.

AMAZING STRUCTURES: Buildings, Bridges and Towers!



Students will construct buildings, bridges, towers and geometric structures made of different materials. By learning how to build different types of structures, students will learn how engineers work and what goes into designing and building complex, but necessary structures that are used by people every day.

What Can PI Do For You?

Students will work on projects to learn about the Mathematical Constant Pi (π), Cryptography and coding/encryption, and use mathematical principles to build simple structures like a 3-Dimensional tetrahedron kite.

The Physics of Sound

Students will navigate the science behind sound while understanding the dynamics of pitch, amplitude, waves, and vibrations. Students will get the opportunity to construct a harp and build their very own speaker.