



Would love to bring ...

Zani Scientists on Wheels to your Library!

Join us in experiencing the wild world of science! Our Zani Scientists are dynamic educators who will spark a love for learning science by traveling to your school or facility to advance learning toward the NC Science Essential Standards. Our programs are designed from the ground up to prioritize fun, active engagement, and an integrated, multidisciplinary approach to problem solving.

STEM specialists with years of experience educating children, our scientists have developed and taught science courses to children for many years. They use scientific reasoning, reflection, tools and language to excite and engage young minds, while providing hands-on and minds-on learning fun!

Zaniac's Zani Scientists would love to share their love of STEAM education with you!

We will offer the following programs for grades K-5 beginning in September 2019:

Predator or Prey?
Who Dun it?
Put a Spark in It
Shake, Rattle and Roll
Crazy Chemistry

Spooky Science
Mission to Mars
Putting the "A" in STEM
Let's Get PHYSICal!
Intro to Robotics

# THE SCIENTIFIC FACTS for Zaniac's Zani Science on Wheels Programs:

• Grade Level: K thru 5th grade

• Group Size: Up to 20 students (\$5/student over 20)

• Program Length: 1 hour

• Cost: \$175 for 1 program

\*We are proud to travel to all outreach programming in Buncombe and Henderson County schools and organizations for free! For schools and organizations outside of these counties, standard mileage rates are incurred. Program costs include all supplies and equipment.

To Schedule Your Zaniac Zani Science on Wheels Programs
Contact Judi Donofrio at
630-335-0001 or judi.donofrio@ZaniacLearning.com

## Program Descriptions for Grades K-5

## Predator or Prey?

 Owls are birds of prey. ... join us as we make an interactive food web and discover what an owl preys on! Dissect a <u>sterilized</u> owl pellet to discover the remains of an owl's nightly diet.

# Spooky Science

• Join us for some October fun as we use the scientific method to conduct spooky experiments that fizz, pop, scream, smoke, bubble and erupt!

#### Who Dun It?

• Forensics is the application of science to solving crimes, and scientists are getting excellent at it. There's no such thing as getting away without a trace. Learn how to examine the evidence that is left behind.

### Mission to Mars

• Ever wanted to take an exciting journey? What if you could take that journey from the comfort of your library? Welcome to Mission to Mars! Participants will program a LEGO EV3 robot to explore the surface of Mars.

# Put a Spark in It!

 Be an electrical engineer! Explore electrical engineering through hands-on exploration and innovation using Snap Circuits, a system of modules that magnetically snap together to build projects ranging from flashlights to synthesizers.

# Putting the "A" in STEAM - Art

 Are you creative? Did you know that there are science concepts embedded in your artwork? How does science affect an artists work? Join us as we use the scientific method and hands on activities to make connections between art and science!

### Shake, Rattle and Roll

• The earth is an interesting place with all kinds of action and movement! Did you know that the crust of the Earth moves when stress, or force, is applied to it? Come explore the power of earthquakes, volcanoes and tsunamis.

### Let's Get PHYSICal!

 An object in motion stays in motion. Uncover the discoveries of Isaac Newton as we perform experiments with friction, inertia, gravity, and other physical forces and explore how they affect movement.

# Crazy Chemistry

Become a Zani Scientist and join us as we take the mystery out of chemistry! We
will explore what makes up nearly everything, from chemical reactions that puff and
explode, to liquid physics that kids love! Discover the properties of solids, liquids,
and gasses as we conduct hands on activities that combine these states of matter.

### Intro to Robotics

 In Intro to Robotics, students learn the basics of robotics, the scientific method, forces, and design through exploring scientific and engineering concepts. Build and program robotic solutions to defined projects and get introduced to a variety of sensors and motors.





# Would love to bring ...

...Zani Scientists on Wheels to Your Patrons!

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We will offer the following programs for grades 4 and up beginning in September 2019:

- Eggsellent Engineering
- Mission to Mars
- Tinkering into Circuits
- Newton's Lab: The Physics Behind Roller Coasters
- Computer Programming with Scratch
- Introduction to Robotics (2 sessions)
- Battlebots
- Enchanted Engineering

### THE SCIENTIFIC FACTS for Zaniac's Zani Science on Wheels Programs:

• Grade Level: 4th grade and up

• Group Size: Up to 20 students (\$5/student over 20)

• Program Length: 1 hour

• Cost: \$175 for 1 program

\*Standard mileage rates are incurred if the program is outside of Buncombe or Henderson County. Program costs include all supplies and equipment. Programs are adjusted to meet the grade level selected.

To Schedule Your Zaniac Zani Science on Wheels Programs
Contact Judi Donofrio at 630-335-0001 or judi.donofrio@ZaniacLearning.com

## Program Descriptions for Grade 4 and up

## Eggsellent Engineering

• We are going to conduct some egg drops in the name of science. Get ready to engineer your way to eggsellence! We will learn the basics of design by creating containers for an egg and dropping them to their destiny.

### Mission to Mars

• Ever wanted to take an exciting journey? What if you could take that journey from the comfort of your library? Welcome to Mission to Mars! Participants will program a robot to explore the surface of Mars.

## Tinkering into Circuits

 Be an electrical engineer! Explore electrical engineering through hands-on exploration and innovation using littleBits<sup>™</sup>, a system of modules that magnetically snap together to build projects ranging from flashlights to synthesizers. Learn about basic inputs, outputs, analogs, electricity, and more!

# Newton's Lab: The Physics Behind Roller Coasters

 Roller coasters offer fun examples of several physics principles, including energy and Newton's laws. Join us to take a closer look at the science of extreme rides!

## Computer Programming with Scratch

• It's never too early to learn to code, an essential 21st century skill for every child. Scratch teaches programming concepts such as sequences, loops, iterative development, and debugging using a modern, block-based approach. The kiddos will use Scratch to design their own super character and use said character to play a game.

### Introduction to Robots

• In Intro to LEGO®, students learn the basics of robotics, the scientific method, forces, and design through exploring scientific and engineering concepts. Build and program robotic solutions to defined projects and get introduced to a variety of sensors and motors.

### **Battlebots**

 We will be making a robot out of LEGO parts, and then will break into teams so we can battle the robots against each other. Each robot will be piloted by remote control and the objectives will be to push the opposing robot outside of the ring. Come learn about robotics and physics as we smash, flip, and shove the competition aside.

## Enchanted Engineering

• Can you think beyond "happily ever after" and "once upon a time?" Can you create a tool, or system to help the characters solve their problem or escape the Giant? Could Rapunzel have a different way to raise and lower people coming to her tower? What if we save the princess, beat the dragon or overcome the Ogre or Troll in a new and different way? Join us to take on one of these challenges.