

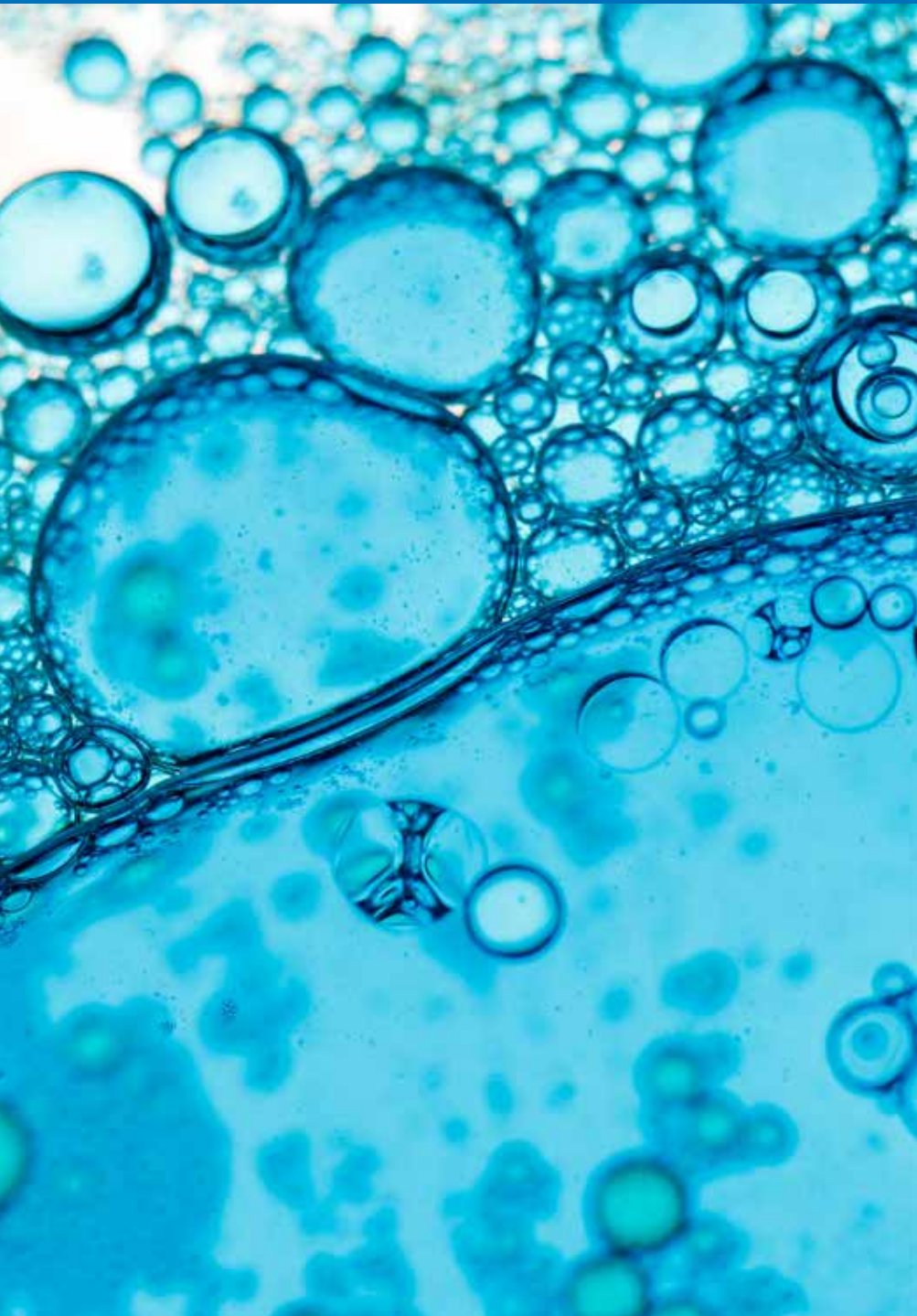


DISCOVERY PLACE

## 2021-2022 EDUCATOR'S GUIDE

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## Ever wonder how to transform science, technology and nature for your students?

Through a network of four hands-on museums in three different cities as well as educational outreach programs, Discovery Place is a leader in STEM education in the Carolinas and beyond.

The foundation of our educational approach is rich, multidisciplinary, interactive learning that will propel your students to be successful now and in 2030. Discovery Place wants to be your partner in building a STEM community!

We offer multiple opportunities that can be combined for maximum educational impact. Imagine combining a world-class field trip and class for students with a special event at your school for families.

We look forward to partnering to serve your students, families and teachers in this fast-changing world.

### **COVID-19 SAFETY**

Whether you bring your class to one of our Museums or welcome us into your classroom, you can rest assured that we have safety down to a science. We have modified our most popular Outreach programs to address the health and safety of all our students and partners. These updated programs allow for students to engage in hands-on, high-energy learning experiences in science, technology and nature while maintaining a safe environment for everyone. We also offer Virtual Classes and Virtual Assemblies that you can stream live from anywhere.

All programs meet NC Health and Human Services (NCDHHS) Standards for Schools.



# Early Childhood Classes

Early Childhood Classes are intentionally designed for our youngest learners. These inquiry-based classes will have children building their emergent STEM literacy skills through hands-on exploration of topics such as sound, weather, forces and the amazing world in which we live.

 50 Minutes

 Minimum 15 Students

 Dates & Times Customizable

 301 N Tryon Street,  
Charlotte, NC 28202

## Grade Pre K – K

### CLASSIFYING CRITTERS

NC: K.L.1, SC: K.S.1, CD-14, CD-15, NGSS: K-LS1-1

Children will be introduced to some of the Museum's amazing Animal Ambassadors. These lively Museum residents will help guide children's observations and questions as they discover similarities, differences and the defining characteristics of groups of animals.

### DIG INTO EARTH SCIENCE

NC: K.P.2, SC: K.P.4A, CD-1

Children will explore the world beneath their feet as they use science tools, including magnets and scales, to measure and describe properties of earth materials. They will determine uses for natural materials and discover living and nonliving things in the soil.

### I LIKE TO MOVE IT, MOVE IT

NC: K.P.1, SC: K.S.1, CD-15, K-PS2-1

Children will explore the effects of forces, including pushes, pulls and gravity, on the motion of objects by conducting investigations and attempting unique challenges. They will work together to test ways forces can manipulate the motion and position of objects in the classroom.

### MINI METEOROLOGISTS

NC: K.E.1, SC: K.E.3, CD-10, CD-15, NGSS: K-ESS2-1

Children will become the scientists as they use tools to develop skills, including measuring, comparing, collecting data and making weather predictions.

### OPERATION RAINFOREST

NC: K.L.1, SC: K.L.2, CD-14, CD-15, NGSS: K-LS1-1, K-ESS3-1

Children will explore the rainforest in Discovery Place Science's World Alive to practice observation skills and compare the plants and animals that call the rainforest home. They will discuss ways their lives are impacted by the rainforest and how they can help protect it.

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### Discovery Place cares about our teachers!

Did you know that teachers receive complimentary general admission to any one of our four locations?

Take advantage of this opportunity to learn more about how Discovery Place exhibits and programs are designed to support STEM learning for students. Please call our Guest Sales team to arrange your complimentary visit.

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# Lab Classes

Discovery Place Science labs are dedicated to the exploration of an array of topics, including matter, energy, biotechnology, plants, animals and the maker movement. Explore the amazing world in which we live through hands-on, inquiry-based activities that cultivate science and engineering skills.

50 Minutes

Minimum 15 Students

Dates & Times Customizable

301 N Tryon Street,  
Charlotte, NC 28202

## Grades 1 – 2

### CAN YOU HEAR ME?

NC: 2.P.1, NGSS: 1-PS4-1

Students will conduct investigations to test how vibrations create sound and will experiment with changing a sound's pitch and volume.

### ENGINEERING SOLUTIONS

NC: EEE.CR.2, SC: 1.S.1B, 2.S.1A, NGSS: K-2-ETS1-1, K-2-ETS1-3

Students will follow the steps of the engineering design process by asking questions, gathering information, determining problems and brainstorming solutions. They will then test their solutions and discuss improvements as they explore different branches of engineering.

### EVERYTHING MATTERS

NC: 2.P.2, SC: 2.P.3, NGSS: 2-PS1-1

Students will observe and experiment with different states of matter, including solids and liquids, to determine their distinct physical properties.

### HUNTING FOR HABITATS NEW

NC: 1.L.1, SC: 1.L.5, 2.L.5, NGSS: 2-LS4-1

Students will explore various habitats by testing adaptations and observing specimens to determine where certain plants and animals live and how these organisms are able to survive in each unique habitat.

## WEATHER WATCHERS

NC: 2.E.1, SC: 2.E.2, NGSS: ESS2.D

Students will collect weather data using appropriate scientific instruments and will then use those qualitative and quantitative measures to describe and predict weather patterns.

## Grades 3 – 5

### ANIMAL BEHAVIOR AND ADAPTATION

NC 4.L.1, SC 4.L.5B, NGSS 3-LS4-4

Observe fascinating behaviors and adaptations of animals. Students will explore a variety of living things and participate in guided-inquiry activities. Live animal encounters enhance the experience.

### EARTH, MOON & THE GREAT BEYOND

NC: 3.E.1, 4.E.1, SC: 3.E.4B.2, 4.E.3A.1, 4.E.3B.1

How well do you know your solar neighbors? Students will create a scale map of our solar system while learning about other planets as well as conducting an inquiry investigation on the moon's phases.

## ECOSYSTEM EXPLORATIONS

NC 5.L.2, SC 5.L.4A.2, 5.L.4B.4

Put on your safari hat and get ready to travel. Students will discover characteristics of each biome and get up close and personal with live animals.

## FORCE & MOTION

NC: 5.P.1, SC: 5.P.5A

Feel and see the forces around us. Students will experiment with Newton's Laws of Motion through a variety of activities, then try to harness those laws in a final team challenge.

## MOTORS, CIRCUITS & ART

NC: 3.V.2, 3.V.3, 4.V.2, 4.P.3.1, 5.V.2, 5.P.1., NGSS: 4-PS3-4, PS3B

Go beyond conventional art by engineering a bot that can draw on its own! Discover the parts of a circuit and learn about the role of conductors and insulators. Using the design process, students will collaborate to create Drawbots that will move around and draw freely.

## MOVE IT OR LOSE IT

NC: 3.L.1.1, 3.L.1.2, SC: 4.L.5B.1, NGSS: 4-LS1-1

Students will explore the structure and functions of the human skeletal and muscular systems of the human body through a variety of guided inquiry activities and the examination of real human specimens.

## OHM MY CIRCUITS

NC: 4.P.1, 4.P.3.1, SC: 3.P.2A.4, NGSS: 4-PS3-2

Conduct hair-raising experiments with a Tesla coil while students learn the difference between static and current electricity, build a circuit, investigate magnetism and make an electromagnet.

## WHAT'S THE FORECAST?

NC 5.E.1.1, 5.E.1.2, SC 4.E.2A.2, 4.E.2B.1

Develop a sunny outlook by conducting weather experiments. Students will use data collection software to analyze wind speed and get an in-depth look at the water cycle.

## WHAT'S THE MATTER?

NC: 3.P.2, SC: 3.S.1.A.1, 3.P.2A

Don't let the phase fool you - it's all matter. Through a series of hands-on experiments, students will better conceptualize atomic movement in different phases and better understand how density affects objects.

## Grades 6 – 8

### ADVANCED ROBOTICS

NC: 7.P.1.1, SC: 6/7/8.S.1.A.2, NGSS: MS-ETS1

Get an introduction to programming logic and problem solving by utilizing LEGO® EV3 robots and Mindstorm software. Students will complete a series of challenges through robotic automation, including loops and sensor interactions.

### CONCEPTS OF CHEMISTRY

NC: 6.P.2.1, 8.P.1.3, SC: 7.P.2B.4, NGSS: MS-PS1-2

Calling all future chemists! Students will mix molecules, investigate rate altering chemical manipulations and watch as it all goes out with a bang. Lab safety skills will be reviewed.

### DNA DETECTIVES

NC: 7.L.2, SC: 7.L.4A, NGSS: MS-LS3

Explore genotypes, phenotypes, alleles and traits. Students will gain a deeper understanding of genes and heredity through a series of guided inquiry experiments and investigations.

### ENERGETIC CONTRAPTIONS

NC: 7.P.1; 7.P.2, SC: 6.S.1A, 6.P.3A.2, 7.S.1A.1, 7.S.1A.2, 8.S.1A.1, 8.S.1A.2, NGSS: MS-ETS1, MS-PS2

Launch yourself into medieval times and discover how catapults work, what they were used for and how we use catapult physics today. Students will utilize the design process to test their engineering skills and build a catapult that launches the furthest distance!

### FETAL PIG DISSECTION

NC: 7.L.1.3, 7.L.1.4, SC: 7.L.3B NGSS: MS-LS1-3

Students will gain a better understanding of the structure and function of the human body and the interdependency of organ systems through the completion of a fetal pig dissection.

*Additional material cost of \$10 per participant. Call for information about other specimens available to dissect.*

### TAKE A CELL-FIE!

NC: 7.L.1, SC: 7.L.3A, NGSS: MS-LS-1

Students will learn basic biotechnology skills as they delve into the human cell and its organelles. They will explore how it all contributes to the basic functions of life and capture images of their very own cells.

### THE HUMAN BODY

NC: 7.L.1.3, 7.L.1.4, SC: 7.L.3B, NGSS: MS-LS1-3

Delve into the human body and discover the systems that keep you working. Students will discover the relationship between different body systems using hands-on activities and real human specimens.

### WIND ENERGY

NC: 7.P.1, 7.P.2, 8.P.2, SC: 6.S.1A, 6.S.1B, 7.S.1A, 8.S.1A, NGSS: MS-ETS1

Learn about renewable energy sources by taking a closer look at wind energy. Students will use the design process to build wind turbine blades and attempt to power a light bulb.

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# Huntersville Classes

Discovery Place Kids - Huntersville offers a childhood learning experience like no other. Students explore their world, test new ideas, develop fine and large motor skills and gain self-confidence.

 50 Minutes

 Minimum 15 Students

 Dates & Times Customizable

 105 Gilead Road  
Huntersville, NC 28078

## Grades Pre K – K

### COMMUNITY HELPERS

NCSCOS K.E.1 (SS), K.C.&G.1

Community helpers are people whose jobs help the community be a better place. Children will explore different jobs to better understand the important role these helpers have in our community.

### CREATIVE BUILDERS

NC FOUNDATIONS HPD-5, HPD-8

Grab your hard hat, gloves and safety goggles and join our construction crew. Children will discover how to use tools in a safe environment, create original blueprints and experiment with simple machines.

### FORECASTING THE WEATHER

NCSCOS K.E.1

Become a mini meteorologist and use tools to gather and analyze weather data. Children will explore weather patterns and make predictions about the weather.

### PASSPORT TO PLAY

NCSCOS K.C&G.1, K.C.1

How do kids around the world play? Children will use their imaginations to travel the globe and play games from other countries. Children will then compare and contrast those games with games common in the United States.

## THE SCIENCE OF SENSES

NC FOUNDATIONS CD-1

Children will use the scientific method, real tools and their own observations to better understand how the senses work together. They will make hypotheses, test their predictions and come to conclusions as the five senses guide them in scientific learning.

## Grades 1 – 2

### BACKYARD BIOLOGY

NCSCOS 1.L.1

Let's explore our backyards! Students will compare characteristics of plants and animals, discover what they need to survive and learn about their life cycles. They will take a close look at how humans can both negatively and positively affect the environment.

### INTERNATIONAL EXPLORERS

NES: 1.C.1

Climb on board to explore countries and cultures all over the world! This hands-on class will give students a glimpse of other places and show how similar we can be even if we are miles or continents apart.

## MAKE IT MOVE

NCSCOS 1.P.1

It's all about push and pull! Explore the science behind gravity and other forces. Students will use textures to create friction, experiment with catapults and discover the strength of air in this hands-on program.

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# Nature Classes

Discovery Place Nature classes provide an immersive learning experience for students to explore the Carolinas' native plants and animals and their role in our environment. Children will develop a sense of wonder and appreciation of the natural world through live animal encounters, fun hands-on activities, creative experiments and planetarium experiences.

50 Minutes

Minimum 15 Students

Dates & Times Customizable

1658 Sterling Road  
Charlotte, NC 28209

## Grades Pre K – K

### CAROLINA CRITTERS

APL-5, APL-9, LDC-4, CD-14, SC: K.S.1A.1, NC: K.L.1

Children will explore several groups of animals while comparing the differences and similarities between animals in each group. Using live animals and artifacts, they will investigate animals up close.

### WHAT'S THE WEATHER?

NC: K.E.1, SC: K.E.3, CD-10, CD-15, NGSS: K-ESS2-1

Children will learn the ingredients needed to make weather and use real science tools to make weather predictions. They will also develop skills such as measuring, comparing, collecting data and recording observations.

## Grades 1 – 2

### ANIMAL LIFE CYCLES

NC: 2.L.1, 2.L.2, SC: 1.S.1A.1, 1.S.1A.8, 2.S.1A.1, 2.L.5A.3, NGSS 1-LS3-1

Students will explore animal life cycles from birth through death. Using live animals, Museum specimens and interactive stations, they will compare the life cycles of different animals while recognizing there are similarities and differences among individuals of the same species.

### HABITATS OF THE CAROLINAS

NC: 1.L.1, SC: 1.S.1A.1, 2.S.1A.1, 2.L.5B.1, NGSS: 2-LS4-1

Students will take a journey through the Carolinas from the mountains to the sea – stopping along the way to explore how these habitats help meet the needs of native animals. They will examine real specimens and discover animals that call each habitat home.

### BLUE SKIES AND STARRY NIGHTS

NC: 1.E.1, NGSS: 1-ESS1-1, SC: 1.E.3A.2, 1.P.2A.1

Students will immerse themselves in a planetarium experience and discover the differences in the day and night sky. Using live solar system models, students will recognize changes in the moon from day to day and even simulate a solar eclipse!

## Grades 3 – 5

### POWER OF POLLINATORS

NC: 3.L.2, 5.L.2, SC: 4.L.5B, 5.L.4B.3, NGSS: 4-LS1-1

Students will model pollination and discover why plants need pollinators to survive. Using hands-on group work, they will investigate the structures of a plant and observe pollinators up close.

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# In-Person Outreach Classes

Bring Discovery Place experiences to your school or community! Outreach programs are designed to meet the interests and educational requirements of your group by aligning curriculum with both North and South Carolina state standards and Next Generation Science Standards. These programs complement both in-school and out-of-school learning for Pre K through Grade 8.

50 Minutes

Maximum 25 Students

Dates & Times Customizable

## Grades Pre K – K

### ANIMAL ADVENTURES

NC FOUNDATIONS: LDC, CD; SC: K.L.2A.3

Meet a variety of animal friends, including those with fur, feathers, scales and exoskeletons. Live animal encounters will be enhanced through play with lifelike puppets.

### DINOSAUR DAYS

NC FOUNDATIONS: HPD, APL; NC: K.L.1; SC: K.L.2A.3

Children will become paleontologists as they excavate a dig site, explore real fossilized specimens and create models of imprint fossils.

### LITTLE BUILDERS

NC FOUNDATIONS: APL, ESD, LDC, CD; NC: K.P.1; SC: K.S.1B.1; NGSS: K-PS2-1, K-2-ETS1-2

Children will use a variety of building materials to complete a series of problem-solving challenges that test and improve their solutions.

### PUSH, PULL, GO!

NC FOUNDATIONS: CD-15, LD-7; NC: K.P.1,

Children will explore physics through play. They will experiment with position and motion of a variety of objects and how forces affect them.

### SENSORY SCIENCE

NC FOUNDATIONS: CD-15, LDC-3, LDC-7; NC: K.P.2; SC: K.L.2A.4

Children will use their senses to make scientific observations while learning new vocabulary to describe the world around them.

### WHAT'S THE WEATHER?

NC: K.E.1; SC: K.E.3A

Observe and describe weather conditions throughout the seasons. Engage in critical thinking to choose weather-appropriate clothing. Use real meteorological tools to explore how scientists utilize them to collect data.

## Grades 1 – 2

### ALL ABOUT ANIMALS

NC: 1.L.1, 2.L.1; SC: 2.L.5A, 2-LS4-1

Get up close and personal with the animal kingdom in this tactile exploration of seven major classes of animals. Students will learn how biologists classify animals by examining real specimens for unique characteristics. Students will have a close encounter with living creatures from Discovery Place!

### CATAPULT CREATORS

SC: 1.S.1B.1, 2.S.1B.1, 2.S.1A; NGSS: K-2-ETS 1-1, K-2-ETS 1-3, ETS1.A, ETS1.B, ETS1.C

Throw yourself into catapults and the Engineering Design Process. Students learn about potential and kinetic energy as they design, build and improve their own catapults.

### DINO TIME

SC: 2.L.5A; NGSS: 2-LS4-1

Dig into paleontology! Students will explore real fossils, create their own imprint fossil and use tools to uncover the past.

### I'M AN ENGINEER

NC: 1.P.1; SC: 1.S.1B, 2.S.1B, 2.P.4A; NGSS: K-2-ETS-1

Discover what it's like to be an electrical, mechanical and civil engineer. Using the Engineering Design Process, students will analyze engineering challenges, design and construct solutions and test and improve their designs at three different engineering stations.

### MATTER MATTERS

NC: 2.P.2.1; SC: 2.P.3A.1, 2.S.1A.4; NGSS: 2-PS1

Observe instantaneous phase changes featuring liquid nitrogen! Investigate the properties of solids, liquids and gases through hands-on experiments. Measure and compare different states of matter. Test for special properties in a variety of materials.

### SOUND IS VIBRATION

NC: 2.P.1; NGSS: 1-PS4-1

Students explore what sound is, how it is created and how we perceive it. Students will experiment with a variety of vibrating materials, as well as an oscilloscope and their own voices, to understand the relationships between frequency and pitch and amplitude and volume.

### TODAY'S FORECAST

NC: 2.E.1, 2.E.2A

Become amateur meteorologists by using weather tools to collect data such as temperature, precipitation and wind. Compare and analyze the data to determine seasonal weather patterns and communicate their meteorological findings through forecast presentations.

### YOU CAN BUILD IT

NC: 1.P.1.3; SC: 1.S.1B., 2.S.1B.1; NGSS: K-2-ETS1-2; 2-PS1-1

Students will explore balanced forces and use their problem-solving skills to construct, test and improve model structures such as high-rise towers, bridges, pyramids and more.



## Grades 3 – 5

### ALL THAT MATTERS

NC: 3.P.2.1, 3.P.2.2, 4.P.2.1; SC: 3.P.2A.2, 5.P.2A.1; NGSS: 5.P.2A.1

Conduct experiments to compare the properties of three states of matter: solids, liquids and gases. Observe rapid phase changes through liquid nitrogen demonstrations. Investigate a variety of materials by testing them for special properties such as conductivity, magnetism and opacity.

### ANIMAL EXPLORATIONS

NC: 4.L.1.2, 5.L.2.1; SC: 4.L.5B.3, 5.L.4A.2; NGSS: 3-LS4-3, 4-LS1-1

Students will explore the adaptations that help animals from six different biomes meet their basic needs and survive. By observing and collecting data from numerous real specimens, learners seek to understand how animals adapt differently to various environments.

### CHEMICAL CHANGES

NC: 5.P.2.3; NGSS: 5-PS1-4

Engage in action-packed chemical reactions, including exploding hydrogen balloons, while learning about the properties of materials, the difference between physical and chemical changes and how to recognize when a chemical change has occurred.

### CODING ON CANVAS

NC: 3.V.3.3, 4.V.3.3, 5.V.1.3, 5.P.1.2, 3.CX.2.3, 4.CX.2.4, 5.V.3.2; SCVAS: ANCHOR STANDARD 1 AND 7

Using computational thinking and coding, students will program a robot to paint an original work of art. Students will examine works of art, create vector diagrams, design geometric art and write code in preparation for the creation of their 'classerpiece.' This introduction to STEAM illuminates the connection between art and technology.

### ELECTRIFYING ATTRACTION

NC: 4.P.1, 4.P.2, 4.P.3; SC: 3.P.3A, 3.P.3B.1; NGSS: 3-PS2-3, 4-PS2-3, 4-PS3-4

Through hands-on exploration, students will build a variety of circuits, including series and parallel, investigate properties of magnets and explore the relationship between magnets and electricity. Experience an unforgettable visual representation of static and current electricity with a hair-raising Vann De Graaff encounter!

### FORCES AND MOTION

NC: 3.P.1.1, 5.P.1.1, 5.P.1.4; SC: 5.P.5A; NGSS: 3-PS2-1

Newton's Laws of Motion come alive in this class packed with hands-on activities. Students will perform experiments for each of Newton's Laws using tools such as hover pucks, fan cars and more. In a grand finale that synthesizes student learning of all three laws, witness a rocket car in action!

### ESCAPE ROOM ROBOTS

NC: 3.MD.2, 4.MD.1; CSS 35-CS-03, 35-DA-07, 35-AP-08

Help, my robot is trapped! Students will use critical thinking skills to analyze a given problem: their robot is trapped in a room. In order to escape, students must write code, troubleshoot and use computational thinking. Do your students have what it takes to crack the code and help their robot escape?

### MUSCULOSKELETAL MARVELS

NC: 3.L.1, 5.L.1.2

Examine real human bones, tissues and artificial joints to learn how the muscular and skeletal systems function together to support, protect and move the human body.

### WIND ENERGY ENGINEER

NC: 4.P.3.1, 5.P.1.1; SC: 3.S.1B.1, 4.S.1B.1, 5.S.1B.1; NGSS: 4-PS3-1 AND 4

Harness the power of renewable energy by using critical thinking and problem-solving to design, build and test turbine blades to convert wind energy into electricity. Put the Engineering Design Process and your STEM skills to work to successfully complete this engineering challenge by generating the required amount of electricity.

### CATAPULT ENGINEER

NC: 3.1.P.1.1, NC:5.P.1.1, NC: 5.P.1.2, NC: 5.P.1.4; SC: 5.P.5A; SC: 3.S.1B.1, 4.S.1B.1, 5.S.1B.1; NGSS: 3-PS2-1, 4-PS3-1, 4-PS3-3, 3-5-ETS1-1,3-5-ETS1-2, 3-5-ETS1-3 NGSS: 3-PS2-1, 4-PS3-1, 4-PS3-3, 3-5-ETS1-1,3-5-ETS1-2, 3-5-ETS1-3

Participants will explore the physics of projectiles and potential and kinetic energy as they use the Engineering Design Process to design, build and improve their catapults to achieve the ultimate launch.

## Grades 6 – 8

### ROBOTICS ENGINEER

CSS: 68-CS-03, 68-AP-13, 68-AP-17, 68-AP-19

Students will be presented with a real-world challenge that can be solved with the help of a robot. They will use the Engineering Design Process, employ computational thinking, troubleshooting, coding and programming to achieve success.

### CATAPULT ENGINEER

NC: 7.P.1.2; SC: 8.S.1B1; NGSS: MS-ETS1-1, MS-ETS1-1, MS-ETS1-3

Participants will explore the physics of projectiles, and potential and kinetic energy as they use the Engineering Design Process to design, build and improve their catapults to achieve the ultimate launch.





# In-Person Outreach Workshops

Perfect for both schools and afterschool programs, these multi-session programs allow students to take a deeper dive into STEM through thematically linked, cross-curricular learning. Students will engage in real world applications, make career connections and cultivate problem-solving skills in specially curated experiences. We have a broad catalog of workshops to select from and offer customized programs to meet your needs.



3 or more one-hour sessions



Maximum 25 Students



Dates & Times Customizable

## BRIDGE BUILDING 101 GRADES 3-5 AND 6-8

SCSS: 8.P.2A.1, 8.P.2A.2, 8.P.2A.3, NGSS: MS-ETS1-1, MS-ETS1-2, MS-ETS1-3, MS-ETS1-4

Student engineers will uncover the physics behind forces applied to a bridge. They will design, build and test a bridge from balsa wood.

## ENGINEERING DESIGN THINKING GRADES 6 - 8

SCSS: 6.S.1A, 6.S.1B, 7.S.1A, 7.S.1B, 8.S.1A, 8.S.1B, NGSS: MS-ETS1-1, MS-ETS1-2, MS-ETS1-3, MS-ETS1-4

Students will use the Design Thinking Process to produce a product or solve a problem. By developing a design-thinking mindset, they will focus on empathy, ideation, prototyping and experimentation.

## ENGINEERING IS ELEMENTARY GRADES 1 - 5

SCSS: 1.S.1A, 2.S.1A, 3.S.1A, 4.S.1A, 5.S.1A, NGSS: K-2-ETS1-1, K-2-ETS1-2, 3-5-ETS1-1, 3-5-ETS1-2, NCES: VARY BY MAKE

Students will use the Engineering Design Process to design, build and test their own solution to a real-world problem.

## DIVE INTO DISSECTION GRADES 6 - 8

NCES: 7.L.1.3, 7.L.1.4, SCSS: 6.L.4.B.1, 7.L.3A.1, 7.L.3A.3, 7.L.3B.1, 7.L.3B.2

Students will gain an understanding of the systems of the human body and compare and contrast human systems with equivalent animal systems in this dissection-packed workshop.

## FORENSICS CRIME LAB GRADES 3-5 AND 6-8

NCES: 6.P.2.1, 7.L.1.3, 7.L.1.4, SCSS: 7.L.3B.2, 7.L.4A.1

Students will use technology to decipher evidence found at a crime scene. DNA analysis, chromatography, weapon matching and spatter analysis are some of the tools available to student investigators to solve the crime

## MINI MAKER GRADES 1 - 5

SCSS: 1.S.1A, 1.S.1B, 2.S.1A, 2.S.1B, NGSS: K-2-ETS1-1, K-2-ETS1-2, K-2-ETS1-3, NCES: VARY BY MAKE

Students will become makers as they design, create, build, innovate and problem-solve in this hands-on workshop. They will engage in a series of make projects that highlight STEAM, allow for self-expression and foster critical thinking.

## MINI CSI GRADES 1 - 2

NCES: 2.L.2.2

Students will become detectives during this crime-busting workshop. They will apply investigative techniques including fingerprint analysis, chromatography and chemical analysis to solve a mystery.

## ROBOTICS GRADES 3 - 5

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

Students will use a variety of robots to explore coding, debugging and using sensors. Can you program your robot to successfully complete a series of challenges?


## THINK IT, PLAN IT, MAKE IT GRADES 3 - 5

NCES: VARY BY MAKE, SCSS: 3.S.1A, 3.S.1B, 4.S.1A, 4.S.1B, 5.S.1A, 5.S.1B, NGSS: 3-5-ETS1-1, 3-5-ETS1-2, 3-5-ETS1-3, "

Students will use tools and technologies to build, innovate and problem-solve as they channel their inner scientist, engineer and artist to create, think critically and cooperate on a series of STEAM-based makes.

# Assemblies

Energize your students with a high-octane science experience. Assemblies can accommodate up to 300 students at a time and cover a wide range of topics. The dynamic action includes audience participation, demonstrations and live experiments.

 50 minutes

 Dates & Times Customizable

 Minimum 25 Students

## Grades K – 8

### MATTER OF SCIENCE

NCSCOS 2.P.2, 3.P.2, 6.P.2

Chemistry and physics come alive during this action-packed presentation. Wow your students with wonder-filled demonstrations involving combustion, changing states of matter, electricity and liquid nitrogen.

## Grades 3 – 8

### ENERGY, ENERGY, ENERGY

NCSCOS 3.P.1, 3.P.3 4.P.1.2, 4.P.3.1.7.P.2, 8.P.2

Without energy we wouldn't be able to listen to music, play sports or finish our homework. Students will identify energy and energy transformation as amazing demonstrations illuminate the science behind electrical, chemical and thermal energy.

# Starlab Planetarium

Starlab Planetarium requires access to electricity and set up space of 11 feet in height x 22 feet in width. Maximum capacity inside the small dome: 30, large dome: 50.

## DAY AND NIGHT

PRE K - GRADE 2

Explore our ever-changing sky and learn to recognize differences in the day and night sky, including changes in the appearance of the moon.

## SOLAR SYSTEM SPECTACULAR

GRADES 3 - 8

Explore the solar system to learn about the sun, planets, asteroids and moons that make up Earth's neighborhood.

## STARRY STARRY NIGHT

GRADES 3 - 8

Witness the wonders of the universe in this in-depth look at the relationship between Earth and its nearest neighbor in space. Learn about what causes day, night and changes in the appearance of the moon.

# Festival Booths

Festival Booth programs display exciting science topics for visitors to explore at their leisure. Each experience consists of a table staffed by a Discovery Place educator conducting hands-on experiments and demonstrations as well as self-guided learning time. Small groups of visitors will have a brief (5-10 minute) interaction at each booth. Appropriate for all ages and a great addition to festivals, family nights, school functions and community events.

 1 Hour

 Dates & Times Customizable

 Approximately 60 Visitors

# Family STEM Nights

Want to get the entire community involved in STEM? Family Nights are a great way to engage and inspire learners of all ages. From explosive assemblies, out of this world Starlab planetarium programs and live animal encounters, we can design an unforgettable experience for the whole family. Perfect for back to school nights, PTA events, and community celebrations.

 90 minutes

 Dates & Times Customizable

## Basic Package

UP TO 150 PARTICIPANTS

Select 1:

Starlab Planetarium (1 hr)

4 Station-based Experiments (1 hr)  
*requires volunteer assistance*

Festival Booth (1 hr)

## Premium Package

UP TO 300 PARTICIPANTS

Select 2:

Starlab Planetarium (1 hr)

4 Station-based Experiments (1 hr)  
*requires volunteer assistance*

Festival Booth (1 hr)




**DISCOVERY  
PLACE**

# Virtual Classes

Bring exciting demonstrations and at-home experiments right to your virtual classroom. These engaging and interactive classes are tailored to your class's grade level and curriculum standards.

 45 Minutes

 Maximum 25 Students

 Dates & Times Customizable

All programs originate in our Digital Studio Sponsored by T-Mobile



## AEROSPACE ENGINEER GRADES 3 - 8

NASA's Artemis mission, which will put the first woman and next man on the Moon, will pave the way for the ultimate goal of sending astronauts to Mars by 2024. Engage in engineering challenges to aid Artemis astronauts in their mission.

## ALL THAT MATTERS GRADES 3 - 8

NC: 3.P.2, SC: 5.P.2A.1

Through demonstrations featuring liquid nitrogen and at-home experiments, students will gain a greater understanding of the properties of matter in its various phases and how heat affects particle motion and density.

## ANIMAL ECOLOGY GRADES 6 - 8

NC: 8.L.3.; SC: 7.EC.5A.1; NGSS: MS-LS2-3

Students will meet Discovery Place's Ambassador Animals to explore the relationships between producers, consumers and decomposers, while working with an educator to demonstrate how abiotic and biotic factors affect animal populations in an ecosystem.

## ANIMAL LIFE CYCLES GRADES 1 - 2

NC: 2.L.1.1; SC: 2.L.5A.2; NGSS: 1-LS3-1

Students meet Discovery Place's Ambassador Animals to observe and describe the needs of all animals. Then, they will work with an educator to describe the life cycles of different animals.

## ANIMALS IN THEIR ENVIRONMENT GRADES 1 - 5

NC: 4.L.1.2, 5.L.2.2; SC: 3.L.5B.2; NGSS: 4-LS1-2, 5-PS3.1

Students meet a few of Discovery Place's Ambassador Animals to learn about animal habitats. They will then work with an educator to describe the needs of different animals in their environment.

## BODY SYSTEMS GRADE 3 - 8

Explore the human body and discover the tissues, organs and systems that keep you working. Observe real human specimens and join in at-home activities to analyze several body systems.

## FORCES AND MOTION GRADES 3 - 8

NC: 3.P.1, 5.P.1; SC: 5.P.5; NGSS: 3-PS2-1

Newton's Laws of Motion come alive in this class with exciting demonstrations coupled with at-home experiments. Students make predictions and investigate how changes in mass, force, gravity and friction affect the motion of an object.

## I'M AN ENGINEER GRADES 1-8

SC: K.S.1B, 1.S.1 B.1, 2.S.1B.1, 2.S.1A; NGS: K-2-ETS 1

Students discover what it's like to be an engineer. Using the Engineering Design Process, we will analyze engineering challenges, design and construct solutions and test and improve our designs.

## MATTER MATTERS GRADES 1-2

NC: K.P.2, 2.P.2.1, SC: 2.P.3A.1, 2.P.3A.3, 2.P.3A.4, NGSS: 2-PS1-4

Students observe instantaneous phase changes featuring liquid nitrogen! We will investigate the properties of matter and its different phases through at-home experiments.

## MOVING WITH ANIMALS PRE K - K

In this interactive class, students will meet Ambassador Animals from Discovery Place. They will identify the differences between living and nonliving things and work with an educator to demonstrate how animals move.

## MUSCULOSKELETAL MARVELS GRADES 3 - 5

NC: 3.L.1

Students investigate real human bones, tissues and artificial joints to learn how the muscular and skeletal systems function together to support, protect and move the human body.

## PUSH, PULL GRADES 1-2

Explore how forces such as pushes, pulls, gravity and magnets can affect the motion of an object. Students will make predictions and conduct at-home experiments.



## **SOLAR SYSTEM SPECTACULAR** **GRADES 3 - 8**

NC: 6.E.1; NGSS: MS-ESS1-3

Travel through the solar system with our virtual planetarium to learn about the sun, planets, asteroids and moons that make up Earth's neighborhood. Investigate space exploration as you join Apollo astronauts on a trip to the Moon and visit the red planet with the Mars rovers.

## **STARRY, STARRY NIGHT** **PRE K - GRADE 5**

NC FOUNDATIONS: APL-1.2.8; NC: 1.E.1, NC: 4.E.1; SC: 1.E.3A, 4.E.3B; NGSS: 1-ESS-1, 5-ESS-1

Witness the wonders of the universe in this in-depth look at the Earth, Moon and Sun system. Learn about what causes day and night and changes in the appearance of the Moon. Students will observe and recognize patterns in the night sky.

## **STORYBOOK SCIENCE** **PRE K - K**

NC: K.A.1.1, RL.K.9, RL.K.10; SC: K.S.1B; NGSS: K-2-ETS1


Can your house stand up to the Big Bad Wolf? Can you build a bridge over the river? Students will use engineering skills to test the science behind some of your favorite stories.





# Virtual Assemblies

Bring science and nature to your students through a virtual connection. Our educators will create an educational experience that draws students in and keeps them engaged.

 30-Minutes

 Unlimited Students

 Dates & Times Customizable

*All programs originate in our Digital Studio Sponsored by T-Mobile*



## A MATTER OF SCIENCE

GENERAL AUDIENCES

Chemistry and physics come alive during this action-packed presentation. Wow your students with wonder-filled demonstrations featuring combustion, changing states of matter, electricity and liquid nitrogen.

## ANIMAL CARE: BEHIND-THE-SCENES

GENERAL AUDIENCES

Our Museums are home to a wide variety of animals. Go behind-the-scenes with our curators and animal residents to discover what goes into providing proper diet, environment and enrichment for our animal ambassadors.

## BACKYARD BIOLOGY

GENERAL AUDIENCES

Students will have the opportunity to experience science and nature firsthand through live animals, exciting demonstrations and engaging conversations. Join our curators and resident animals as they share some tips on how to explore and discover the richness of your backyard. Plus, learn some techniques to see and to hear what is hiding in plain sight all around you.

## JOURNEY TO SPACE - VIRTUAL PLANETARIUM

GENERAL AUDIENCES

Witness the wonders of the universe in our virtual planetarium as we journey into our solar system and beyond. Explore planets, moons, constellations and galaxies as well as learn about the past, present and future of space exploration.

## PHYSICAL PHENOMENA

GENERAL AUDIENCES

Follow along with our Museum educators as they demonstrate the fascinating physical phenomena and science principles that govern our world. Join us virtually to experience some amazing exhibits in Discovery Place's Cool Stuff exhibit along with experiments in our virtual lab.





**DISCOVERY PLACE**  
SCIENCE | KIDS | NATURE