



Discover Science Online STEM Classes are designed to coordinate and enhance the science/STEM curriculum taught in schools through hands-on science experiments and activities. Our online programs are excellent options for schools to complement and enhance online learning at home.

We incorporate hands-on experimentation and learning during our Online STEM Classes, and have designed each activity with national (Next Generation) and state (Georgia Standards of Excellence) Science Standards in mind. Most science/STEM themes are appropriate for any grade, although some themes coordinate better with specific grade-level standards. We adjust the complexity of the science material and activities based on the grade level we are teaching.

- Online STEM Classes last 50-60 minutes and accommodate up to 30 students.
- Classes that do not include supplies are \$150/session. Students will be asked to gather common household items to use for the activities.
- Classes that require our science kits are \$300/session. We provide individually packaged student science kits to be picked up from a school representative or shipped at an extra charge. Schools are responsible for distributing science kits to participating students.
- We offer a 10% discount for multiple sessions of the same online class.
- One adult from the school must be online to act as a moderator to monitor student behavior online.
- <https://discoversciencecenter.com/online-stem-classes>
- info@discoversciencecenter.com

Discover Science Online STEM Class Descriptions:

LIFE SCIENCE

Animal Classification* - Students learn about different groups of animals and how (and why) scientists create these groups based on their characteristics.

Insect Anatomy - We learn insect body parts and how they help insects survive in their habitats as we virtually investigate the Louisiana Lubber Grasshopper.

Flower Dissections* - We learn to properly use dissection tools as we dissect and study the different parts of a flower, observe similarities and differences of different flower types, and discuss why different flowers have specific shapes.

Seed and Fruit Dissections* - We explore the science of seeds and fruits as we dissect them to see what is inside and what each part does. Some fruit facts might surprise you!



Terrariums* - Kids investigate the things that plants need to live and grow as they learn about moss and create their own living terrarium.

Sea Monkey Life Cycle* - What are Sea Monkeys, really? Students explore three life phases of the brine shrimp life cycle (eggs, larvae and adults), and experiment with their adaptive phototactic (response to light) behavior.

Shark Science - Students learn about the diversity of sharks, what they eat and how we can tell from the shape of their teeth, and also explore the external anatomy of sharks as they investigate our preserved spiny dogfish sharks.

Bird Beak Adaptations* - We study advantages and disadvantages of different bird beak shapes as we forage for different types of bird food, and learn why not all bird beaks are the same.

Owl Pellet Dissections* - Kids learn about food webs and owl pellets as they dissect their own pellet to see what their owl ate.

Reptiles and Amphibians - Kids review characteristics of these vertebrate groups, study the differences between venomous and non-venomous snakes, and investigate the anatomy of a preserved snake.

DNA, Genes & Strawberries* - DNA is our genetic blueprint. Investigate DNA sequences, what genes actually are, and extract DNA from a polyploid organism (strawberries!).

Senses and the Brain* - Students learn about the nervous system as they study the anatomy and function of the brain, and test their senses with fun sensing activities.

Circulatory System* – Students investigate their circulatory system by looking at the components of blood, why humans have different blood types and how blood moves through the body.

Digestive System* – We examine the digestive system by making models of it and investigating how the components of the digestive system work together to keep us alive.

Musculoskeletal System – Students examine the muscular system and skeletal system and how the close connection between the two move our bodies around.

EARTH AND SPACE SCIENCE

Our Solar System - We study each of our planets, sun and other celestial bodies that exist in our solar system.

Sun and Stars* - Students investigate the electromagnetic spectrum and conduct an experiment to detect ultraviolet light, as well as create models of constellations.

The Moon* – Kids explore the phases of the moon, and conduct an experiment to demonstrate how meteors make craters on the moon.



Weather Lab – Students become forecasters by investigating cloud types, precipitation, and humidity and learn the functions of weather tools.

Junior Geologists* - Students create crystals to investigate how some minerals form, explore the characteristics of different minerals and rocks, and practice classifying them based on their characteristics.

Rock Cycle - Students investigate sedimentary, metamorphic and igneous rocks, and make their own examples of each as they learn about the rock cycle.

Weathering and Erosion* – Students experiment with sand and water to study the processes of weathering and erosion to demonstrate how the Earth’s surface changes over time.

PHYSICAL SCIENCE

The Metric System* - Students learn how to use scientific tools to measure mass, volume, distance, and temperature using the metric system.

Superbug Measurement Lab* - Kids practice their scientific measurement methods as they determine the size, mass and volume of Superbugs!

Rube Goldberg Creations - Make a simple task complex by engineering simple machines. Students increase their understanding of motion and forces as they use their creativity and variety of materials to build different Rube Goldberg contraptions.

Boat Design - Kids test Archimedes’ Principle as students are challenged to create different types of boats that float, even as we add weight to them.

Roller Coaster Design* - Students learn about energy and motion to design, construct and test a model of a roller coaster.

Aerodynamics - Join us as we discuss forces and motion as we create awesome paper airplanes, and explore the effect of mass on vehicles that travel through air.

Temperature Lab* - We conduct experiments in a bag to observe how some chemical reactions get warm while others get cold, and try to figure out why. Kids practice using thermometers to determine the temperature of their reactions.

The Periodic Table - We investigate the elements, learn what the symbols on the periodic table mean, figure out why we call water “H₂O,” and watch a simple experiment with helium.

Acids and Bases Lab* - Time to be Mad Scientists! Students explore physical, chemical, reversible and irreversible changes as they learn the science behind fizzing potions, bubbling concoctions and gooey slime they make.

Salt – Molecular Arrangements* – Students integrate art and science while investigating different salt crystals, discovering the difference between dissolving and melting, examining evaporation and by painting with saltwater and observing the crystals reform.



Density Gradients* – Does it sink or float? Students use scientific tools to measure the volume of liquids as they create density gradients and predict whether different objects will float or sink.

Polymer Lab* - Expand students' understanding of physical and chemical changes with a lab involving polymers. Students experiment with super absorbent polymers in diapers, learn how water beads work and create cross-linked polymer slime.

Magnetic Elements* - Magnetic fields are all around us. In this physical science lab, students study the three magnetic elements of the periodic table, and experiment with ceramic magnets and a compass to learn how (any why) the Earth is a magnet.

What is Sound? - Students learn what sound really is, and how we measure it, as well as study our sense of hearing, how our ears capture sound waves, and why we know where a sound came from.

Light Lab* - Students learn about different types of light, including ultraviolet light, bioluminescence, fluorescence, phosphorescence and chemiluminescence, through experiments with solar beads and glow sticks.

Circuit Science* - Students learn the basics of circuits and electricity as they create their own LED flashlight.

Deconstructing Electronics* - Students learn about circuits by taking apart household appliances, electronic toys or computers to see how electronics work, as well as emphasize safety and the proper use of basic tools, including screwdrivers, pliers, wire strippers and wire cutters.

Mini-Robots* – Students become engineers to learn how robots work, program mini-robots, design and build a prototype of a bristle bot, and test and show off their creations.

Scribbling Robots* – Students become engineers to learn how robots work, design and create a prototype of a scribbling robot, and test their creations.

TECHNOLOGY

Hour of Code - Students are introduced to computational thinking and basic coding skills to work through online games and challenges. This workshop is best suited for younger students with little to no coding experience. Parental assistant will be needed to get the kids online. Most appropriate for 1st and 2nd grades.

Crash Course in Coding - Everyone can code. Learn basic coding commands, understand the importance of syntax in making the program properly execute and troubleshoot when the code does not work. Designed for students with very little to no programming command experience. Students need access to computers/tablets that are able to connect to www.bitsbox.com. Most appropriate for 3rd-5th grades.