



Biology. Kids. Hands-on. Fun.

Bionerds, Inc
PO BOX 81004
Rancho Santa Margarita, CA 92688

(949) 288-1486
hello@bionerdsllc.com
www.bionerdsllc.com

Bionerds Curriculum

(Updated 03/24/2023)

Did you know hands-on activity is one of the best ways to learn, especially in the young minds? Bionerds is here to offers Biology workshops for kids from Kindergarten to 8th grade. Our topics are vast and exciting to include insects, animals, human, microorganisms, genetics, plants, and more.

Class Format

Each theme has several topics included. Each topic is about 45 minutes to one hour. We do a short lecture on the topic, and the rest of the time will be exciting and hands-on activities for the students. The students will have up close personal experience with the organisms we learn, perform dissections (demo dissections for online program) on some topics, and engage in biology experiments and activities.

Safety is Priority

We educate Laboratory Safety training in the beginning of the class to students. Learning is more fun when everybody is safe. We provide Protective Personal Equipment (PPE) as needed below:

- Laboratory coats
- Gloves
- Goggles
- Mask

We adhere to guidelines recommended by the local government related to Coronavirus (COVID-19) pandemic for in-person programs. Please ask us for details at admin@bionerdsllc.com.

Our Teachers

Our teachers are so passionate in sharing their expertise. They have college degrees either in Biology or other related sciences/extensive field experiences. Some even have graduate degrees.

List Contents

- After-School Programs: Page 2-5 (GREEN)
- Camp Programs: Page 6-8 (BLUE)
- Online Programs: Page 9-11 (YELLOW)
- Individual Topics: Page 12-13 (ORANGE)



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Bionerds AFTER-SCHOOL Programs

(One-hour weekly class for 6-10-week session)

Animal Kingdom: Wilder Than you Think!

Come and join this fun and hands-on biology workshop for kids! Learn about the amazing animal kingdom, from frog, lizard, birds, and more. Your child will be up close with fresh/preserved organisms, perform many dissections, and engage in cool biology activities using lab equipment/tools..

Aquatic Creatures: No Gills Required!

Come and join this fun and hands-on biology workshop for kids! Learn about many freshwater and marine aquatic creatures, from sea urchin, stingray, jellyfish, and more. Your child will be up close with fresh/preserved organisms, perform many dissections, and engage in cool biology activities using lab equipment/tools.

Bioengineering: Designing Life

Come and join this fun and hands-on biology workshop for kids! Learn how to design and create something to improve life itself, such as prosthetics, medical equipment, genetic modification, bioenergy, and more! Your child will be exposed to engineering concept related to biology and perform cool biology activities.

Camping Science: Connecting with Nature

Come and join our exciting hands-on workshop to help your child recognize and appreciate the living world just outside their window. We will discuss camping-related topics, such as wildlife, survival, sun power, rocks and more. Your child will be up close with live/preserved organisms and engage in cool camping-related activities.

Decomposers: Earth's Best Friends!

Come and join this fun and hands-on biology workshop for kids! Learn why and how these organisms, from worms, beetles, crustaceans, and more, are called Earth's best friends. Your child will be up close with live/preserved organisms, perform some dissections, and engage in cool biology activities using lab equipment/tools.

Dinosaurs: Fantastic Pre-historic World!

Dinosaurs ruled the earth for 180 million years. Your child will learn the role each of the major types of dinosaurs played in their ecosystems, and the traits that made them such successful organisms for so long. Your child will do cool paleontological activities and learn about biological processes.



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Food Science: Your Food is Alive!

Come and join us as we learn about the amazing world of food science! We will discuss how some living organisms related to foods such as cheese, honey, bread, and more. Learn the science of sugar, food coloring, nutrition, and more. Your child will be up close with live/fresh organisms/food and engage in cool biology activities. Some of these foods are to take home! No nuts in class but please indicate allergies if any.

Forensic Science: Bionerds Way!

Come and join the fun to become a Forensic Scientist – Bionerds way! Your child will learn forensic and biology techniques, experiments, and activities to further deductive reasoning to uncover the truth following in the footsteps of Sherlock Holmes and Scotland Yard. Topics will include fingerprinting, DNA, trace evidence, dental forensic, and more.

Gardening Science: Nurture Your Mind and Stems! - NEW in SPRING 2023

Do you have a child that loves being outside or in the backyard? Join our fun hands-on workshops about the science behind gardening! Learn about soil science, plant science, garden insects, and more! Be up close with live plants and critters in our gardening-related activities and experiments.

Human Body: We are Super!

Come and join this fun and hands-on biology workshop for kids! Learn about our amazing human body from your thumb, heart, eyes, lungs, to your sense of smell and more. Your child will be up close with fresh/preserved specimens, perform many dissections, and engage in cool biology activities using lab equipment/tools.

Human Body: We are Super! (Part II)

Come and join this fun and hands-on biology workshop for kids! Learn about our amazing human body from your brain, muscles, skin, bones, and more. Your child will be up close with fresh/preserved animal organs, perform many dissections, and engage in cool biology activities using lab equipment/tools. No need to take Human Body Part I to take this class.

Insects: Bug Me if You Dare!

Come and join this fun and hands-on biology workshop for kids! Learn about the amazing bugs around us such as beetles, butterflies, crickets, ladybugs and more. Your child will be up close with live/preserved bugs and perform cool biology activities.



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Insects: Bug Me if You Dare! (Part II)

Come and join this fun and hands-on biology workshop for kids! Learn about the amazing bugs around us such as grasshopper, mealworm beetles, and more. Your child will be up close with live/preserved bugs and perform cool biology activities. No need to take Insects Part I to take this class.

It's All About Life!

Come and join this fun and hands-on biology workshop for kids! Learn about the amazing life around you, from decomposers, insects, plants, human, microorganisms, genetics, and more. Your child will be up close with the live/fresh/preserved organisms and specimens, perform some dissections, and engage in cool biology experiments using lab equipment/tools.

Junior Doctors!

Come and join this fun and hands-on biology workshop for kids! Learn about the incredible world of medicine and medical research! Your child will learn about cardiology, veterinary medicine, neurology and more! Each class will highlight a career in the medical field. Your child will be up close with the fresh/preserved specimens, perform some dissections, and engage in cool biology experiments using lab equipment/tools.

Marine Animals: Amazing Waterworld!

Come and join this fun and hands-on biology workshop for kids! Learn about many marine animals, from sea star, fish, clam, shrimp, and more. Your child be up close with fresh/preserved organisms, perform many dissections and engage in cool biology experiments/activities.

Marine Animals: Amazing Waterworld! (Part II)

Come and join this fun and hands-on biology workshop for kids! Learn about many marine animals, from sharks, octopus, sea anemone, and more. Your child be up close with fresh/preserved organisms, perform many dissections and engage in cool biology experiments/activities. No need to take Marine Animals Part I to take this class.

Microscopic World: What You Can't See May Surprise You!

Come and join this fun and hands-on biology workshop for kids! Learn about the living organisms that are very small and some we can't even see with our own eyes: bacteria in the environment and food, protozoa, sea monkeys, yeast and more. Get up close and personal with live organisms using a microscope and perform cool biology experiments/activities.



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Microscopic World: What You Can't See May Surprise You! (Part II)

Come and join this fun and hands-on biology workshop for kids! Learn about the living organisms that are very small and some we can't even see with our own eyes: bacteria with antibiotic, cyanobacteria, virus, fungi, and more. Get up close and personal with live organisms using a microscope and perform cool biology experiments/activities. No need to take the Microscopic World Part I to take this class.

Mix and Match Biology

Come and join this fun and hands-on biology workshop for kids! Learn about food biology, digestion system, worms, beetles, and water creatures. Your child will get up close with live/fresh/preserved specimens, perform some dissections, and engage in cool biology experiments/activities.

Mix and Match Biology (Part II)

Come and join this fun and hands-on biology workshop for kids! Learn about bacteria, turtles, genetic, mushrooms, snails and more. Your child will get up close and personal with live/fresh/preserved specimens, perform some dissections, and engage in cool biology experiments/activities. No need to take the Mix and Match Biology Part I to take this class.

Plants: Know Your Greens!

Come and join this fun and hands-on biology workshop for kids! Learn about amazing plants and trees on their photosynthesis ability, seed germination, anatomy and cell/DNA structures, and more. Your child will perform cool biology experiments and activities.

Spooky Science with Boo-ionerds!

Come and join us on a journey where we learn about some creepy and crawly topics, from animals like bats and spiders to things like skeletons. Your child will be up close and personal with the live/fresh/preserved organisms, perform some dissections and engage in cool biology experiments using lab equipment/tools.



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Bionerds WEEKLY CAMPS (Monday-Friday, Half-Day and Full-Day camps)
Bioengineering: Designing Life
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Decomposers: Earth's Best Friends!
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Dinosaurs: Fantastic Pre-historic World!
Dinosaurs ruled the earth for 180 million years. Your child will learn the role each of the major types of dinosaurs played in their ecosystems, and the traits that made them such successful organisms for so long. Your child will do cool paleontological experiments & activities and learn about biological processes.
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Human Body: From Head to Toes!
Come and join this fun and hands-on biology workshop for kids! Learn about how amazing your body is and how its systems work, from your brain to your skin. Your child will be up close with fresh/preserved organs, perform many dissections, and engage in cool biology experiments using lab equipment/tools.
Insects: Bug Me if You Dare!
Come and join this fun and hands-on biology workshop for kids! Learn about the amazing bugs around us such as beetles, butterflies, fruit flies, ladybugs, grasshoppers, and more. Get up close with live/preserved bugs and perform cool biology experiments.
It's All About Life!
Come and join this fun and hands-on biology workshop for kids! Learn about the amazing life around you, from decomposers, insects, plants, human, microorganisms, genetics, and more. Your child will be up close and personal with the live/fresh/preserved organisms or specimens, perform some dissections, and engage in cool biology experiments using lab equipment/tools.
Junior Doctors
Come and join this fun and hands-on biology workshop for kids! Learn about the incredible world of medicine and medical research! Your child will learn about cardiology, veterinary medicine, neurology and more! Each class will highlight a career in the medical field. Your child will be up close with the fresh/preserved specimens, perform some dissections, and engage in cool biology experiments using lab equipment/tools.
Land and Water Creatures
Come and join this fun and hands-on biology workshop for kids! Learn about the land and water creatures from lizard, frog, sea urchin, stingray, and more. Your child will be up close with fresh/preserved organisms, perform many dissections, and engage in cool biology experiments using lab equipment/tools.



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Let's Dive into the Ocean!

Come and join this fun and hands-on biology workshop for kids! Learn about the amazing marine animals from the tiny planktons, sea stars, to the great white sharks, and many more. Your child will be up close with the live/preserved/fresh organisms, perform many dissections, and engage in cool biology experiments using lab equipment/tools.

Microscopic World: What You Can't See May Surprise You!

Come and join this fun and hands-on biology workshop for kids! Learn about microscopic world, such as bacteria, protozoa, sea monkeys, yeast and more. Your child will be up close and personal with the live organisms using a microscope and perform cool biology experiments using lab equipment/tools.

Mix and Match Biology

Come and join this fun and hands-on biology workshop for kids! These mix and match topics are not related, but interesting to learn. Learn about food biology, digestion system, decomposers, water creatures, and more. Your child will be up close with live/preserved organisms, perform some dissections and engage in cool biology experiments/activities.

Plants: Know Your Greens!

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Bionerds ONLINE Programs (Multiple of 45-minute to 2-hour classes or camps)
Bioengineering ONLINE Session
Come and join our LIVE and fun INTERACTIVE online biology workshop for kids! Learn how to design and create something to improve life itself, such as prosthetics, biomimicry, genetic engineering, and more! Your child will be exposed to engineering concept related to biology and perform cool biology activities. A simple supply list to gather will be provided before class, but not required to have to join the class.
Bugs ONLINE Session
Come and join our LIVE and fun INTERACTIVE online biology workshop for kids! Learn about amazing bugs around you, such as beetles, grasshoppers, millipedes, and more. Live/preserved bugs will be presented online. A simple supply list to gather will be provided before class, but not required to have to join the class.
Camping Science ONLINE Session
Come and join our LIVE and fun INTERACTIVE online biology workshop for kids! Learn about wildlife, survival, all-things-night camping, and more. Your child will do cool and interactive camping-related activities LIVE online with our teacher. A simple supply list to gather will be provided before class, but not required to have to join the class.
Dinosaurs ONLINE Session
Come and join our LIVE and fun INTERACTIVE online biology workshop for kids! Your child will learn the role each of the major types of dinosaurs played in their ecosystems, and the traits that made them such successful organisms for so long. Your child will do cool and interactive paleontological activities LIVE online with our teacher. A simple supply list to gather will be provided before class, but not required to have to join the class.
Food Science ONLINE Session
Come and join our LIVE and fun INTERACTIVE online biology workshop for kids! Your child will learn how food is science. Plant your own vegetables and make your own food such as yogurt and ice cream LIVE online with our teacher. A simple supply list to gather will be provided before class, but not required to have to join the class.



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Forensic Science ONLINE Session

Come and join our LIVE and fun INTERACTIVE online biology workshop for kids! Your child will learn about forensic and biology techniques, experiments, and activities to further deductive reasoning to uncover the truth. Topics will include fingerprinting, dentistry, wildlife, art and photography, and more. A simple supply list to gather will be provided before class, but not required to have to join the class.

Human Body ONLINE Session

Come and join our LIVE and fun INTERACTIVE online biology workshop for kids! Learn about how the human body works. Your child will follow our teacher perform demo dissection LIVE online on preserved/fresh specimens, such as heart, eyes, brain, and more. A simple supply list to gather will be provided before class, but not required to have to join the class.

Junior Doctors ONLINE Session

Come and join our LIVE and fun INTERACTIVE online biology workshop for kids! Learn about the incredible world of careers in medicine and medical research, such as cardiology, veterinary medicine, neurology and more! Your child will follow our teacher perform demo dissection LIVE online on preserved/fresh specimens. A simple supply list to gather will be provided before class, but not required to have to join the class.

Land Water ONLINE Session

Come and join our LIVE and fun INTERACTIVE online biology workshop for kids! Learn about frogs, coral, scorpions, lizard, and more. Your child will follow our teacher perform demo dissection LIVE online on preserved/fresh specimens. A simple supply list to gather will be provided before class, but not required to have to join the class.

Let's Dive into the Ocean ONLINE Session

Come and join our LIVE and fun INTERACTIVE online biology workshop for kids! Learn about sharks, octopus, stingray, and more. Your child will follow our teacher perform demo dissection LIVE online on preserved/fresh specimens. A simple supply list to gather will be provided before class, but not required to have to join the class.



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Plants ONLINE Session

Come and join our LIVE and fun INTERACTIVE online biology workshop for kids! Learn about plant structures and cells, photosynthesis, seed germination and more. We will guide your child to dissect and grow plants and do cool biology activities. A simple supply list to gather will be provided before class, but not required to have to join the class.

Spooky Science ONLINE Session

Come and join our LIVE and fun INTERACTIVE online biology workshop for kids! Learn about some creepy and crawly topics, from animals like bats and spiders to things like skeletons. Live/preserved bugs and cool biology activities will be presented online for your child to see and follow. A simple supply list to gather will be provided before class, but not required to have to join the class.



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Bionerds Topics List				
(*Dissection activity # Demo dissection/Internal anatomy observation + Live organism in class)				
Animal Kingdom	Aquatic Creatures	Bioengineering		Camping Science
Birds # Frog *# Lizard * Mice * Salamander * Scorpions Snails *+ Snake #	Coral Daphnia (Water Fleas) + Hydra + Jellyfish # Lamprey # Leech * Sea Urchin *# Stingray #	Artificial Tissue Bioenergy Biomimicry Environmental Engineering Genetic Engineering GMO Plants Laboratory Equipment Medical Device Prosthetics Renewable Energy		Animals/Wildlife Camping Insects + Camping Plants + Human Effects Local Habitat Night Experiences Rocks Sun Power Survival/First Aids Water Bodies
Decomposers	Dinosaurs	Food Biology	Forensic Science	
Bess Beetles + Decomposing Bacteria + Extreme Decomposers + Meal Beetles + Micro arthropods + Millipedes + Mushrooms *+ Snails *+ Soil Science + Worms *+	Birds are Dinosaurs Extinction Event Life after Dinosaurs Living Fossils Ornithischians Prehistoric Aquatic Animals + Pterosaurs Rise of the Dinosaurs Sauropods Theropods	Bees and Honeys Cheese + Food Coloring Food Nutrition Grocery Vegetables + Ice cream Sugar Taste * Yeast + Yogurt +	Animals Art Photography Botany Dentistry DNA Forensic Fingerprinting General Forensic Toxicology Trace Evidence Wildfire Forensic	
Gardening Science	Genetics	Human Body		Insects
Aquatic Garden + Edible Garden + Flowers to Fruits + Garden Friends/Critters + Garden Seeds + Garden Soil Garden Succulents + Growing Tips 101B + Guide to Gardening 101A Native Garden +	DNA Fruit Flies + Pumpkin *	Blood Bones * Brain * Ears Eyes * Heart * Kidneys * Liver *	Lungs * Muscles * Skin * Smell Stomach * Taste * Thumbs/Fingerprints	Ants + Bess Beetles + Butterflies + Crickets + Fruit Flies + Grasshopper* Ladybugs + Meal Beetles + Micro-arthropods + Moth +



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(*Dissection included # Demo dissection/Internal anatomy observation included + Live organism may be included)			
Junior Doctors	Marine/Aquatic Creatures	Microscopic World	Plants
Cardiology * Dentistry Neurology * Oncology Optometry/Ophthalmology Pathology Pharmacy Physical Therapy Surgery Veterinary	Brine Shrimps + Clams * Crabs * Fish * Hermit Crabs + Jellyfish * Octopus * Plankton + Sea Anemone * Sea Cucumber * Sharks *# Shrimps * Squids * Starfish # Turtles #	Bacteria + Bacteria Antibiotics + Brine Shrimps + Cyanobacteria + Protist + Sauerkraut + Tempeh/Fungi + Virus Yeast + Yogurt +	Aquatic Plants * Desert Plants * Photosynthesis Plant Cells Plant Structures *+ Seed Germination + Thirsty Plants
Spooky Science			
Autumn Science Bats Blood Crows Eyeballs* Owls* Potion Pumpkin* Skeletons* Spiders +			