

2019 Summer Wonders in Buffalo Grove Grades PreK-8

Session I: June 10-14

Course offerings for students entering grades K-8

Art Quilts (5-8)
Civil Engineering (1-4)
Coding at Java Bootcamp (5-8)
Create Lego Movies (1-4)
Drama and the Monologue (4-8)
Dry Ice Science (3-8)
Dynamic Dramatics (K-3)
Fast Physics (3-8)
Let's Build a Zoo! (K-3)
Minecraft (3-8)

Powders and Potions: Witch's Brew (K-4)
Put on a Musical Review (K-8)
Puzzles, Puzzles, Puzzles! (3-8)
Short Stories (3-8)
The Art of Math (K-4)

For students entering PK-K

Rainforest Adventures
Science Wizards

Session II: June 17-21

Course offerings for students entering grades K-8

All Things String (K-3)
Cardboard Conundrums (K-4)
Coding with Scratch (3-8)
Coding with Scratch without Boys (3-8)
Creative Writing (3-8)
Crime and Puzzlement (4-8)
Lego Innovation Lab (K-5)
Lego Innovation Lab for Girls Only (K-5)
Organic Chemistry: Molecular Models (3-8)
Put on a Musical Review (K-8)
Readers Theater (4-8)
String is the Thing (4-8)
The Sea and Me (K-3)
Word Cloud Art (3-8)

For students entering PK-K

Science Puzzlers
Tour the USA!

Session III June 24-28

Course offerings for students entering grades K-8

Art that Moves and Shakes (K-3)
Best by Test: Science Behind Consumer Reports (3-8)
Engineering, Pyramids, and Simple Machines (1-4)
Improv and Theater Games (1-8)
Lego Mindstorms Robotics (3-8)
Lego Mindstorms Robotics for Girls Only (3-8)
Lego WeDo Robotics (K-4)
Make with Makey Makey! (3-8)
Math Meets Literature (K-4)
Ooey, Gooley Chemistry (K-3)
Put on a Musical Review (K-8)
Science Fiction Studio (3-8)
The Physics of Flight (3-8)
Zombies, Zombies, Zombies! (4-8)

For students entering PK-K

Ice Age Explorers
Soaking up Science

Unique summer challenges for advanced learners!

Course Descriptions, Grade Levels, & Lab Fees:

For students entering grades K-8

All courses below are offered both mornings and afternoons. Students enjoy two 80-minute classes each half day. Each Session, they select their favorite courses from among the many offerings. Note that for courses spanning several grade levels, students are placed in classes with their age peers.

All Things String: From art to science and everything in between, string is a useful thing. String comes in various thickness, plies, and materials. What can you make? (K-3)

Art Quilts: It's fun! It's easy! Explore the textile art of fused quilts using batiks and fusible webbing. Create an image or a design with colorful fabric and an iron. Learn some basic stitches to embellish your quilt, then put it all together with batting and backing to hang on your wall. (5-8; \$15 lab fee)

Art that Moves and Shakes: Discover the exciting world of kinetic art. Design, create, sculpt, and construct works of art evolving from 2D and 3D use of materials. (K-3)

Best by Test: Science Behind Consumer Reports: Come explore the scientific world of consumer products. Employ the scientific method to do quantitative and qualitative analyses of some of your favorite consumer products, like popcorn, sports drinks, bubble gum, and orange juice. Is it all about the taste? Or do nutrition and cost make a difference? (3-8)

Cardboard Conundrums: Take on various engineering challenges using cardboard. Apply your physics and engineering knowledge and skills; throw in a little math and a lot of creativity. What will you and your team create? (K-4)

Civil Engineering: What are chemical, water, wind, glacier, and temperature erosion? How can they change the surface of the earth? Discover some answers as you become a civil engineer—a person who studies the environment and soil in order to safely design and build infrastructure that resists erosion. (1-4)

Coding at Java Bootcamp: Try your hand at the most popular programming language in use today. Java is a general-purpose programming language derived from C and C++. It is popular for its code's ability to run on multiple platforms without being rewritten. Will you master it in one short week? (5-8)

Coding with Scratch: Learn the basics of coding with Scratch, a free and easy-to-use coding language developed at MIT. Assemble lines of code and work towards creating your own project. **A free Scratch account is required; we will register accounts on the first day. Visit scratch.mit.edu for more information.** (3-8)

Coding with Scratch without Boys: Exactly the same as Coding with Scratch, but no boys allowed. (3-8)

Create Lego Movies! Using a digital camera, movie software, and Legos, create your own movies. Experiment with special effects, sound, and titles. Share your movies with family and friends. (1-4; \$15 lab fee)

Creative Writing: Do you like to originate ideas, create characters, design plots, and express yourself through writing stories and poems? Using various catalysts, such as posters, paintings, books, music, and class discussions to inspire you, share your creativity through writing—in whichever genres suit your style. (3-8)

Crime and Puzzlement: Unravel mysteries! Employ your powers of deduction to gather evidence and clues. Will you convince your peers of your conclusions, or will the perplexities remain forever unsolved? (4-8)

Drama and the Monologue: You can love monologues! Discover how to use your voice and body to create a character in a monologue, to be funny, sad, dramatic, or bad. Have fun playing theater games with your classmates. (4-8)

Dry Ice Science: Do you know what dry ice is and how and why it appears to disappear? Work with your peers to explore its amazing properties. Experiment with balloons, metals, water, soap, and even make dry ice bubbles you can hold. Explore the many chemical uses for dry ice. (3-8)

Dynamic Dramatics: Experience the world of live theater! Older students will work through a five-chapter story and its accompanying five-act play, while younger students will read several versions of a folk tale and then write their own. All classes will culminate in a performance for family and friends. (K-3)

Engineering, Pyramids, and Simple Machines: Experience a hands-on pyramid building scenario to discover how pyramids were built using six simple machines. This amazing experience parallels the engineering design and construction processes still being used today—including the teamwork, creativity, and problem solving. (1-4)

Fast Physics: Explore forces centrifugal and centripetal, acceleration and velocity. Learn about energy and how you can manipulate the laws of gravity to maximize speed. (3-8)

Improv and Theater Games: Do you like to think on your feet? Try acting through improvisation. Explore the fundamentals of improvisation—the basic tools, rules, and philosophy—through theater games, drills, and simple scenes. Have a great time improvising with your classmates in a supportive and noncompetitive atmosphere. (1-8)

Lego Innovation Lab: Have fun with an abundant supply of Lego pieces of all shapes and sizes! Engage in a unique hands-on, minds-on environment as you work in groups to complete different Lego building challenges. (K-5)

Lego Innovation Lab for Girls Only: Same as Lego Innovation Lab, but no boys allowed. (K-5)

Lego Mindstorms Robotics: Tackle various engineering challenges. Construct robots from motors, wheels, gears and sensors, and program them to solve challenges. (3-8; \$15 lab fee)

Lego Mindstorms Robotics for Girls Only: Same as Lego Mindstorms Robotics, but no boys allowed. (3-8; \$15 lab fee)

Lego WeDo Robotics: Select your favorite robot, such as alligator, goalie, or airplane. Follow its building plans to bring it into shape using Legos, motors, gears and sensors. Connect to a laptop to program your robots' actions and sounds. (K-4; \$15 lab fee)

Let's Build a Zoo! Design the park; modernize the habitats; choose new animals from other countries; and review animal rights to be sure you're up-to-date. Is your zoo indeed a happy home for your precious animals? How can you do better? (K-3)

Make with Makey Makey! Use cardboard, wire and other household materials to make game controllers, instruments and other fun projects using Scratch and Makey Makey Boards. **A free Scratch account is required; we will register accounts on the first day. Visit scratch.mit.edu and makeymakey.com for more information.** (3-8; \$15 lab fee)

Math Meets Literature: Discover the math hidden in great picture books! Graph, measure, add, subtract, and create patterns, as you explore connections between math and literature. (K-4)

Minecraft: Experience the possibilities of designing and creating with a variety of different blocks in a 3D procedurally generated world, where high creativity is required to succeed. (3-8)

Ooey, Goopy Chemistry: Get your hands dirty! Investigate and experiment with chemical mistakes that have brought us great fun, such as silly putty, goo, gak, and foam. Make some cool mistakes of your own (seriously?) and see what happens. (K-3)

Organic Chemistry: Molecular Models: The first steps in understanding the science and art of organic chemistry are to know how to name compounds from their structures and how to draw or build compounds from their names. Using molecular models, build a variety of organic compounds and learn to name them according to IUPAC rules. (3-8; \$30 lab fee for molecular model kit)

Powders and Potions: Witch's Brew! Create mysterious solutions with curious chemical combinations and properties in this hands-on chemistry discovery class. Will the surprising chemical reactions spook you? (K-4)

Put On a Musical Review: Do you love to sing and perform? Or are musicals new to you? Sing funny songs or dramatic songs and have a great time with your classmates as you act, sing, and even dance (if you want to). Working with group and solo material, learn songs and how to understand and convey their meaning. Perform for family and friends on the last day of class. (Enroll in this class multiple times, if you like; selections of songs and scenes will vary each Session.) (K-8)

Puzzles, Puzzles, Puzzles! Are you intrigued by puzzles? Test your brain, critical thinking skills, and patience by tackling puzzles of all types from logic puzzles, brain teasers, and jigsaw puzzles, to math puzzles, ciphers, and cryptic codes. (3-8)

Readers Theater: A unique opportunity for readers, writers, and/or actors. Have great fun doing a play, and not having to memorize anything. All literature breathes new life when read aloud, but when vocal expression—even of the character descriptions, movement, costumes, narration, and settings— is the only means used to help the audience understand the story in a play, the quality of drama coming forth from the stage is singular and wonderful! (4-8)

Science Fiction Studio: Analyze what makes a story science fiction. Explore some of the best classic science fiction stories for inspiration. What makes them so great? Become a science fiction author, yourself! (3-8)

Short Stories: Everyone loves short stories, offering huge literary wonders in small packages. What are your favorites? Explore a wide range of genres, such as adventure, fantasy, science fiction, biographical fiction, and fanfiction. Inspired by your new exploration and discoveries, create awesome short stories of your own. (3-8)

String is the Thing: From art to science and everything in between, string is a useful thing. String comes in various thickness, plies, and materials. What can you make? (4-8)

The Art of Math: Explore geometric patterns and puzzles; create, construct, and experiment with stuff like paper, string, straws, toothpicks and marshmallows. (K-4)

The Physics of Flight: How and why do things fly? Investigate insects, birds, even mammals that fly; frisbees, balls, flarbles, modern planes, rockets and helicopters. Experiment with the principles of these flying wonders hands-on. What have humans borrowed from nature in creating their own? (3-8)

The Sea and Me! From sea monkey aquariums to legends of giant squid, discover the briny deep. What makes fish tick, fish sticks, and fish sick? (K-3)

Word Cloud Art: Creativity is required! Design amazing and unique word clouds, visual representations of text data used to visualize free form text. Create beautiful graphic designs while customizing words, shapes, and fonts. (3-8)

Zombies, Zombies, Zombies! Learn how to survive zombies and other dangers, such as wildfires, earthquakes, and deadly animal attacks. On a less dramatic note, discover how to escape from duct tape and other practical measures to keep yourself safe. (4-8)



For students entering grades PK-K

Students enjoy a 160-minute interdisciplinary classroom experience each half day. For each of the three Sessions, two of the following courses will be offered: one in the morning, and one in the afternoon.

Ice Age Explorers: Have you ever wondered how people and animals lived and survived during the Ice Age? Investigate the lives of woolly mammoths, bison, and mastodons. Make your own arrowheads and create beautiful cave paintings. A perfect way to cool off this summer!

Rainforest Adventures: Experience the flora, fauna, and ecosystems of rainforests by transforming the classroom into a rainforest, with monkeys on vines, parrots in treetops, and pink dolphins in the Amazon River!

Science Puzzlers: Challenge laws of physics and chemistry. Defy gravity to make a ball roll uphill, melt stuff in cold air, and explore other amazing scientific phenomena.

Science Wizards: Explore the wonderful world of science, from smelly balloons to singing spoons, zip lines to roller coasters, and nature to space. Science is everywhere. Come and experience a wonderful, amazing, hands-on science adventure.

Soaking Up Science: Swish, squish, swab, and splash as you investigate and experiment with everyday items to understand better the world around you.

Tour the USA! Travel the United States, from its mountain ranges and plains to its Great Lakes, sea coasts, deserts, and swamps. Discover America's people, cultures, and history. Explore the states through creative, interdisciplinary activities involving math, science, literature, art, and drama.

Location

Aptakisic Junior High School
1231 Weiland Road, Buffalo Grove

Hours

Full Day: 9:00-3:00
Morning: 9:00-11:40
Afternoon: 12:20-3:00
Extended Care: 7:00-9:00, 3:00-6:00

Tuition

Per Session
Full Day: \$440
Half Day: \$220

Fees for Sessions I, II, and III

Processing fee: \$4.20
Extended Care: \$10 per hour
Lab fees: As indicated in course descriptions

See "Details" link on our website for more information on all programs, including program structure, application, placement, eligibility, refunds, etc.



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