

# Summer Wonders 2020!

New challenges and fresh inspiration for bright, motivated students!



## Glenview

For children entering 1st -5th grades  
9 One-Week Sessions  
June 15 - August 14



Focused on Science, Technology, Engineering, Math, and the Arts

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Joan Franklin Smutny, Founder and Director

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# Igniting Imaginations Since 1983!

# Course Offerings

*In groups with their age peers, students enjoy two classes each morning and each afternoon. Activities and instruction are differentiated so as to appropriately challenge all grade and ability levels.*

## Session I: June 15-19

### Mornings

From Algebra to Zero  
Rube's Ingenuity

### Afternoons

Lost Civilizations  
Word Cloud Art

## Session II: June 22-26

### Mornings

Amusement Park Physics  
Stories and Art

### Afternoons

The Science of Flight  
Uke is Fun for Everyone

## Session III: June 29 – July 2

### Mornings

Math Around the World  
Shipwrecked!

### Afternoons

Geometry: Design and  
Construction Readers Theater

## Session IV: July 6-10

### Mornings

Engineering Escapades  
Creature-Ology

### Afternoons

The Number Devil  
Chemical Cacophony

## Session V: July 13-17

### Mornings

Crime Scene Investigation  
Medieval Mania

### Afternoons

Art Around the World  
Math Riddles, Problems &  
Strategies

## Session VI: July 20-24

### Mornings

Science Experiments with Toys  
Musical Math

### Afternoons

Mythology Madness  
Plucky Poetry

## Session VII: July 27-31

### Mornings

Science or Magic?  
Stop-Motion Movies

### Afternoons

Dynamic daVinci  
Moto-Pets

## Session VIII: August 3-7

### Mornings

Design Studio  
Slime, Flubber, and Other Fun  
Polymers

### Afternoons

Boggling Bubbles  
Escher Illusions and Tricks of  
the Eye

## Session IX: August 10-14

### Mornings

Cell-e-Bration  
Heroes and Dragons

### Afternoons

Junior Inventors  
Bugs and Other Creepy Crawlies

## **Amusement Park Physics**

Why do you get the butterfly sensation when a roller coaster plunges you downward? It's all in the way Newton's Laws of Motion collide with your adrenaline. Physics plays an essential role in these exhilarating rides. How do they slow down? What happens when they get stuck? Discover how inertia, kinetic and potential energy, mass, and centripetal and centrifugal forces influence your amusement park experiences. Strategically employ these laws as you experiment with time, distance and speed to design and build your own ride.

## **Art Around the World**

Travel the globe as you create art inspired by a wondrous diversity of countries, cultures, and peoples, with their myriad and unique media, methods, and muses. Creative minds will be in force for this course.

## **Boggling Bubbles**

What can bubbles do? Can they land without popping? Can you put your hand through one, or change its shape? Uncover bubble secrets through experimentation. Discover bubble engineering as you test which materials are best for making specific kinds of bubbles do specific things. What ingredients do you need to create a bubble wand? Who in your class will create the largest or longest-lasting bubble?

## **Bugs and Other Creepy Crawlies**

Don't let little things bug you; learn about them, instead! How many legs does a millipede have? What goes on inside a butterfly's chrysalis? Uncover fun facts about your favorite insects and arachnids; observe them in their natural habitats. Enjoy getting to know the myriad curious creatures living right under your feet.

## **Cell-e-Bration**

Journey to the microscopic world! Inside the smallest unit of life on this planet, a lot of cool stuff is happening. What makes cells function the way they do? Besides the obvious, what are the major differences between plants and animals? How does photosynthesis happen? How do miniscule living things become huge? Don your cell scientist garb and investigate the properties, principles, and functions of cells.

## **Chemical Cacophony**

Explore chemical properties via hands-on experiments. Investigate molecular structure. Dabble in solutions and reactants—but don't blow up the lab!

## **Creature-Ology**

From before dinosaurs to the present, investigate the strangest animals you've never heard of. Invent animals of your own that you wish had existed and fabricate their attributes and history. Discover odd facts about actual animals, the unusual relatives on their family trees, and amazing chapters in evolution. Create models of real or imaginary creatures. Learn about behind-the-scenes preparations in museums and design your own exhibit.

## **Crime Scene Investigation**

Do you love solving things? Want to learn how to solve crimes? Reconstruct the crime scene, sleuth the area for clues, and analyze forensic evidence. Explore a variety of techniques used in the forensics world. Piece together your findings and see if you can figure out how to figure out who's guilty.

## **Design Studio**

Identify a problem, then brainstorm, design, test and evaluate solutions. Did your design solve the problem? What changes can improve your design? When engineers solve a problem, their first solution is rarely their best. Analyze your mistakes, employ different ideas and theories, deliberate with your peers, and rethink and repeat the process, and eventually—success!

## **Dynamic da Vinci**

Calling all mad scientists and mysterious artists! Explore earth science, physics, astronomy, and chemistry concepts by conducting experiments and participating in hands-on projects, all while creating fantastic works of art. (\$10 lab fee for the da Vinci kit)

## **Engineering Escapades**

What constitutes a sound design? Building a bridge? How much weight can it hold? Can your building withstand a small earthquake? How accurate is your catapult? Tackle STEM challenges via hands-on design and building projects.

## **Escher Illusions and Tricks of the Eye**

Create your own Escher inspired metamorphosis compositions. Can you make never-ending stairs, or a circle that appears three-dimensional? Draw, paint, sculpt, or construct optical illusions of your own unique and clever design to baffle your friends and family.

## From Algebra to Zero

Explore and enjoy a variety of hands-on topics in mathematics, such as Algebra, Base Two, Coordinate Graphing, and more. Create your own illustrated dictionary to depict the terms and concepts you discover and demonstrate. (Activities and instruction are differentiated to appropriately challenge all ability levels.)

## Geometry: Design and Construction

What constitutes a geometric shape? From cubes to dodecahedra and beyond, challenge and develop your spatial sense and imagination as you create and construct with a variety of 3D figures. Demonstrate how geometry is used in design, architecture and construction. Discover the many uses of this multi-faceted math in the third dimension.

## Heroes and Dragons

Enter the world of heroes, castles, knights, and dragons! Create a map to guide you on your travels. Explore magnificent castles, meet Merlin, the great magician, join King Arthur's knights at his Round Table. Explore heraldry as you learn how to "read" coats of arms, and create one to represent you or your family. Journey back to the Middle Ages!

## Junior Inventors

Got any ideas for new inventions? Bring them into existence and try them out on your peers. Will they make life easier? Serve a good purpose? Change the world? Investigate great inventors. Who's your favorite, and why? Create your own innovations to present at your class Invention Convention.

## Lost Civilizations

Why and how did entire civilizations disappear? What can we learn about these ancient worlds from their structures, statues, artifacts and art left behind? Create replications of their fascinating methods, means and experiences as you probe the intriguing history and unravel the mystery of lost civilizations.

## Math Around the World

Embark on a mathematical tour, around the globe and throughout history. Can you count using Mayan numerals or Egyptian hieroglyphs? How were African networks and sand drawings used to calculate? Ponder the math of an Indian folktale. Investigate the multicultural and multiracial origins of discoveries in mathematics. Enjoy discovering new and exciting mathematical ideas.

## Math Riddles, Problems, and Strategies

Explore secret sequences and hidden patterns; play math games and discover winning strategies; investigate intriguing math puzzles; create your own number games and tricks to perplex your peers and maybe your parents.

## Medieval Mania

Immerse yourselves in medieval history and legend. Enter the age of knights, wizards, and unicorns. What kind of castle will you design and build? Create your own coat-of-arms. Celebrate with a medieval feast—and don't forget to feed your dragon!

## Moto-Pets

Design and engineer your own battery-powered motorized pets. Create vibrobots, bristlebots, and artbots in this creative technology class. Let your ingenuity take shape! (\$15 lab fee)

## Musical Math

Discover how music connects to math through rhythm, scales, patterns, and symbols. Construct percussion and wood instruments. Become a conductor and learn how to keep a steady beat. Use your musical knowledge to write a song!

## Mythology Madness

Investigate myths from various cultures through such activities as art projects, writing, creating and playing games, and scientific explorations of mythological claims.

## Plucky Poetry

Are you ready to wax poetic? Have you ever been? Come anyway, and try your hand at various colorful (some might say wacky) forms of poetry. It isn't at all difficult (if you can both think and put words together, you can do it), and can be quite fun! Investigate the many forms of poetry that don't even rhyme, such as haiku, diamantes, cinquain, acrostic and tankas. If you like, create a book of your poetry (with or without illustrations). Who knows? You may be the next Shel Silverstein, Bob Dylan, or Dr. Seuss!

## Readers Theater

Ever wish you could act in a play, without having to memorize anything? Here's an opportunity for readers and writers (of any level) and wannabe or don't-wannabe actors to have a great time with their peers creating a performance for video to share with friends and families. Or would you rather be a behind-the-scenes idea person, or the one behind the camera? Whatever your preference, a great creative learning experience and a good time are guaranteed!

## **Rube's Ingenuity**

Hone your out-of-the-box problem solving instincts. Develop complicated solutions to simple tasks, á la Rube Goldberg (i.e., the self-operating face napkin.) Engineer and construct contraptions that defy logic, evade reason, but none-the-less achieve your objectives, as you stretch your creativity beyond its known limits. (Students are welcome, but not required, to bring materials from home to enhance their creations.)

## **Science Experiments with Toys**

Discover mystery eggs, feely balloons, burping bottles, and crushing cans. Explore the science and wonder of toys via hands-on fun and lab experiments, and invent some of your own.

## **Science or Magic?**

Explore tricky science as you experiment with secret potions, disappearing acts, and objects that defy laws of gravity. Have fun experimenting with other physical, natural, and electrical phenomena. Can you believe what you see, hear, touch, feel?

## **Shipwrecked!**

How keen are your survival skills? Find out! Simulate a deserted island and investigate its resources. What will you use for food and shelter? How long can you sustain yourself and your crew? Are there carnivorous creatures that might enjoy having you for lunch? What are the odds of your rescue? Would it be judicious to search for buried treasure?

## **Slime, Flubber, and Other Fun Polymers**

Experiment with weird and varied recipes for slime. Create and scrutinize other slippery, stretchy polymers in the slime family. Investigate the properties of polymers. How far can you stretch them? How thin can you make them? What makes them hold together? Play slime games with your peers as you ponder these perplexities of polymers.

## **Stop-Motion Movies**

Discover all that goes into making a stop-motion movie. Begin with storyboarding. Create characters using figures, models or even humans for comedic effect; design backgrounds and props. Using a digital camera and movie software, turn photographs into your own unique movie, complete with sound and special effects. (\$15 lab fee)

## **Stories and Art**

What makes a great story? What makes great art? How does each inspire the other? Investigate artistic and literary styles and how they have brought us some of the greatest books of all time. Have you ever met a Newbery or Caldecott Medal winner you didn't like? Re-think and re-create their illustrations, or start fresh on new ones. Re-enact storylines to bring them to life or to help your peers understand them better. Or simply delve into your inner passions and create your own stories or art, your way!

## **The Number Devil**

Join Robert as he discovers the fascinating world of numbers, including infinite numbers, prime numbers, and Fibonacci numbers. The Number Devil's visualizations of multi-level math concepts provide excellent starting points for exploration, challenges, and fun!

## **The Physics of Flight**

How and why do things fly? Investigate the sciences that enable the flight of insects, birds, even mammals; and frisbees, balls, flarbles, modern planes, rockets and helicopters. And how about SpaceX? Let's take a good look at that. Explore and experiment to discover the principles of these flying wonders, hands-on.

## **Uke is Fun for Everyone**

Do you like music? Would you like to make some of your own? Whether or not you ever have played a musical instrument, discover the joy, ease, and gratification of playing a few tunes on the ukulele. Learn chords and simple songs. Perform for your family, if you like. (Students may bring their own ukuleles, or purchase a Makala Dolphin Bridge ukulele for \$59.95 when you apply online, and receive it on the first day of class.)

## **Word Cloud Art**

Creativity required! Design amazing and unique word clouds—visual representations of text data used to visualize free form text. Create beautiful graphic designs for your own personalized posters, book covers, banners, etc., while customizing words, shapes, and fonts.



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**Location**

The Center for Gifted  
1926 Waukegan Road  
Glenview

**Tuition and Fees Per Session**

Full Day \$440; Half Day \$220  
(For Session III: \$350 Full Day; \$175 Half Day)  
Non-refundable application fee \$10  
Lab fees as indicated in course descriptions  
Extended Care: \$10 per hour or any part thereof

See "Details" link on our website (upper left margin, under "Summer downloads for parents") for more information, including eligibility, program format, application, placement, refunds, lunches, etc.

**Hours**

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

*Class sizes are limited by our Governor's orders and the size of our venue. We encourage you to enroll early.*

Please feel free to contact us anytime with questions, at: [www.centerforgifted.org](http://www.centerforgifted.org), or 847-901-0173. We're always happy to hear from you.

**Questions? Call 847.901.0173**

