



**SAR's 3rd Grade STEAM
Enrichment Program Fall 2019**



**Hands-On Exploration
In Science, Technology,
Engineering, Art-As-
Design, and Math**



SAR's 3rd Grade STEAM Enrichment

"Every child should have the chance to be exceptional without exception."~Dr. Joseph Renzulli

Dear Parents,

Welcome to the Fall semester of our Enrichment program of STEAM Enrichment Clusters for Grade 3 to begin on Thursday, September 26th. Our nine-week program affords every child an opportunity to participate in a STEAM-based Enrichment slot. This broad enrichment initiative reflects our deep commitment to enabling each student to discover and take pride in the gifts and talents with which she or he is endowed as well as our commitment to championing a broader conception of giftedness.

Your children will have the opportunity to explore an area of interest, talent, or passion in depth in science, technology, engineering, art-as-design, or math, while in a small group with other students and a facilitator who also share this interest. The challenging learning pursued is grounded in the production of a product, performance, or service for an authentic audience.

In this model, STEAM Enrichment Clusters disseminate enrichment pedagogy to every student and is founded on the belief that everyone has the potential to demonstrate gifted behavior. Our STEAM Enrichment Cluster Program and many varied enrichment learning



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offerings address the diverse abilities and strengths children possess. Our ultimate goal is to help children develop their interests and talents and understand how they can share their gifts with the world.

REGISTRATION

Please fill out the online Student Selection Form by Friday, September 13th after which date some STEAM Enrichment Clusters will become filled. We ask that each child select 3 enrichment learning opportunities in which he or she is interested.

Every student is guaranteed a place in one of his or her three selections. If only one selection is made, we cannot guarantee placement in that Enrichment Cluster.

Feel free to be in touch with Sharon Marson at: marsos@saracademy.org or at 718-548-1717 x1212 or Dr. Chaya Fine at: finec@saracademy.org if you would like to be involved in this program or if you have any questions.

Rabbi Binyamin Krauss, Principal

Sharon Marson, Director of the Arts & Enrichment

Dr. Chaya Fine, Director of Science Curriculum &

STEM Initiative



Enrichment Cluster Offerings . . .

1. MAKERSPACE

Are you a creator? Do you work well in partnership and come up with your best creative idea as a collaborator? In this Cluster you will be creating a variety of things with a partner such as: a video that you programmed, physical structures, programs for robots, and even 3D printers of objects that you design. We will be designing plans, revising our plans as we begin the design process and creating our visions (or our closest approximations!).

Facilitator: Rivka Heisler, mother of 4 Lego crazy kids, has built countless constructions. As an SAR Lower School's tech coordinator, she enjoys teaching coding to kindergarten through 4th grades. She knows several computing languages and participated in an educational cohort to learn more about teaching Scratch to elementary school students. Fascinated by the "internet of things" Rivka has wifi controlled most of the lights in her house and programmed her dog's bowl to email her when he eats. She wishes she could play video games as well as she can program them.



Enrichment Cluster Offerings . . .

2. ELECTRICITY CITY: LIGHT IT UP!

What is electricity? How does it work? How does it travel? Did you know electricity is even involved when turning on a faucet? Let's use STEAM principles: science, technology, engineering, art-as-design and math to figure it out. Create your own circuit and investigate which materials conduct electricity. Discover which ones insulate to stop electrons in their tracks. Explore and practice electricity safety. Make discoveries about batteries and create batteries out of common household items including a lemon, potatoes, and water. Then demonstrate your knowledge and mastery in designing a light-up card that uses conductive properties you came to understand in this charged Enrichment Cluster.

Facilitator: Morah Renata Cohen

Morah Renata is an artist, a curious math thinker, a scientist, and an innovator. She is now spearheading a Fairytale Engineering course for 1st & 2nd graders, 3D Printing & Design for 5th & 6th graders, teaching 3rd grade science, and is an art teacher exposing students to art through a math lens.



Enrichment Cluster Offerings . . .

3. STEM WONDERWORKS: THE SCIENCE OF TOYS

Energy, Physics, Chemistry . . . Toys! Do you love exploring science and doing experiments? Do you ever wonder what makes toys work? We will explore how science is in toys and how toys can be science. Come build or take apart several popular toys and explore the mechanics inside: forces, motion, density, buoyancy, and more. What is behind all that fun? With your recently acquired knowledge you may want to sketch a design for a new toy that includes science principles. Spark your imagination by seeing what happened when one motivated child built “Cain’s Arcade.” Could your design be the next big craze in toys?

Facilitator: Jennifer Sokol

Jennifer Sokol is our Program Coordinator and Middle School Science Teacher with a Masters Degree in Science Education. She loves hands-on science experiments and delving into the scientific mysteries found in all aspects of life.



Enrichment Cluster Offerings . . .

4. COLOR SCIENCE LAB

Students will study works of famous artists such as Vincent Van Gogh and investigate how math and science concepts are used to create tints and shades used in these masterpieces. By using different ratios of primary and secondary colors you will create your own colors comprised of tints and shades. You will refer back to the data you collect when deciding which of these tints and shades to use to create a masterpiece of their own. Students will also explore the science behind light and color as they engage in hands-on activities that foster a deeper understanding of how we see the beautiful colors that surround us.

Facilitator: Noel Gussen

Noel is a multi-talented artist with special interest in painting and digital arts. He received certificates in painting and drawing from Project Oren in Israel and a BFA from West Virginia University. He was Lead Creative for the Apple Store, exhibited his paintings in solo and group exhibitions, and was owner of The Grassy Noel Art Gallery and Studio.



Enrichment Cluster Offerings . . .

5. PUBLISHING DIGITAL MEMOIR: *Photographs And Memories**

Tell your personal story in a creative way! Do you have photographs of a time or place or people you cherish? Would you like to create a photo book of that favorite part of your life? Then you will enjoy using the technology of an on-line publishing program to turn your favorite memories into a custom-made book! Use art-as-design in various ways to arrange your photographs in a unique layout, embellish your backgrounds, and add some text. Come preserve and publish in the *Photographs & Memories* Enrichment Cluster!

Facilitators: Beth Pepper & Barbara Sopher

Morah Beth, GS Principal, has a passion for stories and books that chronicle people's lives recording personal as well as collective history. Barbara Sopher currently works for Sopher Management, and is a Social Worker with an MBA from Columbia U. Her true love is being with her family and at SAR!

***25-35 personal photographs related to a theme are required. Photos need to be brought in digitally on a USB flash drive.**



Enrichment Cluster Offerings . . .

6. PATTERNS IN NATURE ART STUDIO

Are you inspired by nature? Do you notice patterns in the world around you? Are you interested in learning about different art materials and techniques? Through various material and art techniques you will learn to notice and create many math-based patterns in our environment. In this STEAM Enrichment Cluster you will explore various famous math patterns: Fibonacci, tessellations, and fractals. You will be inspired by artists M.C. Escher, Piet Mondrian, Zellige to explore the concept of patterns in nature through art.

Facilitator: Morah Adiella Shem Tov

Adiella, has a BFA from Concordia U. majoring in sculpture, minoring in psychology. She is an art educator joyfully wearing many hats at SAR. In the art room she develops innovative, meaningful curriculum for grades N-6 to explore and create. Adiella, also a singer/song-writer, recently joining SAR's Choir as Co-Director and the 3rd grade music program. She is a multi-media artist who loves fusing Torah & spiritually into all her creations and combining so many interests at SAR.



Enrichment Cluster Offerings . . .

7. MECHANICAL ANIMATIONS

Students will explore the difference between a structure (an object that can move only as a whole) and a mechanism (a device that has independently moving parts). Most mechanisms are designs to make work easier, but students will learn to create a mechanism whose purpose is to tell a story. While building their own simple mechanisms out of cardboard and pegboard, students will explore forces, levers, linkages, pivots, fulcrum, effort, load and mechanical advantage. Based on the knowledge developed, students will design and create a mechAnimation (an animated mechanism) and write the story it is telling.

Facilitator: Dr. Chaya Fine

Chaya Fine has taught 7th grade science at SAR for the past 14 years and is currently serving as Director of Science Curriculum and STEM initiative. Having participated in STEM conferences and workshops at the elementary school level, she is thrilled to be able to work with younger students in STEAM Enrichment Clusters this year.



Enrichment Cluster Offerings . . .

8. *YOUNG ENGINEERS, INC.*

Engineering is the application of scientific knowledge to solving problems in the real world. Engineers try to solve problems by inventing, designing, and building things. Working with these engineering principals, students will explore planning and building models of several mechanical structures. After hands-on learning about various and necessary components, students will explore topics such as force, motion and energy and apply the ideas in their creations. Students will also be challenged to find engineering solutions to common problems.

Facilitator: Chaim Sandler

Lower School Science Teacher (and beach enthusiast), Chaim Sandler, or Mr. S, is excited to share his love for engineering and explore this amazing field of study with students at SAR.



9. CRE8TIVE THINKING FORUM

“Creativity now is as important in education as literacy, and we should treat it with the same status.” ~Sir Ken Robinson

Did you know Einstein had trouble learning to read? But he sure could think! People can learn to think like an artist, scientist, or inventor and you can too! Have fun brainstorming and dreaming up lots of possible answers to a question—silly, imaginative, original ideas! Did you ever think about what a building and a person have in common, how laughter is like peanut butter, what a flag representing friendship might look like, and what could be 50 uses for a jar? In just a few weeks you will be able to think more creatively!

Facilitator: Sharon Marson

Sharon, SAR's Director of the ARTS & Enrichment is author of *The Wisdom of A Starry Night-Using the Power of Great Art for Self-Awareness* and *More Than Four Questions-Inviting Children's Voices to the Seder*. Sharon has published educational articles including, "Equal Opportunity Excellence, Enrichment Education For All."



Enrichment Cluster Offerings . . .

10. INTO THE WOODS: OUTDOOR ADVENTURES

Bugs, mushrooms, wilderness skills, fall foliage hike, and bald eagle watch over the Hudson! Join the Urban Park Rangers in exploring Riverdale Park, a home for wildlife right in SAR's backyard. In this adventure, experience the natural environment, different ecosystems and the web of life. Consider which animal made tracks we find, which tree makes the best animal home, and which naturally growing plants are safe to eat, and how Native Americans lived off the land. We will hike to the park to experience the living laboratory of the natural world and this exciting rain-or-shine adventure and see how much fun learning outdoors can be! Ponchos provided.

Facilitator: Urban Park Rangers

Urban Park Rangers are full of knowledge about history, astronomy, animals, plants, and more.



Enrichment Cluster Offerings . . .

11. *THERE'S AN APP FOR THAT!*

Did you ever notice how many of our needs are solved with a simple app? Did you ever wonder what goes on behind the scenes of app creation? In “There’s An App For That,” students will think critically to come up with creative solutions. They will experience the process of creating an app by beginning with a goal, identifying an audience, sketching a plan, storyboarding, building, and finally testing our prototype. They will even interview real user experience designers in the field! Learning the applied skills of creating interactive presentations, students will use Google slides to create an “app” that can actually be downloaded on your mobile device!

Facilitator: Becca Glassberg

Becca Glassberg utilizes technology in her classroom to inspire, be inspired, and open the possibilities of what kids can do with the tools at their fingertips. She is always amazed by kids’ creative ideas. In addition to being SAR Academy’s Director of Educational Technology, Becca and her students explore ancient history and cultures, juxtaposed with themes in modern literature in her 6th grade Humanities class.



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Student Selection Form For Enrichment Clusters

We are asking children to think about three STEAM Enrichment Clusters they are most interested in attending. In reading through our selections with your child, please guide him or her in recognizing how he/she might be interested in several different clusters.

Please make 3 selections on the online form by Friday, September 13th after which date some STEAM Enrichment Clusters will become filled.

Every student is guaranteed a place in one of his or her three selections. If only one selection is made, we cannot guarantee placement in that Enrichment Cluster. Students will receive their Cluster registration prior to the first session.

If you have any questions please contact Sharon Marson, Director of the Arts and Enrichment at marsos@saracademy.org or 718-548-1717 x 1212 or Dr. Chaya Fine at finec@saracademy.org





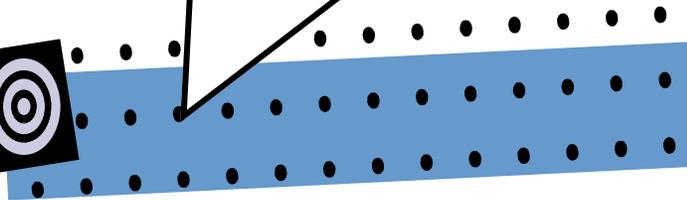
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STEAM Enrichment
Program**



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