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

Welcome to the first grade semester of our Enrichment program of STEAM Enrichment Clusters to begin on Wednesday, April 25th. Our 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 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 Sunday April 8th 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
1. **HOW DID YOU DO THAT? Reading For Construction Consortium**

Did you ever wish you could create drawings, origami, and 3D constructions, but felt you just couldn't? Creating a prefabricated project is easy when you have good directions. What makes some directions good and others not? In this Enrichment Cluster you will explore iPad apps that allow you to create origami and drawings. You will evaluate and recommend the easiest ones to follow. Later on, we may build a Lego kit and evaluating directions for ease of use. Perhaps we will write our own directions. Either way, we will investigate the quality of different directions and learn that we can construct almost anything with good instructions.

**Facilitator: Rivka Heisler**

Rivka is Technology Integrator at SAR Academy. Her 4 children’s many constructions turned her into a Lego whiz. She prides herself on her ability to build prefabricated furniture to create anything that has directions, even if she can't draw a straight line!
2. ELECTRICITY CITY: LIGHT IT UP!

What is electricity? How does it work? How does electricity travel? Did you know that electricity is even involved when you turn on a faucet? Let’s use STEAM principles: science, technology, engineering, art-as-design and math to figure it out. We will blink and buzz our way to electricity and circuitry! 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: 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, teaching 3rd grade science, and an art teacher exposing students to art through a math lens.
3. **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. They will create their own colors comprised of tints and shades by using different ratios of primary and secondary colors and analyzing the impact in shifting the ratios. They will refer back to the data they collect when deciding which tints and shades to use in creating 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 surrounding us.

**Facilitator: Chani Jaskoll**

Chani, a professional artist and has been SAR’s art teacher for many years. She is a watercolorist and painter who has exhibited and won numerous art awards.
4. INTO THE WOODS: OUTDOOR ADVENTURES

Join Jessica Haller to explore Riverdale Park, a home for wildlife right in SAR’s backyard. In this adventure, experience the natural environment and different ecosystems in all sorts of weather conditions. Consider which animal made tracks we find, which tree makes the best animal home, and which naturally growing plants are safe to eat. Use hands-on experimentation to gather data, identify plants, map various terrain, and analyze and record the findings in a personal field journal. We will hike to the park and experience the living laboratory of the natural world in this exciting rain-or-shine adventure! Bug boxes, binoculars and ponchos provided.

Facilitator: Jessica Haller
SAR mom, Jessica Haller is an entrepreneur, a consultant, a Sustainability Professional, a LEED Accredited Professional, and a Leader with the Climate Reality Project. She cares deeply about the welfare of the environment and is excited to share this passion with our students.
5. PATTERNS IN NATURE THROUGH ART

Are you inspired by nature? Do you notice patterns in the world around you? Do you like creating art? Are you interested in learning how artists create patterns in all forms of visual art? By observing nature as well as master art works, you will learn to recognize and create artwork that reflects the power and beauty of patterns. In this cluster, you will explore various famous math patterns such as Fibonacci, Tessellations and fractals. You will be inspired by artists such as M.C Escher, Piet Mondrian, Wassily Kandinsky and Andy Goldsworthy.

Facilitator: Adiella Shem Tov

Adiella, has a BFA from Concordia U. majoring in sculpture and a minor in psychology. In the Art Studio Adiella develops innovative, meaningful curriculum for grades N-6 to explore and create. Adiella is also a singer/song-writer recently joining SAR’s Choir as Co-Director. She is a multi-media artist who loves fusing Torah & spiritually into all her creations and loves combining her interests at SAR.
6. MUSICAL SCIENCE THEATER

Come join this fun musical theater group that will explore the world of animals through songs and pieces from various famous musical theater scores and stories! Learn about various animals and their distinct characteristics through song and drama that will culminate in a Musical Theater performance at the end of the STEAM Enrichment Cluster semester from the movie classic, “Hans Christian Anderson,” singing about the Ugly Duckling.

Facilitator: Sigal Chen

Sigal Chen graduated the Jerusalem Academy of Music & Dance (B.MUS) and received a Master's in Music Education at Lehman College. She is a professional singer and voice teacher and has performed complete operas at Lincoln Center and Carnegie Hall. Sigal is looking forward to sharing her musical skills and passion with the young students at SAR.
7. WHEN 7 ATE 8 STORYBOOKS

Do you love numbers and math concepts? Are you a creative illustrator and imaginative writer? Come join us in exploring number concepts and designing and writing math storybooks. We will learn about how to design, sequence and tell a story with numbers, addition, subtraction, and more. We will use classic math stories as our models. We will explore these books and you will create an original storybook of your own. Come join us and share your flair for numbers, design, and words!

Facilitator: Soo Greenfield

Morah Soo has been teaching and challenging first graders for the last 30 years. Her passions are many. She is excited to translate her love of writing to the area of math and is looking forward to inspiring students to express their math creativity, using innovative design and expressive language.
8. **HERE COMES THE SUN . . .**

Spring is a perfect time to explore solar energy when the sun is shining brightly and students can feel the warmth it provides. “Here Comes The Sun” is an inquiry-based unit that will introduce first graders to the basic concepts of solar energy through hands-on investigations and explorations. While having fun, students will learn about heat, light, temperature, reflection, absorption, and more! In addition to the science of the sun, first graders will gain an appreciation for how important the sun is for both animal and plant survival.

**Facilitator: Chaya Fine**

Chaya Fine has taught 7th grade science at SAR for the past 14 years and is currently serving as the 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.
9. 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 a real engineer, students will learn how to plan and build models of several mechanical structures. After learning about various and necessary components, students will use their creations to explore topics such as force, motion and energy. Students will also be challenged to find engineering solutions to common problems.

Facilitator: Ayelet Feinberg

Ayelet joined SAR after moving from Israel 3 years ago. She supports students in Hebrew, math and coding and is faculty advisor for MS STEM projects and competitions. Ayelet has a BS in Mechanical Engineering and worked in the field of engineering product design and development when in Israel. Ayelet's passion about the physical world is fueled by her deep understanding of mechanical structures, energy, math and science.
10. **DESIGN CHALLENGE: CONSTRUCT-A-ROOM**

What does it take to build a room? What materials work? How do you create strong support? How do you make a room fun, relaxing, exciting for a child, a dog, an athlete, a shoe shopper? What about a particular place makes you want to go back again and again? Let’s explore design, color theory, and marketing to understand what makes a space or structure work for different people and different needs. Consider how decisions are made including which materials and where items are placed in a space. Do you think children and adults would build a playground the same way? Why or why not? Let’s build a room that reflects understanding planning for a particular person or particular purpose. Let’s have fun and “Construct-A-Room!”

**Facilitator: Rena Karol** Rena Karol was an SAR parent for many years and a Learning To Look volunteer for 7 years. In addition to spending time in the ELC as a substitute teacher, she also runs the ELC Afterschool Program. Rena is looking forward to sharing her interest in design, and exploring and experiencing it with the children in this Enrichment Cluster.
SAR’s 1st Grade STEAM Enrichment

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 Sunday, April 8th 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
“Every child should have the chance to be exceptional without exception.”

~Dr. Joseph Renzulli
SAR’s 1st Grade STEAM Enrichment Program