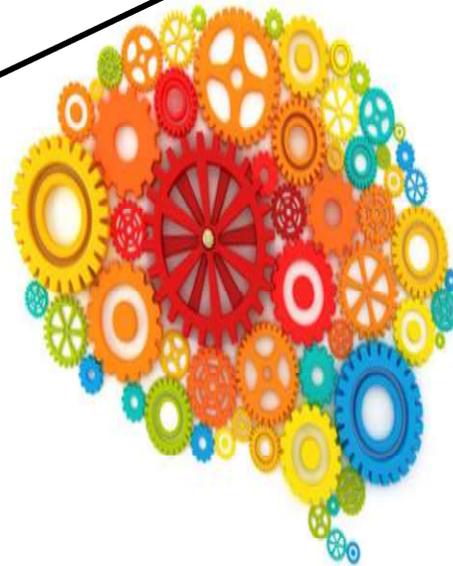




**SAR's 2nd Grade STEAM  
Enrichment Program Winter  
2019**



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



## SAR's 2nd Grade STEAM Enrichment

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

Dear Parents,

Welcome to the winter semester of our Enrichment program of STEAM Enrichment Clusters for Grade 2 to begin on Thursday, February 7th. Our eight 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 Sunday, January 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](mailto:marsos@saracademy.org) or at 718-548-1717 x1212 or Dr. Chaya Fine at: [finec@saracademy.org](mailto: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 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 one of SAR Lower School's technology coordinators, she enjoys teaching coding to the 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" she has wifi controlled most of the light 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 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.



## Enrichment Cluster Offerings . . .

### **3. *BLOOD & GUTS: WHAT'S INSIDE?* *MEDICAL DISCOVERY LAB***

Do you ever wonder why our heart beats faster when we exercise? Are you curious about what happens to the air that we breathe into our bodies? Or where the food that we eat goes and how it helps our bodies? Or why we need boogers?

Join us to get the inside scoop on how our insides work. Find out how doctors figure things out, use tools of the trade, conduct some experiments, and explore the world of medicine.

#### **Facilitator: Dr. Jennifer Fenster**

Middle School Science teacher and pediatrician, Jennifer Fenster, enjoys empowering kids with knowledge of how their bodies work.



## 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. PATTERNS IN NATURE THROUGH THE ARTS**

Are you inspired by nature? Do you notice patterns in the world around you? Do you love making art and listening to music?

In this STEAM enrichment cluster you will explore various famous mathematical patterns such as Fibonacci, tessellations and fractals that can be found in the world around us through the world of art and music. We will work with rich art materials such as craypas, paint, charcoal and clay and listen to music from around the world as we explore this exciting topic.

#### **Facilitator: Adiella Shem Tov**

Adiella, has a BFA from Concordia U. majoring in sculpture, minoring in psychology. She's 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. On the Theme of the Year team, she excites and inspires students with large scale and sometimes interactive artwork. 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 so many interests at SAR.



## Enrichment Cluster Offerings . . .

### 6. *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's telling.

#### **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 this year.



## Enrichment Cluster Offerings . . .

### **7. *YOUNG ENGINEERS, INC.***

Engineering is the application of scientific knowledge to solving problems in the real world. Engineers try to solve problem 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, they will use their creations to explore topics such as force, motion and energy. Students will also be challenged to find an engineering solutions to common problems and to plan and build their own design/machine/invention, given some tools and materials.

#### **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.



## Enrichment Cluster Offerings . . .

### **8. *i-BOOK PUBLISHING COMPANY: Photographs And Memories\****

Tell your personal story in a creative way! Do you have photographs of a time or place or people that 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 and record 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! Morah Batya is the enrichment teacher for 2nd grade, She has designed many books from her photographs and experiences and is excited to share her expertise with 2nd graders.

**\*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 . . .

### **9. DESIGN CHALLENGE: CONSTRUCT -A-ROOM**

What does it take? What materials work in building? 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. Meet a designer and engineer to consider how decisions are made, from materials used to placement of items in a space. Visit some interesting spaces in our community to experience the impact of those choices in action. Build a room of your own to reflect your understanding of 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.



## Enrichment Cluster Offerings . . .

### **10. *BIRD'S EYE VIEW: An Avian Adventure with Wave Hill***

Attention aspiring scientists or nature lovers—get ready to break out binoculars! Discover how local birds survive winter—and how *you* can help. In our 1st session you'll investigate feathers, feet, and skulls to learn about birds' adaptations. Later on you'll bird-watch on Wave Hill's gorgeous grounds, and learn to identify the laughing call of the woodpecker and the black cap of the chickadee. After becoming avian experts, you'll transform a corner of SAR into a bird haven and observation station, constructing feeders from recycled materials and collecting data to monitor your feeder's success.

**Facilitator: Clare Blackwell,  
Wave Hill Educator**

Clare is School Partnerships Coordinator at Wave Hill, where she creates and teaches all ages ecology and outdoor education. Clare has worked at environmental non-profits in Boston. After graduating Tufts University in 2017, she worked as a HS teaching fellow in the Bronx. Her position at Wave Hill allows her to combine her love of educating with her passion for environmental preservation and community engagement.



## SAR's 2nd 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, January 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](mailto:marsos@saracademy.org) or 718-548-1717 x 1212 or Dr. Chaya Fine at [finec@saracademy.org](mailto:finec@saracademy.org)

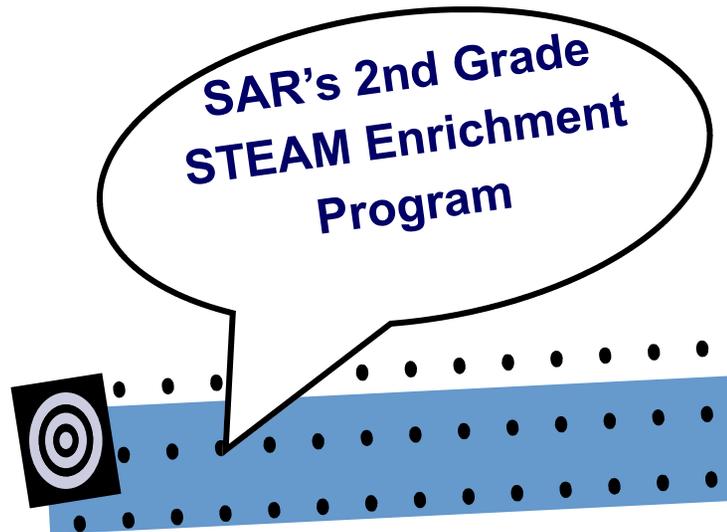




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without exception.”**

**~Dr. Joseph Renzulli**





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