McLeod Innovation Center

NEWSLETTER JANUARY 2024

EDITOR'S NOTE

As we reflect on the happenings within our school community this fall, I am thrilled to share the inspiring accomplishments of our dedicated educators and talented students. The **McLeod Innovation Center** has been a hub of creativity and collaboration, bringing together diverse disciplines to create truly remarkable and mission-driven learning experiences. Below is a summary of the activities we designed with our talented faculty.

In our environmental science course, students grappled with the global challenge of water management by constructing water filtration devices. One hundred fifty students showcased their engineering prowess in an exciting bridge-building triumph. Seniors brought a symphony of creativity to the McLeod Innovation Center with their Halloween-themed musical instruments project. In honor of the Day of the Dead, we orchestrated a fusion of cultural celebration and second language learning for our Spanish classes and Aspira club. In AP Spanish Language classes, students engaged in a unique project exploring personal and public identity that culminated in designing laser-cut masks. Finally, our students also crafted mite boxes for a cause dear to their hearts.

We sincerely thank our exceptional faculty for their inspiring collaborations and for designing transformative learning experiences for our students.

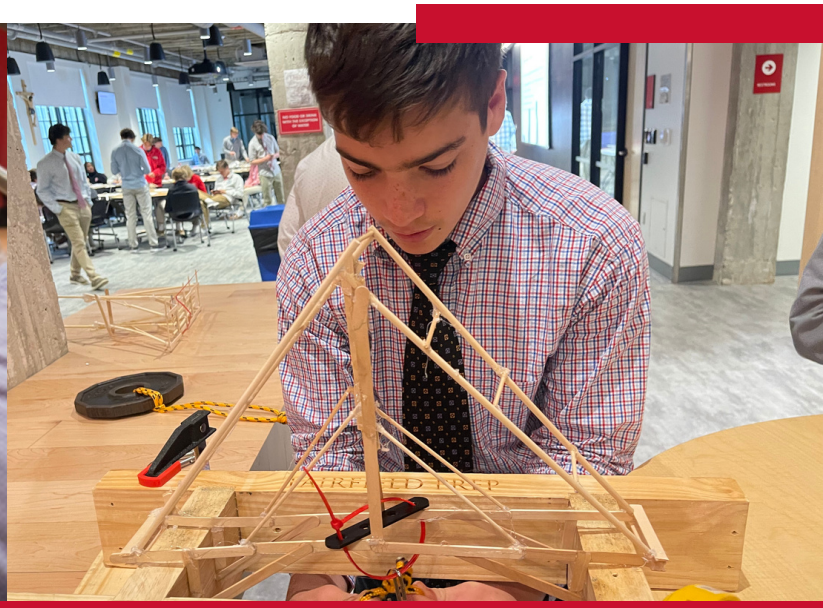
Warmly,
Dr. Rinat Levy Cohen
Director of Innovation at Fairfield Prep

WATER FILTRATION
WATER MANAGEMENT CHALLENGE

The water demand is projected to surge fivefold by 2050 while the Earth's freshwater resources remain constant. Mr. Ford's environmental science course students grappled with vital skills to tackle this impending challenge, aligning with our mission of educating individuals who are academically proficient, socially conscious, and equipped to address real-world issues. Students delved into comprehensive lessons covering efficient water conservation practices, self-reflection on personal water footprints, and the design principles behind water filtration systems. The curriculum extended beyond the classroom, engaging students in understanding the global demand for clean water and the efficacy of water reuse and exploring the nuances of water treatment, including coagulation, clarification, filtration, and disinfection. Our students gained a holistic perspective on water management. To reinforce these principles, students also had hands-on experience constructing a water filter device in the McLeod Innovation Center, simulating the economic considerations essential for designing practical engineering solutions.

BRIDGE BUILDING ENGINEERING DESIGN CHALLENGE

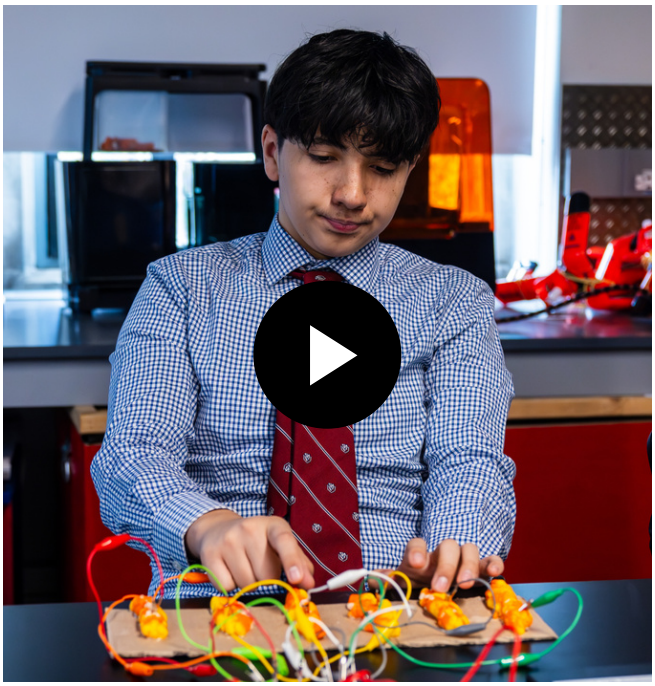
Mr. Chap, Mr. Dotolo, and Mr. Jackson orchestrated a large bridge-building design challenge. One hundred fifty physics students embarked on a two-fold Bridge Building Engineering Design Challenge at the McLeod Innovation Center! First, they demonstrated their creativity by crafting paper bridges, rigorously testing their strength with the weight of pennies. The stakes rose as they ventured into the design of bridges using craft sticks and wooden dowels, undergoing rigorous testing at the weighing station. The pinnacle of this challenge was the suspenseful stress examination, where one exceptional bridge astounded all, holding an astonishing 70 pounds! This activity fostered an environment where students apply knowledge to real-world challenges, providing students with the opportunity to make meaningful contributions to the world. This activity embodies our Jesuit mission by equipping students with technical skills and inspiring them to use those skills for the betterment of others.

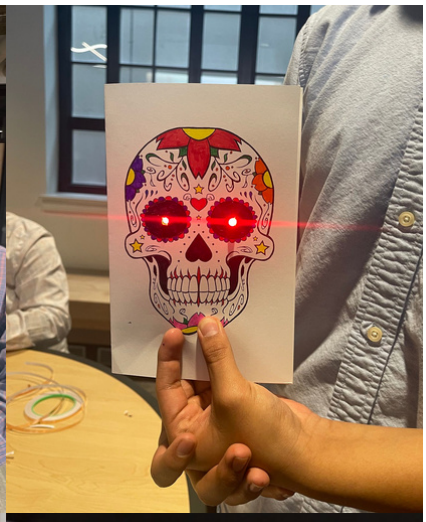


CULTURAL APPRECIATION

HALLOWEEN-THEMED MUSICAL INSTRUMENTS

In a harmonious blend of engineering ingenuity and Halloween flair, students embarked on a thrilling project in Dr. Cohen's Introduction to Engineering and Digital Fabrication course, crafting musical instruments that embody the season's spirit. Using Makey Makey, our students transformed ordinary materials like candy, pumpkins, and cardboard into musical instruments! Check out this spooky video on the right!





DAY OF THE DEAD CELEBRATION

In homage to the Day of the Dead, the McLeod Innovation Center welcomed students from Ms. Somoza's Spanish classes and Ms. Rosales Montenegro's Aspira club for a fusion of cultural celebration and second language learning. This special project involved the creation of luminous cards using paper circuitry paired with heartfelt notes written in Spanish. This activity allowed students to delve into the rich tapestry of Hispanic culture and traditions. By intertwining second language education with a rich cultural experience, we exemplify our Jesuit mission of cultivating individuals who are linguistically proficient and profoundly connected to diverse cultural perspectives.

CRAFTING IDENTITY & EMPAHTY

A JOURNEY OF ARTISTIC REFLECTION AND SOCIAL RESPONSIBILITY

SPANISH PERSONAL AND PUBLIC IDENTITY LASER-CUT MASKS

Students in Ms. Goodwin's AP Spanish Language classes learned their Personal and Public Identity unit in their AP curriculum. They were tasked with a unique and creative endeavor in which they had to hand-draw masks, each adorned with two animals symbolizing facets of their personal and public identities. Beneath each illustration, students thoughtfully wrote in Spanish about the traits associated with each animal, delving into the complexities of self-discovery. Both classes then ventured into the McLeod Innovation Center, where they learned how to use Adobe Illustrator. Over the course of a week, they skillfully translated their hand-drawn masks into digital masterpieces. The culmination of this activity occurred when the students employed our laser cutter to materialize their creations. By encouraging students to reflect on their identities creatively and in a second language and adapt to cutting-edge technologies, this project embodies our commitment to fostering well-rounded individuals.

MITE BOXES FOR OTHERS

In alignment with our Jesuit mission of developing individuals committed to social justice, service, and a deep sense of empathy, seniors in Dr. Cohen's Introduction to Engineering and Digital Fabrication course have undertaken a meaningful journey crafting intricate mite boxes using our laser cutter. Each of our students' meticulously crafted mite boxes manifests their dedication to various worthy causes, ranging from mental health advocacy to environmental stewardship. Students then pitched the cause of their mite box and raised donations for their cause.

See this video of our students' pitches.