FACT SHEET

Exploration Portal
San Jose's Newest Outdoor Educational Play Space at the Intersection of Math, Art, and Nature

Children will discover patterns, proportion, scale, and symmetry in eight interactive exhibits full of STEM-based discovery and learning in nature. Sustainability and inspiring tomorrow's environmental stewards were top of mind in designing *Exploration Portal*. The space role models the use of drought-tolerant and native plants for biodiversity and water conservation, while also improving the health of the Guadalupe River.

The landscape and architectural designs improve the health of the Guadalupe River by mitigating toxic run-off, preventing pollution from entering the riparian corridor, and absorbing rainwater. Planted bio swales and overflow retention gardens feed aquifers and prevent pollution from vehicles, airplanes and surfaces from entering the river.

Granitecrete permeable paving is used on all pathways to allow stormwater to pass through and be absorbed into the ground underneath. Renewable wood is the preferred building material, including California-grown bamboo for the shade structure.

Exploration Portal Features:

Beehive Climber: Kids will immerse themselves in pattern exploration as they climb on, over and through this hexagon-patterned structure modeled in the shape of a traditional beehive.

Whirling Flyers: Objects from the natural and created worlds show children how they fly at different altitudes, powered with kid energy.

Patterns Everywhere: Visitors will be mesmerized with curious delight when they discover the images are an intensive magnification of an ordinary strawberry or the wing of a butterfly.

Measure Me!: Kids use their own bodies as measuring devices and will be surprised to learn that their forearms equal the length of their feet.

Giant Kaleidoscopes: Children will investigate patterns in the surrounding environment with varying shaped viewing windows.

Rocks that Sing: Stone xylophone-style instruments will fascinate any who "plays" the melodic sounds they make.

Smartflowers: Three giant flowers mimic the sun's relationship to flowers, demonstrating how to harness efficient solar energy. The petals open when the sun rises and moves across the sky and fold up when the sun sets – all in dramatic and large-scale fashion. The museum's Smartflowers will be the first to be installed in northern California.

A Mechanical Solar Flower with a hand-crank at kid-level opens and closes the petals of a flower covering a solar panel in the center. An LED meter on the nearby wall helps track results as the center panel is exposed to the sun.

Bronze Animals and Insects: Distinctively patterned bronze animals and insects throughout the space support children's development of empathy and caretaking of the natural world.

WHY DOES STEM LEARNING in NATURE MATTER with YOUNG CHILDREN?

STEM learning nurtures problem-solving, helps kids think about the world around them, and sets the stage for future academic success. That is why combining STEM learning and nature makes perfect sense. STEM is a natural approach to early childhood education. Children have an innate curiosity and STEM gives them tools to question, investigate and hypothesize.

Childhood has moved indoors in less than one generation. Since opening ***Bill's Backyard*** in 2017, the museum has been a part of an international movement aiming to reverse this trend. Research shows a direct connection between daily exposure to nature and children's emotional and cognitive well-being.

As leaders in early childhood education and STEM learning, the museum's goals for ***Exploration Portal*** are to:

- help develop a foundation for young children to learn about math and science through nature
- support the development of critical skills needed for children to be successful
- help the next generation acquire environmental and sustainability behaviors
- role model for adults planet-friendly systems to help adapt to a changing environment

TOTAL COST OF PROJECT: $2.5 Million

TITLE SPONSOR: Xu Family Charitable Foundation

MAJOR DONORS: County of Santa Clara, FIRST 5 Santa Clara County, Google**,** Santa Clara Valley Open Space Authority, Santa Clara Valley Water District, Molly and Barry Swenson

PROJECT PARTNERS: Brad Cox Architects, Callander Associates, City of San Jose, Pacific Ridge Builders, Scientific Art Studio

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