

Spark



Educator Catherine Brett, bringing a science activity to life

Happy Spring!

It's time to get outside and explore the outdoors! Take a hike, ride your bike, or visit a local park. There's so much to see and observe this season.

Bringing Science to Life

HOW DO OUR BELOVED ACTIVITIES COME TO FRUITION?

CuriOdyssey currently has four enthusiastic educators who lead school and group programs and camps for all of the young learners who visit or participate in our programs. Each educator brings his or her own unique background and particular expertise to the table. With different expertise comes different strategies for creating new learning experiences for the children. However, all of the educators follow one of two basic approaches when developing a new activity: activity-first and idea-first.

THE ACTIVITY-FIRST APPROACH

In the activity-first model, educators seek out existing activities or create an activity from something they have observed and then tailor it to the curriculum. Educators typically scour

the internet or other reference resources for inspiration, or they may see a student using materials in an unexpected way and turn that child's experiment into a new activity.

For example, an educator may see a student pour water over a textured surface. He or she may want to create an activity that allows students to change the shape and texture of the surface to see the results. The educator then would need to determine what students could learn about in that kind of activity.



Educators Bryan Holmes and Catherine Brett

THE IDEA-FIRST APPROACH

In the idea-first model, educators begin by identifying a need in the curriculum.

They then seek out or create an activity to fill that need. A "need" can be a topic they don't currently address or a topic they feel they're not doing justice. Once a need is identified, educators consider experiments that could make the idea accessible to students.

For example, an educator might want to show students how metamorphic rocks form. He or she would then need to devise a way to model the formation accurately and allow students to experiment with the concepts.

THE FINAL RESULT

Whichever strategy is used, every activity has to meet specific criteria and is thoroughly tested before it makes its debut. Inevitably, most ideas will be abandoned, but a select few will become part of the activities and classes that are used to teach science concepts in CuriOdyssey's school and group educational programming.

- Bryan Holmes has been a science educator at CuriOdyssey since 2010

"SCIENCE" NAMED WORD OF THE YEAR!

We may be a little biased, but we wholeheartedly agree with Merriam-Webster on this one. Much to our delight, the publisher named "science" as the word of the year for 2013.

According to the publisher, the word saw a 176% increase in lookups this year over last and remained a top lookup throughout the year. We can likely attribute this increase to myriad discussions on the topic, from climate change to educational policy.

As a science and wildlife center for young learners, we can only hope the interest in this topic continues into 2014 and beyond. We'll definitely be doing our part to foster the interest by encouraging children to investigate and explore sciences and the natural world in our classes and programming.

With that - three cheers for science!

INTRODUCING THE EXHIBIT PROTOTYPE WORKBENCH!



Ferrofluid 2 on the Exhibit Prototype Workbench

The next time you're visiting CuriOdyssey, keep your eyes open for our newest exhibit piece, Ferrofluid 2! This single piece will debut on our new Exhibit Prototype Workbench - a space where visitors can experiment with prototyped exhibits before they are final. Ferrofluid 2 will allow visitors to explore magnetism through the amazing medium of Ferrofluid!

EARTH DAY:
APRIL 19, 2014
10AM-5PM



Save the date for our sixth annual Earth Day celebration and discover the tools you need to understand our changing world!

Experiment with Science at Home!

ACTIVITY: CABBAGE JUICE INDICATOR ACTIVITY



Get ready for some science in the kitchen! This activity will illuminate the concept of acids and bases and how they interact with different substances.

This activity is best conducted by an adult and child together.

You'll need:

- head of red cabbage
- medium-sized bowl
- grater
- hot water
- strainer
- plastic container
- clear plastic cups
- baking soda
- various liquids to test like lemon juice, vinegar, cola

What to do:

You'll be using red cabbage juice to find out if a liquid is an acid. Red cabbage juice contains chemicals that cause the juice to change color when it is mixed with some certain other chemicals. The cabbage juice will turn different shades of red when mixed with acids, and different shades of blue when mixed with bases.

1. First you need to prepare your cabbage juice:
2. Grate some red cabbage into a medium-sized bowl.
3. Cover the cabbage with hot water and let it sit for 30 minutes.
4. Strain the juice into a plastic container. Retain the liquid.
5. Pour an equal amount of cabbage juice into each plastic cup.
6. Add 1 teaspoon of baking soda to all

but one of your cups. The baking soda (a base) will turn your cabbage juice blue.

7. Now you can test different liquids like vinegar and cola to see how much of each it might take to turn the cabbage juice back to its original color. If the juice looks like it is turning back, the liquid you added is probably an acid. The cup without the baking soda is your control. This is the color that you want to get all of your mixtures to match.
8. Add your first liquid, one teaspoon at a time, to your first cup. How much do you need to get your original color? Test the rest of your items in the same way.
9. It will take different amounts of different acids to turn the juice back to its original color. If the juice stays blue, the liquid is probably not an acid.



What's happening here?

Cabbage juice is rich in natural indicator chemicals called anthocyanins. These occur in a wide variety of foods including strawberries, blackberries, eggplant, and oranges. There are a wide variety of anthocyanins, but most turn more blue and green in the presence of bases, and red or orange in the presence of acids. Adding an acid will make our indicator turn pink while adding a base will make it turn blue or green. If you add both in appropriate amounts, they neutralize one another and the solution returns to its original purple.

Questions to consider

- Does adding more of something to the cabbage juice keep changing the color?
- How many different colors can you make?
- Which substance do you think is most acidic/basic and why?
- Once you change the solution color how can you change it back?
- If you turn it back to purple, have the things you put in disappeared?

Tribute Gifts

Thank you to the following donors for tribute gifts between October, 1 2013 and December 31, 2013.

Every effort has been made to be accurate. If your name is not present or you are not recognized properly, please contact Sarah Clautero Soto, Development Manager, at 650.340.7571.

IN HONOR OF:

Ebony Lee, Carla O'Connor, and Don Shavey: Eileen Arbues and Terry Robison *Polly and Ted Taylor:* Ms. Betty Burnham *The Boosalis Family:* Patricia and Angelos Dassios *Linda Liebes:* Edith and Jeb Eddy *Kat Taylor:* Susan Ketcham and Anne Casscells *Danielle Simon:* Sharon and Alan Levins *Connie Sevier:* William and Barbara Loveless *Carl Oosterman:* Joan Martel and David Mitchell *Linda and Sterling Lanier, and Buff Coonan:* Paul Resnick *Linda Lanier:* Dr. and Mrs. Michael Rodbro *Connie Sevier:* Mrs. Whitney M. Simonds *Jeremy Stern:* Nancy Stern

IN MEMORY OF:

Betse Ham: Alfred and Carroll Archibald *Stef Mallory and in honor of the Channel Island Fox:* Jed E. Hartman *Eileen Muzina:* Kevin and Jeffie Kopczynski *Christopher Johnson:* Jessica Raymond

"Bigs" Visit CuriOdyssey with "Littles"

Last summer, CuriOdyssey teamed up with Big Brothers and Big Sisters of the Bay Area to pilot a partnership in which CuriOdyssey provided free admission passes to 100 Big-Little pairs. The Bigs are remarkable mentors who volunteer to be a steady presence and a role model in the lives of the Littles, at-risk children who are threatened with adversity. The results were fantastic!

"Megan and I had so much fun exploring CuriOdyssey. She managed to get her hands on all the different exhibits and enjoyed seeing the animals. I think her favorite exhibit was the vortex creator (she has a blood blister from trying to do it so much!). We were able to see the feeding of the otters. Both of us had a wonderful time and are thankful for the tickets!"

- Big Sister Shannon



Big-Little pair, Shannon and Megan



Big-Little pair, Tom and Nasir

"Nasir and I had a great time at CuriOdyssey. Nasir loves to chase salamanders, so had a ball looking at the many snakes and other various reptiles on display. It was also his first time seeing a bobcat and he was really taken by how petite they are! At the end of the day, though, it was no contest which animal he liked the most...the otters! It was a great day and, afterwards, we had a nice walk around the grounds to take in some views of the Bay and some sun. Nasir and I were really appreciative of the donated tickets! A great learning experience and day out for us both!"

- Big Brother Tom

This year, we're expanding our partnership, thanks to the generous contributions of **Heffernan Foundation Group** and **The Community Giving Fund from ProSight Specialty Insurance and Tangram Insurance Services**. We are providing CuriOdyssey Family memberships for the Bigs to take their Littles. Big-Little pairs will have one year of unlimited access to CuriOdyssey, helping to strengthen the relationships of the Bigs and Littles as well as engage the Littles in tactile and meaningful experiences with science and the natural world.

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Events (March - May)

SAVE THE DATE

All Things Being Equal

Sunday, March 23, 2014
Member hours: 10am-12pm
General public: 12pm-5pm
Play with balance, experiment with infinity and create angular animals at CuriOdyssey's first-ever public event celebrating math! Purchase your lunch from Sam's ChowderMobile.

Earth Day

Saturday April 19, 2014
10am-5pm
Discover the tools you need to understand our changing world! Experiment with science tools, participate in a beach clean up, and learn about animals during our annual Earth Day celebration.

SCIENCE EXPLORERS

Outdoor Adventures

March 21-April 25
Fridays, 8:30am-12pm
Your preschooler will stroll to the beach, muck in the marsh, and frolic through a field at Coyote Point Recreation Area.

Pre-registration is required.
Member fee: \$260
Non-member fee: \$310

WEEKEND WORKSHOPS

Pinball Machines: Part 1

March 8
10:30am-12pm
Design and construct your own tabletop pinball machine complete with bumpers, spring loaded plunger, and flippers with wood and other materials.

Pinball Machines: Part 2

April 12
10:30am-12pm
This final session of the two-part workshop has participants adding and designing fun features to their pinball machines. Bells, gates, and kickers can add to the challenge of keeping your ball in play.

Forces of Flight

May 10
10:30am-2pm
How does an airplane fly? This workshop takes participants through an exploration of lift, drag, thrust, and gravity – all forces that impact flight.

Pre-registration is required.
Member fee: \$35/workshop
Non-member fee: \$45/workshop

ON-GOING PUBLIC PROGRAMS

Animals In Action
Tues-Sat, 11:00am

Otter Feeding
Tues-Sun, 12:00 noon

Bobcat Feeding
Tues-Sun, 1:00pm

Animal Connections
Wildlife Show
Sat-Sun, 1:30pm and 2:30pm

Silicon Valley Gives: A Day of Online Giving May 6, 2014

Find us online during a day of online giving with SVGives.org! Donate in support of animal conservation and science education at CuriOdyssey.