

CURIODYSSEY news FOR THE CURIOUS



Photo by Paul Lei

Don't stare at the glare: polarized light can make you squint!

SUMMERTIME PHENOMENON: POLARIZED LIGHT

Have you ever seen an intense glare on the asphalt while driving on the road? Or maybe you've observed a strong glare glinting off water in the Bay or in the Pacific Ocean. That intense light you see when sunlight reflects from water, asphalt, or even snow, is called polarized light.

Polarized light is light waves that are all oscillating in the same direction. To visualize this, imagine that polarized light waves look like millions of tiny slinkies that are oscillating synchronously with the same wavelength.

SO WHAT CAUSES THIS?

Light emitted from the sun travels unencumbered in the vacuum of space until it collides with Earth's atmosphere and reaches the ground. Sunlight is scattered by Earth's atmosphere and reaches the ground oscillating in many

different directions. When sunlight strikes a horizontal surface like water, the light waves oscillate away from the water horizontally.

To protect against polarized light, many people wear sunglasses with polarized filters. To visualize how a polarized filter blocks glare, try this metaphor: imagine that a polarized filter are vertical blinds on a very fine scale. When the blinds are partially open, only the light waves vibrating up and down, or vertically,



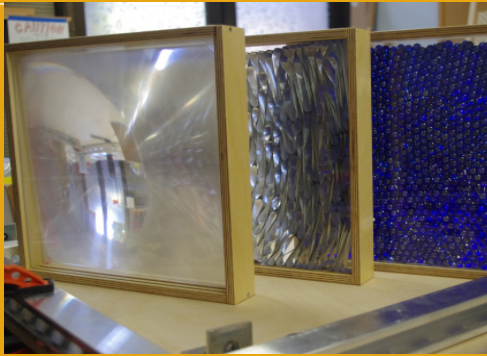
Photo by Paul Lei

can pass through. Any light waves oscillating horizontally are blocked by the vertical blinds. Polarized light seen through a polarized filter will appear dimmer if the filter is aligned at a 90 degree angle to the polarized light. Just as a very fine sieve is hard to see through, two polarized filters aligned at a 90 degree angle to each other are so effective in blocking out light that it is difficult to see through them.

This summer, see if you can spot this phenomenon when you are out and about! Keep your eyes open for it as you hit the road on car trips or if you're swimming or boating on the water. Or, the next time you visit us at CuriOdyssey, experiment with polarized light by playing with our *Spectrum Spinner* exhibit by the staircase.

-Catherine Brett,
CuriOdyssey Science Educator

SAVE THE DATE:
REFLECTIONS + PERCEPTIONS
EXHIBITION OPENING



Behind-the-scenes in the exhibits workshop, making Texture Tiles.

Save the date for our next exhibition opening, *Reflections + Perceptions* on October 24!

This brand-new, eight piece exhibition will create a sensory journey that enables exploration of visual and tactile perception. It focuses on reflective, refractive, diffractive, optical and translucent materials, as well as unusual textures. Illuminate your perception of various materials in this surprising exhibition!



Enjoy Member Benefits Throughout July!

- Bring a friend free*
- 10% off gift memberships
- 20% off new memberships**
- Plus: drawings & special gifts

Check website for special Members-Only programming:

- Members-only docent led tours
- Members-only early hours
- Members-only animal interactions
- NEW: Breakfast in the Garden
- Cinema Night

* One person per day, per membership. Good for one adult or child. Member must be present at time of purchase.

** Offer valid July 1-31, 2015. Offer applicable for first time members only and not to be combined with any other offer, discount or gift membership. Offer has no cash value.

Summer Cinema Nights



This summer, experience a cinematic collaboration from CuriOdyssey and Exploratorium Cinema Arts. Families will enjoy a series of short, family-friendly films that celebrate creative observations, natural phenomena, and human and animal behaviors. Films will change each month, so it's a new experience each time! Our exhibits will also be open for additional after-hours scientific exploration.

Geometry and Motion | June 26, 2015

The movie screen becomes a portal to investigate unexpected traverses of space and landscapes. From the beautifully detailed dance of a lightbulb from conception to finish, to a harrowing expedition of a tiny protagonist, these works put a moving lens on a range of unexpected journeys.

The Natural World | July, 24, 2015

Through the eyes of filmmakers the wonders of the natural world are observed, reframed, and occasionally manipulated. Whether capturing the most intimate details of an exotic species through microphotography, or reimagining a natural landscape through hand-crafted props, each of these works reimagines nature and wildlife through unforgettable points of view.

Our Curious Collection | August 28, 2015

Enjoy a festive evening of short films from Exploratorium Cinema Arts' collection of works. These films celebrate creative observations of natural phenomena, as well as human and animal behaviors in memorable and innovative style. Creatures come to life with humor and affection in this family fun program!

Fridays: June 26, July 24, August 28

Time: 6pm-9pm (Cinema showings at 6:30pm, 7:30pm, 8:30pm)

Fee: Non-members: \$5 per person; Members: Free

Theater seating is limited! We recommend purchasing or reserving your tickets in advance at www.curiodyssey.org/activities/family-events/cinema-nights

VOLUNTEERS CLEAN UP AT COYOTE POINT



CuriOdyssey celebrated Earth Day on April 18 by leading two conservation efforts in our own Coyote Point Park. CuriOdyssey Educator Cat Brett, joined by a volunteer group from **Oracle**, headed a marsh restoration project, removing an impressive amount of invasive plant growth to help restore the natural ecology of the marsh.

That same morning, we co-sponsored our annual Earth Day Beach Cleanup with the San Mateo County Parks Department. Approximately 120 participants, including groups from **GAP, PG&E, Salesforce, and North Hillsborough Elementary**, came together to collect enough trash to fill a dumpster (2 cubic yards) from the park and beaches.

CuriOdyssey offers our deepest thanks to all who participated, helping to conserve and protect the environment we all share.

THANK YOU FOR A SUCCESSFUL SILICON VALLEY GIVES!

On Tuesday May 5, 2015, CuriOdyssey joined with other local causes and the Silicon Valley Community Foundation for Silicon Valley Gives, an online day of giving.

Our incredible community of supporters contributed \$21,330, more than meeting the generous \$20,000 matching grant challenge from **Sheri Sobrato and Eric Brisson**. Together, you helped us raise a total of \$41,330 to support our outreach efforts and education programs for underserved children in low-income communities.

Our Conservation Efforts

CuriOdyssey's Conservation Program focuses on issues that impact San Mateo County and, more broadly, all of the native California animals who reside at CuriOdyssey. By donating to us, you are helping carry out our conservation initiatives and impacting habitat restoration, citizen science, research, captive breeding and sustainable practices. Here are just a few ways your valuable dollars are being utilized:

SAFE: SAVING ANIMALS FROM EXTINCTION

CuriOdyssey, together with 229 other Association of Zoos & Aquariums (AZA) institutions, is taking part in a new AZA initiative called *SAFE: Saving Animals From Extinction*. SAFE is a new initiative created to harness zoos' collective resources to focus on specific endangered species and protect them by restoring healthy populations in the wild. Together, AZA zoos are working to save the most vulnerable wildlife species from extinction and protecting them for future generations.



CuriOdyssey's Western pond t

The AZA has identified the first ten animals on which it will focus its conservation efforts, including the African penguin, Asian elephant, sea turtle, gorilla, and Western pond turtle, which you can find at CuriOdyssey in our walk-through aviary. To learn about the other five animals it has identified and find out how you can help, please visit www.AZAsavingspecies.org.

URBAN WILDLIFE RESEARCH PROJECT

CuriOdyssey is partnering with the Urban Wildlife Research Project to help monitor the grey fox population in Baylands area from Palo Alto down to San Jose. We're providing assistance by helping prototype the collars the Urban Wildlife Research Project is designing for the wild grey foxes to wear.



CuriOdyssey's grey fox, Dylan

Our own grey fox and Animal Ambassador, Dylan, is able to wear and model the prototyped collars. By trying the collars out on Dylan, the researchers are able to choose the best design for use on foxes in the wild. By utilizing this collar, they will be able to monitor the grey fox population and their movements. For more information about the project, please visit: uwrp.wordpress.com.

New Home for Golden Eagles



CuriOdyssey's golden eagles

Our two golden eagles recently moved to the largest exhibit space in our aviary and now have 800 square feet to spread their wings a little wider! The bird-friendly additions to the exhibit include six posts that connect nine elevated perches for easy, high-in-the-sky surveillance. Their former exhibit space will be reconfigured to hold non-releasable barn owls that we are slated to receive later this year.

Innovators Circle Contributors

The Board of Trustees and staff of CuriOdyssey wish to express our sincere appreciation to the following individuals and organizations for their generous support between January 1, 2015 and April 30, 2015.

Every effort has been made to be accurate. If your name is not present or you are not recognized properly, please contact Tavi Haberman, Development Associate at 650.340.7573.

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Tribute Gifts

Thank you to the following donors for tribute gifts between January 1, 2015 & April 30, 2015.

In honor of:

Austin's 3rd Birthday: Steve and Karen Tashiro, Alison Henry, Kevin and Peri McDonald *Raccoons in the name of Abigail Bernhardt and in memory and Merlin the raccoon, through the Bear's Heart Fund:* Jessica Bernhardt and Theodore Goldstein *Marian Erdelyi:* Holly Huyck *Janine Gerzanic:* Mary Anne Payne *Barbara Peterson:* Dr. Lawrence H. Peterson *Jeanette and Fred Pfrommer supporting schools so they can enjoy benefits of CuriOdyssey:* Jim Pfrommer *Pierce and Abigail Quigley:* Peter and Laura Quigley *Polly Taylor:* Dr. and Mrs. Paul Nieberding

In memory of:

Lakas Shimizu, through the Lakas Parrenas Shimizu Philanthropy Fund: Celine and Dan Shimizu

Save the Date: CuriOdyssey Gala Raising the Roof

Please join us for a groundbreaking evening supporting children's science exploration at our sixth annual signature fundraising event! **The CuriOdyssey Gala – Raising the Roof** will be held on **Saturday, September 26, 2015** at the **Western White House**, home of our generous hosts, Kalpa and Shailesh Mehta. Proceeds from our annual Gala provide essential support for our powerful interactive exhibits, exciting wildlife encounters, and brain-building education programs that help children become confident learners who love to explore, make detailed observations and think critically. We hope to see you there!



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Experiment with Science at Home!

ACTIVITY: SOUND ON A STRING

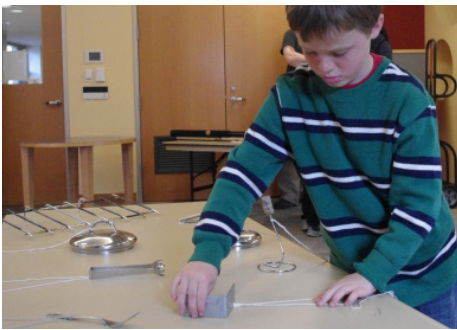
Make Sound on a String

Sound travels in fascinating ways! Create your own sound on a string and hear how sound travels through all kinds of objects.



You'll need:

- Miscellaneous metal objects (different sizes and shapes – silverware, kitchen utensils, tools)
- About 1 yard of string per object



What to do:

1. Tie a small loop, large enough to put a finger through, in each end of the string.
2. Tie a metal object to the center of each string.
3. Place one loop on each index finger.
4. Put your fingers in your ears.
5. Lean forward slightly so that the metal object hangs freely.
6. Have another person gently strike the metal object with something hard, or make the suspended object strike a table.

What happens if you...

- Strike the metal object against a different kind of surface?
- Make the string longer? Or shorter?
- Try a differently shaped metal object?
- Strike the metal object against a surface more rapidly?

What other ways can you think of to experiment with this activity?



What's happening here?

- Vibration is transmitted up the string and directly into your ear.
- This direct path makes the sound much louder and clearer than normal because the sound does not dissipate in the surrounding air.

Activity: Thaumatrope

(a little difficult to say, but not so difficult to make!)

Thaumatrope are made by mounting two images on either side of a disc. For example, a bird on one side of the disc and a cage on the other, or a fish and a bowl. When you rotate the disc, the images from the two sides appear to come together into one image.

You'll need:

- Sturdy straws or sticks
- File folder or cardstock paper (also sturdy) cut into large circles/discs
- Markers or crayons
- Tape

What to do:

1. Draw a complimentary image in the center of either side of the disc (fish on one side, a bowl on the other). Other examples are a cloud and thunderbolt, bird in flight (wings in opposition) or face and hair.
2. Tape or staple the straw or stick on one side of the disk so that it is strong enough to be spun without bending.
3. Rub the straw between your palms to spin the straw and images back and forth rapidly. This should create the illusion that the two images are merging.

What's happening here?

This is called an illusion of apparent motion. You perceive this amazing illusion every time you watch cartoons or a movie. You perceive that the characters on the screen are moving around, but in fact you are seeing many still pictures flashing before your eyes. Your brain puts all of the pieces together and fills in the blanks to make it look like fluid movement.

Events (June - August)

MEMBER APPRECIATION MONTH

July 2015

We love our members! This month is our way of saying "thanks" to all of you. Enjoy exclusive benefits all month long, including giveaways, special discounts on memberships, and breakfast with your favorite animals in our gardens! Visit www.curiodyssey.org/membership/

SAVE THE DATE

Cinema Nights

June 26, July 24, August 28

Members: Free

Non-members: \$5 per person

Seating is limited! Please reserve your tickets on our website.

Reptile Day

July 18, 2015

Join us for a celebration of reptiles! Meet our warm weather-loving reptiles up-close, and see what slithers, slides and crawls!

CuriOdyssey Gala

September 26, 2015

To become a sponsor, please contact Tavi Haberman at 650-340-7573 or visit www.CuriOdyssey.org/gala.

Reflections + Perceptions

Innovators Circle Opening: Oct 23

Public Opening: Oct 24

Experience our brand-new, eight piece exhibition that will ignite your senses!

SCHOOL AND GROUP PROGRAMS

Begin October 2015

Registration begins in August

Looking for an exciting activity for your classroom or group? Our educational programs spark passion for science and allow children the opportunity to get up close with the natural world. Interactive exhibits, amazing live animals, and high-quality educational programs—all on a personal scale—provide children with an unforgettable experience.

For more information, visit www.CuriOdyssey.org/school-groups.

ON-GOING PUBLIC PROGRAMS

Animals In Action
Tues-Sat, 11:00am

Otter Feeding
Tues-Sun, 12:00pm

Bobcat Feeding
Tues-Sun, 1:00pm

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