

# Low Sensory Event

Friday, March 6, 2015 • 6PM – 8PM • Cost – Free!

Welcome to Mobius Science Center’s first low sensory event! The goal of this event is to create an environment that is safe for visitors who may find it difficult to enjoy what the science center has to offer due to specific sensory needs.

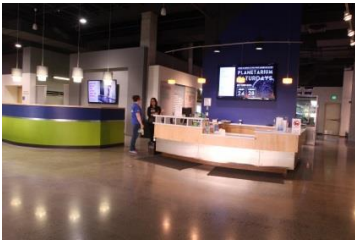
With the assistance of the members of ANUE (Autistic Network of Unique Eccentrics) and the Northwest Autism Center, the low sensory event and this science center guide have been developed to assist visitors in preparing for their science center experience.

This guide contains photos and descriptions of each exhibit as well as a map of the science center floor. The guide also includes descriptions of sensory seeking activities that will be available during the event and a social story to help families with young children are also included in the guide. There will be a quiet, calm down room with stim toys available for both adults and children if needed.

## My Trip to Mobius Science Center – A Social Story

I am going to Mobius Science Center. Mobius Science Center is so much fun. I can play with many different exhibits, do different activities, and maybe even pet a reptile!

When I get to the museum, I will have to wait with an adult to be checked in. Then I will hang up my coat on a hanger. I need to remember to stay with an adult when I am exploring the science center.



There are so many exhibits at Mobius Science Center! I can play with the exhibits and the fun activities each exhibit provides. When I am playing with an exhibit, I need to remember to share supplies with other people. It is important to walk from one exhibit to the next.



The people who work at Mobius Science Center walk around the exhibits to make sure everyone is safe. If I need help, I should ask one of the workers wearing a blue volunteer shirt or a gray staff shirt.

While I am visiting Mobius Science Center, I must follow four important rules:

1. I need to stay with an adult.
2. I cannot run.
3. I need to take turns with other people.
4. I cannot tap on the animal tanks.

# A Guide to the Mobius Science Center

As you walk behind the front desk, you will enter the Bio Lab.

Here, you will find a female bearded dragon:



Two different geckos:

Crested Gecko



Day Gecko



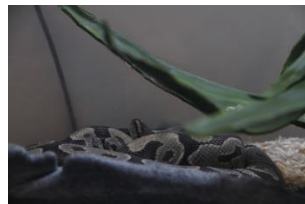
A tank of Red Eared Sliders (turtles):



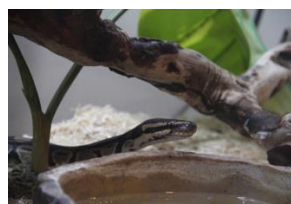
Tree frogs:



Two ball pythons:

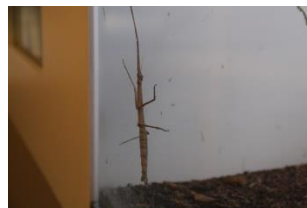


Name: Egon



Name: Pascal

Stick insects and a tarantula (Not Shown):



In the Bio Lab you will also find two microscopes and a heat camera that can be adjusted for viewing the bearded dragon or yourself.



From the Bio Lab you will find two floors of exhibits.

### Exhibits on the Main floor:

**\*\* Due to the loud noises and flashing images, the Tornado Exhibit has been turned off for the special Low Sensory Event.**

#### **Build a Bridge or Other Structure**

- Use the planks and blocks to build a vast array of patterns and structures. Develop insights about basic engineering principles.

\*\* The sound is loud and echoes when a structure collapses.



#### **Make a Mobius Strip**

- Can a strip of paper or plastic have just one side? It can if it's a Mobius strip! Named after mathematician August Ferdinand Mobius, these simple twisted loops never fail to amaze. Make your own strips from supplied materials, and take one home as a souvenir of your visit to Mobius!



#### **Launch a Bottle Rocket**

- Pump, pump...whoosh! Send a water rocket shooting upward! Experiment alongside friends to see how water and air pressure controls how high your rocket travels.

##### **How to launch a bottle rocket:**

1. Lock down the bottle (gold button)
2. Turn the crank to fill the bottle with some water (too much water makes the rockets not launch well)
3. Pump air into the bottle until the dial is between 6 and 9 psi (if possible).
4. Launch the bottle rocket (silver button)



\*\* This exhibit can make a loud popping/banging sound if the bottle hits the ceiling.

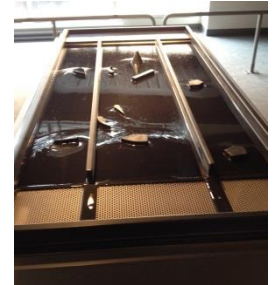
## Explore the Missoula Flood exhibits!

- Build a Dam and watch it break under the pressure of the water (chlorine smell)
- Four different interactive Kiosks – can be used with headphones or not.
  - You can investigate evidence of the most gigantic floods on earth - the Missoula Floods. Zoom in & out of different landscape features shaped by these immense forces. Learn how the action of these floods shaped our lives and landscapes today.
- Watch a limited sound movie demonstrating how the massive ice dam broke allowing the Missoula Floods to happen.



## Flow Formations

- Learn about the way Missoula Flood waters moved through the landscape at this table, where you can place objects in a moving stream to study eddies, turbulence and flow. Adjust water velocity and see how flow patterns change!



## Air Heads

- Build your own flying device from paper cones and test it in an updraft chamber, learning the Bernoulli's principle and the science of aerodynamics. Complete to see whose flyer flies the highest!
- This exhibit needs to be turned on at the time of use and will turn off on its own.



\*\* This exhibit is loud (similar to a hair dryer) and blows air straight up to form a vortex.

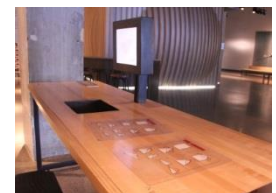
## Hydroelectric Dam Model (turbines and water flow)

- This model shows visitors how water power converts into electricity. Change the size, angle and number of turbine variables and watch how energy output changes. Learn about the importance of this power source to the Inland Northwest, the most hydroelectrically-powered region in the United States.



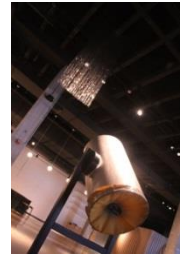
## Make paper air planes and test your design!

- Design and test paper airplanes for various heights and distances. Learn how different folds change performance. Then, in the accompanying video display, see how an origami master creates paper planes!



## Air Cannon

- Experience force and airflow in a fun way, shooting short blasts of air across space, aiming for hanging targets. You'll be amazed at the energy of the air bursts as they travel like invisible, slow-motion cannonballs through the room!
- This exhibit has a loud punching/booming sound when handle is released.



## Gyroscope and Balancing Board

- Experiment with a spinning gyroscope to see how changes in angle alters its behavior. Challenge yourself to how long you can balance on a fulcrum.



Gyroscope



Balancing Board

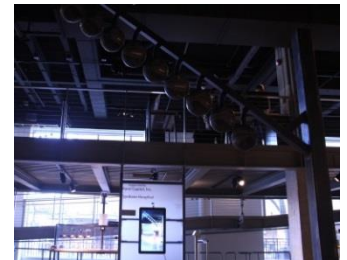
## Circuit Table

- Learn how electrical circuits work by building your own, using a variety of components. Crank the generator and see how power flows. Connect to your friends' circuits and make whole networks!



## How high can you jump?

- Can you out-jump a Hoopfest winner? How about an NBA star? How about insects and animals? This exhibit uses a high-speed digital camera to capture you in motion as you jump, then watch a slow-motion replay emphasize each movement, showing how height and jumping are related.



## Sound Cube (For those with seizure disorders and those with visual sensitivities - please be advised that there are lights that pulse in here.)

- **Table of Fifths (digitally interactive)** Did you know that music is mathematical? This unique exhibit makes it visual as well, using electronic controls to create tones, chords and melodies and then play them back as a "performance!" Invented by ancient Greeks, the Circle of Fifths has long been the key to seeing the math behind music.
- **Monomes (Beat Generators) with head phones** Change musical patterns using one of three monomes-a tactile grid sequencer for electronic music and sounds. Each monome includes sets of headphones. As you explore the audio responses that they create, you'll see some of the mathematical foundations of the music you hear.
- **Hear your heart beat!** Hold on the handles for 20-30 seconds and then watch the balls inside the large cylinder bound to the beat of your heart!
- **Giant Tuning Forks** Find the elusive sound hidden in the tuning fork's hum. Hit the large fork with the mallet and put your head between the humming prongs, trying to hear the different sounds. See if you can spot the difference between the "clang tone" and "principle tone!"



## Velcro Sticks

- These unusual sticks allow visitors to build structures with endless variations. This exhibit is a strong example of the "open play" approach to learning.



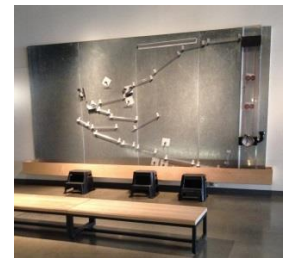
## Virtual Autopsy Table

- Peel off layers of skin, revealing the organs of the human body. Explore the body's systems with this touchscreen digital imagery table, learning the ins and outs of human anatomy.
- *Challenge* – Can you find the clip that was surgically implanted in the person who had brain surgery? How many fractures occurred in the accident victim? Why does the man have such a crazy mustache and is it really a mustache?



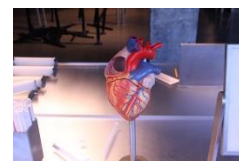
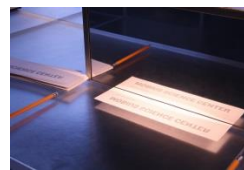
## Ball Wall

- Make kinetic art! Potential energy is collected in the ball as the ball is moved up to the top of the pulley system. Watch how kinetic energy is released when the ball begins its journey rolling from the top of the run all the way down the bottom.
- *Challenge* – Can you engineer a design that makes the ball jump a gap without falling? If so, how wide is the gap?



## Health Table

- Can you turn your skull into a speaker? Can you match up the sounds in the shakers? How does our body compare to familiar mechanical systems? Joints are like hinges, the circulation system is like piping, and much more.



## Make a model of a spider web! Experience the Crystal Viewer!

- Spiders are nature's most interesting architects, with different species weaving webs of many shapes. Select a species and watch how it builds webs both on Earth and in space. Try your hand at weaving your own webs on a variety of "looms" that illustrate the different types of spider webs!
- View micro slices of different rocks and minerals!



Weave a Web



Crystal Viewer

## Watch the NASA online feed!

- Explore this large website display to see continually-updated images, videos and news from major astronomical observatories and the orbiting Hubble Space Telescope!

## Upstairs starting from the top of the ramp:

### Van der Graaf Generator

- Experience static electricity by experimenting with a Van der Graaf generator. Place objects on the large metal sphere to see how static electricity creates currents. Place your hands on the ball and you'll get a hair-raising surprise!

**\*\*This exhibit may shock people with static electricity.**



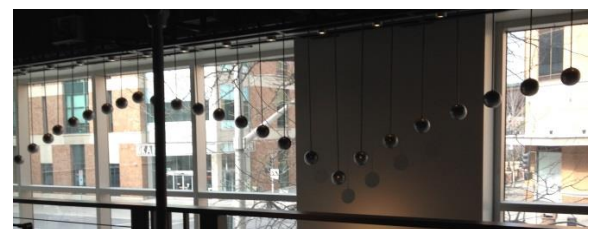
### Zoetrope

- One of the very first "moving pictures", the zoetrope, or spinning canister, still fascinates. Use the provided filmstrips or create your own on a low-tech zoetrope, or a digital version with a video camera.



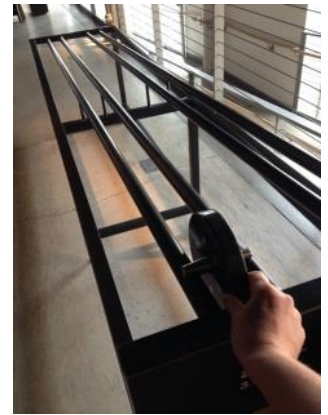
### Pendulum Snake

- Most of us think of pendulums as simple swinging weights, but they become hypnotic when arrayed in a row, with arms of different lengths. Start them swinging and watch. First, they move together in a line, then they undulate like a snake, then they break into seemingly random movements, and then they resume the snake pattern!



**Downhill Racers (This exhibit has been padded to help reduce clanking noise. This exhibit can make a loud clang when disks reach the bottom of the ramp)**

- Galileo demonstrated that all objects fall at the same rate, with the same acceleration, regardless of their weight. However, Downhill Racers demonstrates that not all round objects roll at the same rate, even if their weights are identical. The rate of acceleration of a rolling object (angular acceleration) depends not only on its mass, but on how that mass is distributed. Try the different disks on a smooth gentle slope to experience the effects on speed.
- *Challenge* - Imagine how an ice skater spins. Do they spin faster with their arms out from their sides or when their arms are tucked in closer to their body? Look at the four different racers. Which one do you think will race down the hill the fastest?



**Magnetic Table**

- Explore the mysteries of magnets. Discover the attraction and repulsion of poles as well as the magnetic properties of a range of materials. It really gets interesting when you see what magnets do to some fluids!



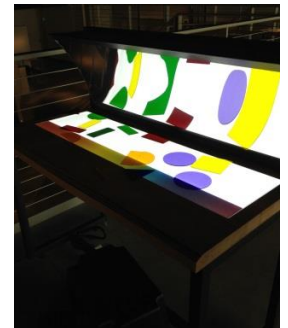
**Lasers and Microscope**

- Using light and prisms, you'll divide white light into the full-colored spectrum. Then you'll see how moving lenses bend and change the spectrum, emphasizing different colors.
- Use technology to see things normally to see detail that is usually too small for the naked eye to see.



**Explore Optics!**

- Play with colored shapes, changing their size and clarity by manipulating distance and angle of concave mirror, discovering the enthralling range of possible angles and patterns.



**Harmonograph**

- Create amazing patterns with nothing more than a paper connected to swinging pendulums, illustrating movement. Each drawing is completely unique. Take yours home as a souvenir!
- *Challenge* – Can you make a spiral pattern that looks like a flower?





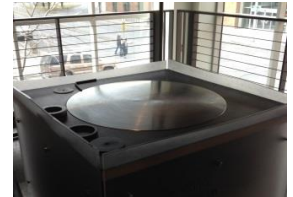
## Floating Copper

- Floating Copper is an elegant expression of a relatively simple phenomenon. Taking advantage of the slowing effects of eddy currents, you'll make a central magnet literally float in space between two large pieces of copper. Then drop a magnet through a copper tube and watch as it appears to fall in slow motion!



## Spinning Disk

- Explore motion by rolling round balls over a larger spinning disk. Observe how the motion of the larger disk affects the motion of the smaller balls.
- Challenge – How many balls can you get spinning at the same time?



## Sound Tubes and Brain Teasers

- "Engine room, this is the bridge-iceberg dead ahead!" Remember those shipboard speaking tubes you see in the movies? Try them out here to see how surprisingly well sound travels through a pipe.
- Put your problem-solving skills to the test with a whole range of table-top brainteasers.



## Descriptions of Sensory Seeking Activities

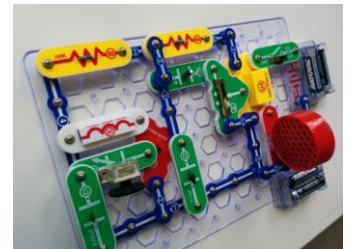
**What is a polymer? Let's find out by participating in some hands-on experiments!**

- Make Slime that you can take home!
- Goo Worms – see how you can mix two liquids to form a solid right before your eyes!



## Snap Circuits

- Experiment with how electricity can flow using snap circuits!



## Reptile Encounter

- Come meet and learn all about one of the science center's reptiles!

