

Draft

Inspiring Young Minds Under the Big Sky

Planet Walk/Knowledge Station

Category: Air and Space

Instructor: Allie

Monday Times: 9:00-10:30, 10:45-12:30-Outside museum/Inside Museum

Tuesday Times: 8:30-10:30, 10:45-12:30-Outside museum/Inside Museum

Description: Discover the enormity of our Solar System through a hands-on demonstration. We'll take you outside and show you the scale of distance between the planets. You'll be surprised just how big it is! Also, explore with the Knowledge Station, an interactive computer program that will take you to the International Space Station, Mars, and Jupiter's icy moon, Europa. Learn what life is like as an astronaut, how people perform spacewalks on other planets, and how robots can extend the capabilities of people.

Water Wonders

Category: Conservation

Instructor: Claire Pichette

Monday Time: 9:00-10:30 – Downstairs-Einstein Room

Description: Do you remember catching bugs as a kid? Well, here is your chance to take a closer look. We'll be identifying specimens, learning about their special adaptations and making our insect collection to take home.

Circuits and Switches

Category: Computer Lab

Instructor: Liz Gundersen

Monday Time: 9:00-10:30- Computer Lab

Tuesday Time: 8:30-10:30- Computer Lab

Description: Circuits and Switches and PicoCrickets:

First we'll be learning to create inventive electrical switches to activate small electric motors. Then we'll add in a small programmable microprocessor - a PicoCricket - to make our toys respond to light or sound or the push of a button.

Mount Helena Science

Category: Montana Outdoors

Instructor(s): Kyle Hunter and Christine Thennis

Monday Time: 8:30-1:30-Mount Helena

Tuesday Time: 8:30-1:30-Mount Helena

Description: You see it almost everyday if you live in Helena, or you notice it when you drive into town when coming from somewhere else. It is a common hiking and biking location for local Helenans. In this class we will enjoy the beauty and physical accomplishment that comes from hiking this mountain while studying this landmark through the discerning lens of a scientist. As we hike we'll discuss what native species are, examine and observe those native to Mount Helena, and discuss why they are an integral part of this ecosystem. We will also look at some of the unique geologic features present on this ancient mountain.

Food Chemistry

Category: Love of Science

Instructor: Cody Davis

Time: 9:00-10:30, Monday -Upstairs

Description: Chemistry is everywhere, including in the foods that we eat every day. Foods are complex and chemistry in foods is responsible for their textures, aromas, appearance and taste. In this class explore the basic chemistry of foods and begin to think of all the other questions that may be generated through this class such as; what is happening with the molecules that let jello, which is 98% water, bounce like a rubber ball?

Montana Climate: *Is it Changing?*

Category: Conservation

Instructor: NOAA, Ben Schott

Monday Time: 10:45-12:30 -Upstairs

Tuesday: 10:45-12:30 -Upstairs

Description: Can we be sure that climate change is occurring? What are the facts about climate change? If it is changing, has Montana been affected, and how? What are the possible affects of climate change for the state of Montana in the future? The class will take a detailed look into how and what defines climate with a focus on the state of Montana.

Blogging 101

Category: Computer Lab

Instructor: Steffen Rasile

Monday Time: 10:45-12:30-Computer Lab

Tuesday Time: 10:45-12:30-Computer Lab

Using the popular Tumblr platform, students will learn to develop a web presence and connect to some of today's most exciting web technologies. Each student will create a site on Tumblr, and learn how to customize, use the software, and interact with the community.

The Art of Nature

Category: Love of Science

Instructor: Claire Pichette

Monday Time: 10:45-12:30 –Outside/Upstairs

Tuesday Time (s): 8:30-10:30, 10:45-12:30-Outside/Upstairs

Description: Have you ever been inspired by the beauty of a melting icicle, a floating leaf in a stream or a lichen growing on a rock? In this class we will learn about artists who use materials found around them to build works of nature art. Some of these artists are human and some are not! We'll make our own nature art to display at ExplorationWorks.

Rocket Building

Category: Air and Space

Instructor: Kyle Hunter

Monday Time: 1:30-3:00-Downstairs-Einstein Room

Tuesday Time: 1:30-3:00-Downstairs-Einstein Room

Description: This class explores the principles behind flight. In this class students will build their own solid-fuel rockets. Every student gets to take home a rocket!

Alternative Energy Cars

Category: Conservation

Instructor: Christine Thennis/Cody?

Monday Time: 1:30-3:00 – Upstairs Room

Tuesday Time: 8:30-10:30 –Upstairs Room

Description: The world faces a major challenge of meeting the ever-increasing demand for transportation goods and services while striving to minimize adverse energy, environmental, and economic impacts. Come and discover the possibilities of using solar energy for transportation by building your own solar-powered model car.

Scratch Animation

Category: Computer Lab

Instructor: Liz Gundersen

Monday Time: 1:30-3:00 –Computer Room

Tuesday Time: 1:30-3:00 –Computer Room

Description: Using free software developed at the MIT Learning Lab, we'll learn some cool techniques for creating animations and stories that can then be placed on the internet. We'll take your picture and you can star in your own animation!

Crazy Creatures and Genetics

Category: Love of Science

Instructor: Christine Thennis/Kyle Hunter

Monday Time: 1:30-3:00 -Upstairs

Tuesday Time: 1:30-3:00 -Upstairs

Description: Your traits are determined by the genes you inherit from your parents. In this Crazy Creatures class students learn about genetics and evolution. Through games and activities learn about how chance plays a role in inherited traits. After students build their Crazy Creature, they will learn how the environment influences traits in a population.

Ornithopters

Category: Air and Space

Instructor: Kyle Hunter

Monday Time: 3:15-4:30 –Downstairs Einstein

Tuesday Time: 3:15-4:30 –Downstairs-Einstein

Description: This class will give students the opportunity to explore the principles behind flight. Students will build and fly their own ornithopter bird model. Students will compare the aeronautic principles of their ornithopter to other models of flight.

Reduce, Reuse, and Recycle

Category: Conservation

Instructor: Helena Recycles with Erin or Curtiss Johnston

Monday Time: 3:15-4:30-Upstairs

Tuesday Time: 1:30-3:00-Upstairs

Description: Waste: Where does it come from? Where does it go? In this class students will perform a waste audit identify the various wastes found in the trash cans in their homes and schools and identify which materials should be recycled. They will then learn about the positive benefits associated with reducing, reusing and recycling. For instance, did you know that if all of our newspapers were recycled, we could save about 250 million trees each year! Students will then work in groups to create and market a recycling program for their communities and schools. Each student will then be given a waste form that they can conduct at home.

Resume Writing for that ultimate Science Job!

Category: Computer Lab

Instructor: Stephanie Thennis

Monday Time: 3:15-4:30-Computer Room

Tuesday Time: 3:15-4:30-Computer Room

Description: Think of your ultimate science job-an astronaut, an engineer, a biochemist, a wonderful science teacher and create a resume for that job. Learn the important skill or marketing yourself. As you move into the job market this is an extremely important skill to have.

River Formation

Category: Montana Outdoors

Instructor: Bruce Seigmund

Monday Time: 3:15-4:30-Garden

Tuesday Time: 3:15-4:30-Garden

Description: How do rivers form? Why do they meander? Why are some rivers braided and others not. Every river has a point of origin-it may be a spring, runoff from a melting glacier located high in the mountains, lakes. Explore the physical elements responsible for forming rivers.

Shark Dissection

Category: The Love of Science

Instructor: Christine Thennis

Monday Time: 3:15-4:30 -Upstairs

Tuesday Time: 3:15-4:30 -Upstairs

Description: Sharks are both fascinating and terrifying to people. Sharks have been around for a very long time. The first known sharks evolved about 400 million years ago, more than 200 million years before the dinosaurs. Come and explore the interesting anatomy of the modern version of these ancient creatures.

Perch Dissection

Category: Montana Outdoors

Instructor: Cody Davis

Tuesday Time: 1:30 to 3:00-Upstairs

Description: Perch are common fish found in Montana, but what do we really know about the anatomy of the fish. Come and dissect a perch and learn about the placement of their organs and what the differences are to other water creatures, salt water creatures, and us!

Critter Identification:

Category: Montana Outdoors

Instructor: Ron Boggs

Monday Time: 1:30-3:00-Little Sky Country

Tuesday Time: 3:15-4:30 –Downstairs-Einstein

Description: This class begins with identification of various animals by handling their furs provided by Montana Department of Fish, Wildlife and Parks. Content covers field identification techniques like visible characteristics, tracks, scat, habitat use etc. An overview of scientific names and using field guidebooks is also included in this class. The intent is for students to experience hands-on informal animal id and also for students to understand how scientists formalize animal identification to allow detailed studies.