

Educator Resource Guide

2017-2018



WELCOME

DEAR FELLOW EDUCATOR,

I have no doubt you know that the students in your classroom today are destined to be the leaders of tomorrow. The educational opportunities you create for them today equip them to face the challenges they'll see as our world continues to change.

Your instruction and guidance are instrumental in creating a public who understands how the wonder of science affects our everyday lives and how it can be used to better our world. And, The Discovery wants to be your partner in the effort to maximize that understanding and inspire the next generation.

This guide to The Discovery's educational programs and events is full of opportunities for collaboration and interaction. You'll notice that this year's lineup includes the programs the museum has become known for, as well as a few new offerings to help broaden the museum's impact in our region. Everything is designed to make it easier for educators like you to create a lasting impression on your students.

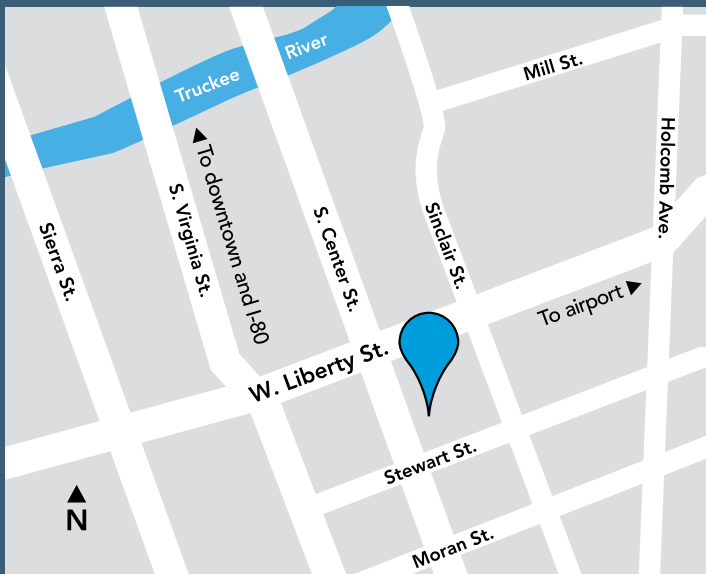
Best wishes on a successful school year. We hope to see you at The Discovery soon.

Sincerely,



Sarah Gobbs-Hill

Vice President of Education & Exhibits



CONTACT INFORMATION

490 S. Center Street, Reno, NV 89501

775-786-1000 · info@nvdm.org

MUSEUM HOURS

Monday closed

(Open Mondays Memorial Day through Labor Day, on national holidays, and during WCSD breaks)

Tuesday 10:00am–5:00pm

Wednesday 10:00am–8:00pm

Thursday–Saturday 10:00am–5:00pm

Sunday Noon–5:00pm

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FIELD TRIPS/GROUP VISITS

Discover STEM-powered inspiration at The Discovery. Immerse your students in lab-based activities and museum exploration designed to foster inquiry and engagement through encounters with science. All Discovery Labs are tied to national education standards.

Our field trip program is flexible and customizable. Your group can choose to focus on museum exploration or add a standards-based hands-on lab to your visit. Transportation for all Washoe County School District schools is included. The Discovery is also pleased to offer financial assistance to support the educational needs of schools and groups that cannot afford the full cost of their visit to The Discovery.

The Discovery offers a variety of educator resources including pre- and post-trip lessons and gallery guides to enhance your field trip, along with orienting materials to help your students and chaperones be successful on their visit. You can find these resources on our website at nvdms.org.

STEP 1: REQUEST YOUR DATE

Submit your reservation at least three weeks in advance. **Please note:** WCSD schools are responsible for scheduling transportation with the District's transportation department.

- **WCSD schools with 50% or higher FRL:** \$5 per student (includes bus transportation, no charge for required chaperones, minimum 30 students)
- **All other WCSD schools:** \$9 per student (includes bus transportation, no charge for required chaperones, minimum 30 students)
- **All other schools/groups:** \$6 per student (no charge for required chaperones, additional \$3 per student for Discovery Lab activity, minimum 20 students)

STEP 2: CHECK YOUR E-MAIL

Allow a few business days for your contract to arrive by e-mail. Please return a signed copy to The Discovery to complete the reservation process.

STEP 3: EXTEND THE LEARNING

Use The Discovery's library of resources for educators to extend the learning beyond your museum visit. Help your students prepare for their visit by watching an orientation video.

STEP 4: MAKE PAYMENT

Payment for your field trip or group visit is due upon arrival on the day of your visit. Check your itinerary for details about how to make payment. A \$50 deposit is required for all non-WCSD schools.

STEP 5: ENJOY YOUR VISIT

We hope you enjoy your visit to The Discovery. You will receive a survey at the end of your visit. Please fill it out to let us know how we did.

DISCOVERY LABS

In addition to ample time to explore the museum, field trips and group visits include your selection of a 45-minute Discovery Lab activity from the list below. Select your lab to begin the adventure.

THEY SHOUTED PUSH!

GRADE LEVEL(S)	FORMAT	GALLERY CONNECTION
Preschool-K	Hands-on activity	Build It!

Description: In this Discovery Lab, students learn the basics of gravity and engineering through push and pull challenges. Students will use a variety of materials to move a marble from one location to another as well as other unconventional building challenges.

Nevada Academic Content Standards in Science (NGSS): K-PS2-2.

Common Core: W.K.2 2. 1.K.4 I/L



SKYSCRAPER CHALLENGE

GRADE LEVEL(S)	FORMAT	GALLERY CONNECTION
K-2nd	Hands-on activity	Build it!

Description: In this hands-on Discovery Lab, students work to design, create, test and redesign free-standing, weight-bearing towers using KEVA® wooden blocks. Students will experiment with different geometric shapes used in structural designs and determine how design choices affect the height and strength of structures.

Nevada Academic Content Standards in Science (NGSS): 2-PS1-2., K-2-ETS1-2.



SHADOW STORIES

GRADE LEVEL(S)	FORMAT	GALLERY CONNECTION
1st	Hands-on activity	Da Vinci's Corner

Description: In this Discovery Lab students will learn fundamental optics concepts including transparency, opacity, refracted light and shadow. They'll also create a shadow puppet perfect for creative writing and storytelling.

Next Generation Science Standards: 1-PS4-3

Common Core: W.K.2 2.



CHANGING MATTER

GRADE LEVEL(S)	FORMAT	GALLERY CONNECTION
2nd	Hands-on activity	Scavenger hunt

Description: In this Discovery Lab, students will be asked to construct an argument using evidence that some changes caused by heating or cooling can be reversed and some cannot. Through hands-on exercises in groups and as a class, students will sort reactions based on their observations.

Nevada Academic Content Standards in Science (NGSS): 2-PS1-4.

Common Core: W.2.8, MP.2



DISCOVERY LABS (CONTINUED)

DEFYING GRAVITY

GRADE LEVEL(S)	FORMAT	GALLERY CONNECTION
3rd	Hands-on activity	Da Vinci Corner

Description: In this Discovery Lab, students work together to come up with a solution, using everyday objects, that will allow a string to float upward using concepts of magnetism.

Nevada Academic Content Standards in Science (NGSS): 3-PS2-4.

Common Core: SL.3.1



FOSSIL FINDERS

GRADE LEVEL(S)	FORMAT	GALLERY CONNECTION
3rd	Hands-on activity	A T. rex Named Sue

Description: Explore fossils large and small and discover their power to tell us about the life of the past and the environment in which the animals existed. Students will also learn about *A T. rex Named Sue* and the many things she taught scientists about her world.

Nevada Academic Content Standards in Science (NGSS): 3-LS4-1.

Common Core: SL.5.1



MEASURE TWICE, CUT ONCE

GRADE LEVEL(S)	FORMAT	GALLERY CONNECTION
3rd–5th	Hands-on activity	Build It!/The Shop

Description: In this Discovery Lab, student's knowledge of fractions will be enhanced as they practice measurements in the standard system. We will learn to use some of the important tools and tool safety. Each student will use these skills to build a key hanger they can take home. Note: 54 students maximum. Offered Tuesday and Thursday only.

Common Core: SL.5.1, 3-5.NF



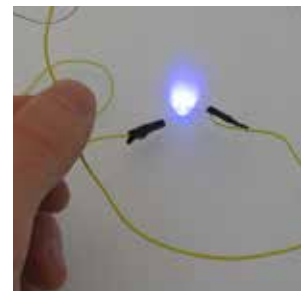
CIRCUIT STEAM

GRADE LEVEL(S)	FORMAT	GALLERY CONNECTION
4th	Hands-on activity	Spark!Lab

Description: In this STEAM-inspired lab, students use scientific design to test and refine a device that converts energy from one form to another and then apply the concept to create small light-up wire sculptures to take home.

Nevada Academic Content Standards in Science (NGSS): 4-PS3-2, 4-PS3-4.

Common Core: SL.4.1



DISCOVERY LABS (CONTINUED)

GO WITH THE FLOW

GRADE LEVEL(S)	FORMAT	GALLERY CONNECTION
5th	Hands-on activity	Da Vinci's Corner

Description: Air is made up of particles too small to see. In this lab, students will investigate this by exploring air cannons and then applying what they learn to designing air powered cars and items that will float in an air tunnel.

Nevada Academic Content Standards in Science (NGSS): 5-PS1-1.

Common Core: SL.5.1



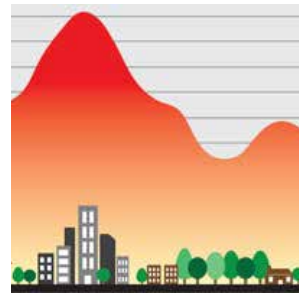
URBAN HEAT ISLANDS

GRADE LEVEL(S)	FORMAT	GALLERY CONNECTION
Secondary	Hands-on activity	Build It!

Description: In this hands-on Discovery Lab students will explore the “heat island effect” as one of the contributing factors to global climate change. Students will work collaboratively to design cityscapes and evaluate their ability to minimize human impact on the environment.

Nevada Academic Content Standards in Science (NGSS): MS-ESS3-3, MS-ESS3-5.

Common Core: 7.EE.B.4



ONLINE EDUCATOR RESOURCES

A field trip to The Discovery is only part of the museum experience. In addition to museum exploration and Discovery Lab activities, we also provide a library of resources for you to use in the classroom both before and after your field trip. On our website you'll find standards-aligned pre- and post-trip activities directly tied to Discovery Labs, Gallery Guides to help you direct your students to key points in each of the museum's galleries, and a wealth of other resources to help prepare you and your students for an exciting visit to The Discovery.



CAMP DISCOVERY

STEM-BASED CAMPS FOR STUDENTS IN K-7TH GRADE

When school's out, Camp Discovery is in. The Discovery's seasonal camps are a great way to experience all that the museum has to offer. Camp Discovery's all-day, themed camps are designed for students in kindergarten through 7th grade, and are led by qualified educators in an environment designed specifically for learning, exploration and fun. Themes range from bugs to building, and dinosaurs to video game design.



For dates and more information about Camp Discovery, or to register, visit nvdm.org or call 775-398-5954.

FAMILY SCIENCE NIGHTS

Family Science Nights offer a unique opportunity for your school's families and teachers to visit the museum and kindle a lifelong interest in learning. This event for your school or group is designed to foster partnerships between teachers, parents and students, and strengthen parent and family involvement in science exploration and discovery. Your school or group will explore the museum's galleries and exhibits and have the opportunity to take part in a variety of hands-on science activities and demonstrations. For more information about this exciting program, please call 775-398-5954 or visit nvdm.org.

MUSEUM OVERNIGHTS

The Discovery's overnight program is the perfect educational getaway for schools, scout troops, youth groups and families. When the museum closes for the night, the adventure begins! Take part in exciting, themed science activities and then bunk down for the night in one of the museum's galleries. An evening snack and breakfast are included as part of the program. You'll also get free admission to the museum the following day so you can continue your experience.

2017-18 THEME: DINOSAURS

Go back in time to when dinosaurs ruled the Earth when you spend the night at The Discovery. A *T. rex* Named *Sue* awaits you and your group for an overnight paleontological exploration that will find you creating your own dinosaur fossil, building a dinosaur in *The Shop*, and even learning how scientists work to unearth bones and piece them back together. Please note: A *T. rex* Named *Sue* ends January 15, 2018.



Limited dates are available! To book your museum overnight at The Discovery, visit nvdn.org or call 775-398-5954.

TEEN SCIENCE NIGHT

A ONE-NIGHT TEEN TAKEOVER

Inspiring a teen audience at the age when career path decisions are being made is at the core of The Discovery's mission. And what better way to connect with this important age group than to form a Teen Advisory Committee and charge them with creating an annual event for their peers? Encourage your students to join us for the annual Teen Science Night, hosted and organized by The Discovery's Teen Advisory Committee. They'll explore the entire museum, take part in a variety of intriguing science activities, and find out how The Discovery can open their eyes and minds to what's possible.

Note: Attendance at this event is limited to students enrolled in high school only.

SCRATCH CODE CHALLENGE

DISCOVER CODING AND WIN CASH PRIZES

Scratch is an easy-to-use programming platform with the potential to create amazing interactive games, movies, presentations, and more! In The Discovery's annual Scratch Code Challenge, participants are encouraged to create with Scratch for the chance to win cash prizes. There's no fee to enter, simply register at nvdn.org and start coding!





HALF PRICE ADMISSION PROGRAM

EXTENDED HOURS AND REDUCED ADMISSION

After 4:00pm every Wednesday, The Discovery offers half-price museum admission and remains open until 8:00pm. This makes the museum accessible and affordable to a broader range of families, including those who have work or financial barriers to access during regular business hours. And best of all, The Discovery's Educators keep the science going with repeat performances of demonstrations delivered earlier in the day.

DISCOVER YOUR WAY

A SENSORY-FRIENDLY MORNING AT THE DISCOVERY

During this special event, The Discovery offers exclusive admission to families with children on the Autism/Sensory Processing Disorder Spectrum. This event provides an opportunity to enjoy family time at the museum in a safe, understanding environment and allows parents to network with one another. Discover Your Way visitors are welcome to stay and play when the museum opens to the general public. For more information about this event, please contact Catherine Van Dellen at cvandellen@nvdm.org or 775-398-5942.

EDUCATOR NIGHT OUT

CELEBRATING OUR REGION'S EDUCATION PROFESSIONALS

The Discovery's Educator Night Out is an exciting opportunity for educators and administrators to relax and mingle. You'll learn more about the educational resources and programs offered by The Discovery and have an exclusive opportunity to make your field trip reservation. Discover engaging, innovative, standards-based ways to bring STEM subjects into your classroom and have your students apply that learning through hands-on Discovery Labs on their next field trip! Book online at nvdm.org or by calling 775-398-5954.

SOCIAL SCIENCE

Social Science is adults-only, brain building fun featuring intriguing science demos, a live DJ, and beer, wine, and sweet and savory bites from Whole Foods Market Reno. Enjoy kid-free time at The Discovery while you explore a variety of topics ranging from fermentation, to the human body, to next-generation robotics technology. Social Science happens three times each year, typically in January, April and July. To find out what topics we'll be covering this year, check out nvdm.org.



SCIENCE DISTILLED

Science Distilled, a lecture series created by Desert Research Institute (DRI) and The Discovery, makes cutting-edge science approachable through presentations on current and curious topics held at hip locations in a social atmosphere. For upcoming topics, dates and locations, visit sciencedistilled.org.



A NOVA Science Café presented by DRI and The Discovery

FINANCIAL ASSISTANCE

The Discovery is pleased to offer financial assistance to support the educational needs of families, schools and groups. Financial assistance can provide partial to full support for the cost of the museum's programs.

Assistance is awarded based on availability and financial need. Funds are made available through the generosity of The Discovery's donors. An application fee (applied upon approval toward the cost of the program, or refunded if not approved) for financial assistance is required in order for an application to be considered. Applications are accepted until all available funds are distributed.

To apply for financial assistance, please visit nvdm.org or call 775-389-5954.

For more information about any of
The Discovery's programs and resources for educators,
e-mail info@nvdm.org or call 775-398-5954.



490 S. Center Street · Reno, NV 89501 · 775-786-1000 · nvdm.org

The Terry Lee Wells Nevada Discovery Museum (The Discovery) was incorporated in 2004 in Nevada for the purpose of inspiring curiosity, creativity and the joy of lifelong learning. The Discovery is an IRS-approved 501(c)3, tax-exempt organization with tax ID #61-1474845.