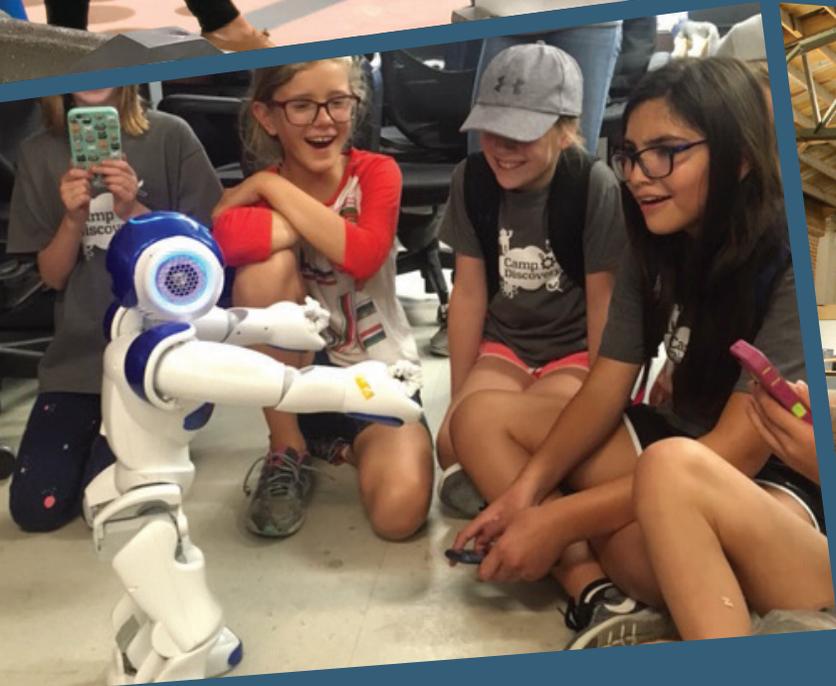


Educator Resource Guide

2019-2020



DEAR FELLOW EDUCATOR,

We all know the excitement of seeing a student experience an a-ha moment, and we believe these moments of joyful learning are needed now more than ever. From our adults-only events, to our ever-expanding science camps, to our continually growing school field trip program, The Discovery is truly creating a community of lifelong learners. But we couldn't achieve our mission without the support and partnership of educators like you.

As our community and our global economy change, we recognize the need to provide educational opportunities in line with the changing needs and interests of our population. Over the last two years we have bolstered engineering and computer science curriculum in our school field trip program. To help inspire future engineers and tech-savvy young people, we have partnered with the University of Nevada's Mobile Engineering Education Lab and with Sierra Nevada Journey's Classrooms Unleashed program. You can view a full list of the labs offered as part of The Discovery's school field trip program on our website at nvdn.org.

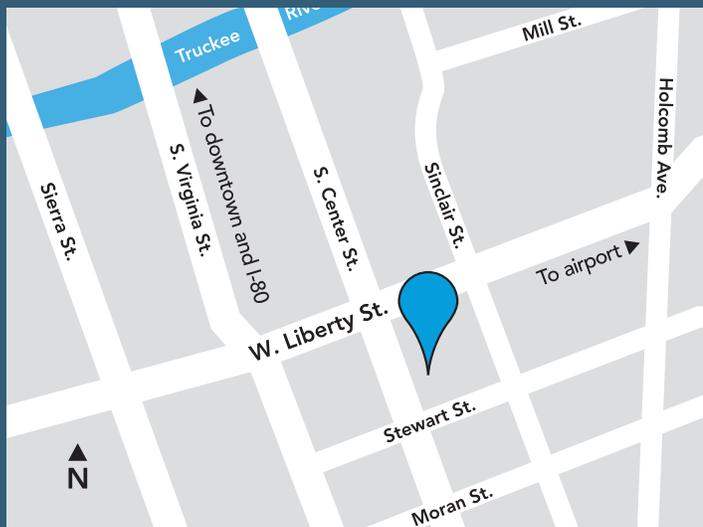
The Discovery's educational programs and events are full of opportunities for collaboration and interaction for learners of any age. We invite you to take a break from the classroom by attending one of our adults-only events. Science Distilled, our informal lecture series featuring amazing scientists from our community, and our themed Social Science events, are great ways to enjoy the museum with a beverage in hand while exploring new and intriguing topics.

My best wishes to you for a successful school year. We hope to see you at The Discovery soon.

Sincerely,



Sarah Gobbs-Hill
Senior VP of Education & Exhibits



CONTACT INFORMATION

490 S. Center Street, Reno, NV 89501
775-786-1000 · info@nvdn.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-aligned hands-on Discovery Lab to your visit. **Transportation for all Washoe County School District (WCSD) 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 nvdm.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 will bill the museum for transportation costs).

- **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:** \$8 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. Your feedback helps us continue to improve the field trip experience.

DISCOVERY LABS & GUIDED EXHIBIT EXPLORATIONS

In addition to ample time to explore the museum, field trips and group visits can include your selection of a Discovery Lab or Guided Exhibit Exploration from the list below. Click “Make Your Reservation” to choose your activity and begin the adventure!

EXPLORING PUSHES & PULLS

GRADE LEVEL(S)	FORMAT
Preschool-K	Guided Exhibit Exploration

Description: How can you launch a ball with a catapult as far as possible? In this 30-minute Guided Exhibit Exploration students will explore this question and others to help them to better determine design solutions that work to change the speed or direction of an object with a push or a pull.

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

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



TOOL EXPLORATION

GRADE LEVEL(S)	FORMAT
K-2nd	Discovery Lab

Description: In this Discovery Lab, students will explore how many tools are actually simple machines that allow us to perform a variety of tasks. This concept is the foundational understanding for motion, stability and the interaction of forces.

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



SKYSCRAPER CHALLENGE

GRADE LEVEL(S)	FORMAT
K-2nd	Discovery Lab

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.



Skyscraper Challenge is presented in partnership with Sierra Nevada Journeys’ Classrooms Unleashed Program. Additional in-class lessons led by SNJ educators are available.

EXPLORING LIGHT

GRADE LEVEL(S)	FORMAT
1st	Guided Exhibit Exploration

Description: During this 30-minute Guided Exhibit Exploration, 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..

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



DISCOVERY LABS & GUIDED EXHIBIT EXPLORATIONS (CONTINUED)

CHANGING MATTER

GRADE LEVEL(S)

FORMAT

2nd

Discovery Lab

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



MY ROBOTIC BUG

GRADE LEVEL(S)

FORMAT

2nd

Discovery Lab

Description: Using a cute, clever and codeable Blue-Bot, students will explore the possibilities unleashed by an understanding of the language of computers in this tech-savvy Discovery Lab.

K-12 Computer Science Framework: 2nd Grade – Algorithms & Programming



DEFYING GRAVITY

GRADE LEVEL(S)

FORMAT

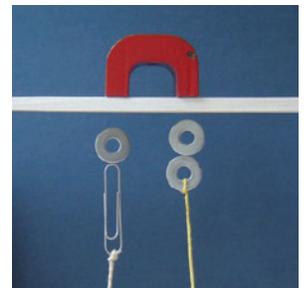
3rd

Discovery Lab

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



MEASURE TWICE, CUT ONCE

GRADE LEVEL(S)

FORMAT

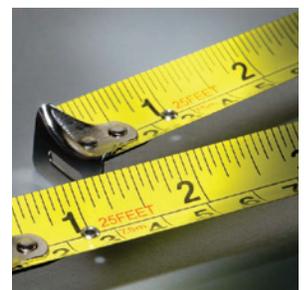
3rd–5th

Discovery Lab

Description: In this Discovery Lab, students' knowledge of fractions will be enhanced as they practice measurements in the standard system. Students will learn to use tools as well as important safety precautions. Each student will use these skills to build a key hanger they can take home.

Note: 54 students maximum.

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



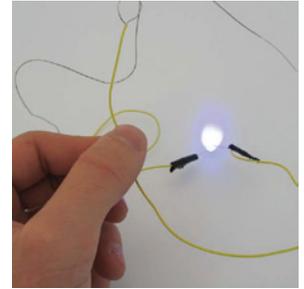
DISCOVERY LABS & GUIDED EXHIBIT EXPLORATIONS (CONTINUED)

CIRCUIT STEAM

GRADE LEVEL(S) **FORMAT**
4th Discovery Lab

Description: In this STEAM-inspired Discovery 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



CRACKING THE CODE

GRADE LEVEL(S) **FORMAT**
5th-6th Discovery Lab

Description: This Discovery Lab allows students to engage with robotics and coding as they work through a series of team programming challenges. Students will learn that algorithms are a series of steps followed to complete a task while they work collaboratively to learn about the design and revision process to creating the best possible algorithm for their robot.

K-12 Computer Science Framework: Algorithms & Program Development
Common Core: SL.5.1



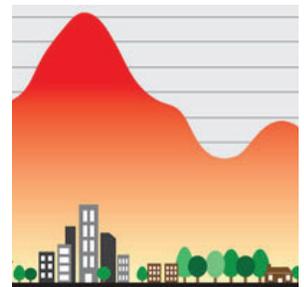
Cracking the Code is presented in partnership with the University of Nevada, Reno College of Engineering's Mobile Engineering Education Lab. Additional in-class lessons led by ME2L educators are available.

URBAN HEAT ISLANDS

GRADE LEVEL(S) **FORMAT**
6th-8th Discovery Lab

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-ESS3-4, 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 AT THE DISCOVERY

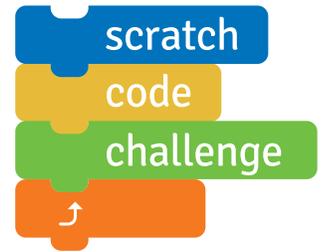
STRENGTHEN PARENT AND FAMILY INTEREST IN SCIENCE

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 visit nvdm.org or call 775-398-5954.

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 nvdm.org and start coding!



NEVADA EXHIBITION

REIMAGINING OUR STATE'S HISTORY

Rugged, dramatic, diverse — this is how our great state will be portrayed in The Discovery's planned exhibition, *Nevada*. A reimagining of the museum's current *Nevada Stories* exhibition, *Nevada* will reside in a new location within the museum's walls and will help create an understanding of our state's beautiful landscapes, contrasting regions, diverse flora and fauna, and the varied industries and careers they foster.

This 3,000 square-foot exhibition, boasting more than 30 hands-on exhibits, will be a welcoming space for long-time Nevadans, new residents, and those visiting our state. Nevada will encourage museum visitors to become familiar with a variety of topics like the species that share our land, the clarity of Lake Tahoe, predator-prey relationships, land resource management, native and invasive species, and more. The exhibition aims to inspire stewardship of the land, and most importantly, a lasting sense of place.

Nevada is expected to open in late 2020.



HALF PRICE ADMISSION PROGRAM

EXTENDED HOURS AND REDUCED ADMISSION

Beginning at 4:00pm every Wednesday, The Discovery offers \$5 admission for all visitors 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 science 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 so they can get oriented enough to return anytime. It also allows parents to network with one another. For more information about this event, please contact Catherine Van Dellen at 775-398-5942 or cvandellen@nvdm.org.

SOCIAL SCIENCE

ADULTS-ONLY, BRAIN BUILDING FUN

Explore the entire museum with a beverage in-hand while you get hands-on with topics ranging from crime scene science, to the human attraction, to the process of fermentation. Social Science happens four times each year, typically in January, March, June and September. To find out what topics we'll be covering this year, check out nvdm.org/socialscience.



SCIENCE DISTILLED

CUTTING-EDGE SCIENCE MADE APPROACHABLE

Science Distilled, the lecture series created by the 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.

KUNR now offers a podcast inspired by the Science Distilled event series. Just like the lecture series, topics covered range from life with robots, to astrobiology, to the air we breathe. Download episodes at Apple Podcasts, Google Play, or wherever you download your podcasts.



A NOVA Science Café presented by DRI and The Discovery



EDUCATOR APPRECIATION DAY

CELEBRATING OUR REGION'S EDUCATORS

The Discovery's Educator Appreciation Day is an exciting opportunity for educators and administrators to experience, first-hand, what The Discovery has to offer. You'll learn more about the educational resources and programs offered by The Discovery and have an opportunity to make your field trip reservation. You'll discover engaging, innovative, standards-aligned ways to bring STEM subjects into your classroom and have your students apply that learning through hands-on Discovery Labs and Guided Exhibit Explorations.

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@nvdn.org or call 775-398-5954.



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