

# REDEFINE YOUR CLASSROOM.



## CALLING ALL 2ND GRADE TEACHERS!

### THE NEW NATURE OF LEARNING

Think outside. Outside the classroom, outside the textbooks and outside the expectations of what science learning can be. With Sierra Nevada Journeys – a non-profit dedicated to developing problem solving skills through outdoor science – we turn the great outdoors into a powerful academic experience.

-  **OUTDOOR SCIENCE FIELD STUDY WITH CLASSROOM EDUCATION**
-  **OUTDOOR OVERNIGHT LEARNING PROGRAM**
-  **TEACHER PROFESSIONAL DEVELOPMENT**
-  **FAMILY SCIENCE/STEM NIGHT**
-  **SUMMER CAMPS**

### LEARN MORE OR REGISTER

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**Sierra Nevada  
JOURNEYS**

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Sierra Nevada Journeys is a not-for-profit 501(c)(3) organization.

# PREPARE YOUR 2ND GRADE STUDENTS FOR THE FUTURE

At a time when science literacy is in critical demand, Nevada and California's elementary school science test scores are significantly lower than the national average. Sierra Nevada Journeys makes a positive impact on your students' lives through hands-on outdoor science education.

## THE BIG IDEA

Sierra Nevada Journeys uses the unique outdoor classrooms of our region to deliver science and collaborative problem solving education. To date, we've provided life-changing learning experiences to countless students and educators. Let's make your class the latest success story!

- **All of our classroom educators are credentialed teachers, or teachers in training who undergo extensive preparation programs to provide high quality instruction.**
- **Program fees are based on a sliding scale to meet the needs of all schools.**

## 2ND GRADE PROGRAM - MATTER MATTERS

Throughout this unit students will work collaboratively to explore properties of matter and apply their understanding to solve a problem. Students will discover the relationship between the properties of matter and its uses. Students participate in three in-class lessons integrating second grade standards for Structure and Properties of Matter and Engineering Design. Students will demonstrate their understanding by working in teams to design and construct a bridge that can support weight.

## THE DETAILS

This unit is backwards designed from Common Core and Next Generation Science State Standards for second grade and includes pre- and post- student assessments. To supplement the lessons taught by Sierra Nevada Journeys, the teacher will also have access to our extension curriculum. The extensions include a pre-unit lesson, extension activities for the in-school and field based lessons, and a post-unit lesson to wrap up the program.

## LESSONS OVERVIEW

### LESSON 1: What's the Matter?

During this 60-minute lesson students will practice making observations and classifying materials based on their observable characteristics. Students will focus on physical properties including color, texture, hardness, and flexibility. Students will then apply their understanding of physical properties to conduct an investigation about how to select the best materials to build a roller coaster.

### LESSON 2: Manipulating Matter

During this 60-minute lesson students will investigate how certain properties of solid matter are more or less desirable when choosing what materials to use to perform certain functions. Students will explore how changing matter can also change an object's physical properties, and will apply their understanding by working in small groups to build a model bridge.

### LESSON 3: The Discovery Museum

During this 3-hour field trip students will travel to the Terry Lee Wells Nevada Discovery Museum! Students will work in teams during a museum lab to build a skyscraper, journey on a scavenger hunt throughout the museum looking for properties of matter, and build more bridges out of wooden blocks in the Build-it Room.

### LESSON 4: Building Bridges

During this 60-minute lesson students will work collaboratively in groups to design paper bridges using their understanding of the physical properties of matter. Students will engage in the engineering and design process to plan, build, test, re-design, then re-test to see which bridges can hold the most mass.

#### Common Core

ELA: SL.2.1, W.2.7, W.2.8

#### Next Generation Science Standards

2-PS1-1: DCI PS1.A, SEP:

Analyzing and Interpreting Data, CC: Patterns

K-2-ETS1-3: DCI ETS1.C, SEP:

Analyzing and Interpreting Data, CC: Structure and Function

## RANKING OF SCIENCE EDUCATION IN THE UNITED STATES

According to the Science and Engineering Readiness Index (SERI), California and Nevada rank below average and far below average, respectively, in educating students in science.

NEVADA  
#44 of 50

CALIFORNIA  
#34 of 50

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