

Pre-trip preparation for

Learn the basics of computer coding through hands on challenges. Learn about the applications and usage of computer coding and potential career opportunities.

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

Evaluate competing design solutions using a systematic process to determine how well they meet the criteria and constraints of the problem.

Common Core: MP.2

Reason abstractly and quantitatively.

Common Core: 7.EE.3

Solve multi-step real-life and mathematical problems posed with positive and negative rational numbers in any form (whole numbers, fractions, and decimals), using tools strategically. Apply properties of operations to calculate with numbers in any form; convert between forms as appropriate; and assess the reasonableness of answers using mental computation and estimation strategies.

During your Discovery Class students will be expected to:

- Sit in groups of 4 students per table.
- Students should be prepared to give their full attention to the Lab instructors when given the quiet signal.
- Work cooperatively with one another at the table.
- Follow the hands-on procedures just as the Lab teacher or assistant explains them.
- Handle materials and equipment carefully.

It is important that teachers and chaperones:

- Help focus the student's attention.
- Assist students with lab activities through questioning allowing the student to do the actual building and decision making. For example a parent might ask, "I see your base is shaky, what could you do to strengthen it?"
- Engage students at a higher level by asking open-ended questions throughout the class. For example: "Why did you choose __?"
- Turn off cell phones and other electronic devices during the class.

Literary connection:

To get students excited about the upcoming Discovery lesson we suggest reading experts from the following book with your students: *Ruby Wizardry: An Introduction to Programming for Kids*, by Eric Weinstein.

