

Discovery Lab Description:

In this hands on Discovery Lab students work to design, create, test and redesign free-standing, weight-bearing towers using KEVA® Planks. The challenge is to build the tallest tower while meeting the design criteria and minimizing the amount of material used—all within a time limit. Students experiment with different geometric shapes used in structural designs and determine how design choices affect the height and strength of structures, becoming comfortable with the concepts of structural members and modeling.

During the Discovery Lab students will be expected to:

- Sit 4 students per table.
- 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.
- Wear safety glasses at all times when tools are in use.

It is important that teachers and chaperones:

- Help focus the students' attention.
- Assist students with lab activities through questioning allowing the student to do the actual data collection 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 activity.

Literary connection:

To get students excited about the upcoming Discovery Lab we suggest reading the following story with your students: *Let's Build* by Sue Fliess. This book follows a son and his dad as they plan and build the best fort ever.



Nevada Academic Content Standards in Science (NGSS):

2-PS1 -2. Analyze data obtained from testing different materials to determine which materials have the properties that are best suited for an intended purpose.