

Pre field trip suggestions for

Tool Exploration

Grade: K-2

Have you ever tried to do a job and not have the right tool? In this hands on lab students will move through seven stations that will teach them how to use a variety of hand tools including screwdrivers, drills, and saws! Students will then explore how many of these tools are simple machines that allow us to do work which is the foundational understanding for motion and stability and the interaction of forces state and national standards.

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

Develop a simple sketch, drawing, or physical model to illustrate how the shape of an object helps it function as needed to solve a given problem.

During the Discovery Lab students will be expected to:

- Sit in groups of 4 and work cooperatively with others at the table.
- Students should be prepared to give their full attention to the Lab instructors when given the quiet signal.
- Follow the hands-on procedures just as the Lab teacher or assistant explains them and 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.
- Help monitor the room and students to ensure a safe environment.
- Assist students with lab activities through questioning allowing the student to do the actual tool use. For example a parent might ask, "How did the teacher say that you needed to position the drill?"
- 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 the following story with your students: *Tool School* by Joan Holub. Join a hammer, screwdriver, tape measure, saw, and pair of pliers on their first day of school. Together, they make puzzles and play games, but when it's time to build something it's suddenly every tool for itself. Working alone, each tool soon realizes that to make something great all need to cooperate! We like this book because it has irresistible bold artwork and fun rhyming text so your students learn not only some tool basics but that a little teamwork can make a big difference.

