



Culver TEAMS Report

**Building a Better Education by Connecting
Technology, Engineering, Arts, Math, and Science**



Culver School District Annual STEMfest!

We invite everyone to attend the 3rd annual Culver School District STEMfest. Students will be demonstrating some of the great projects they have done this year!

When: May 30th

Where: All schools

Schedule:

8:30-9:15 – Assembly
by Bend Research
Institute

9:15-10:15 - Middle
School Showcase

10:50-11:50 - High
School Showcased

11:55-12:45 -
Elementary Showcase

Middle School Goes to the Fishes

Culver Middle School has continued their theme of “The Outdoors Meet STEM” this year by having a yearlong collaboration with ODFW. Starting in Mr. Habliston’s Oregon Recreation class, students have participated in ODFW’s Salmon and Trout Enhancement Program (STEP). The classes went to Round Butte Hatchery where they helped ODFW staff with the spawning cycle.

In the fall, the 1st semester students helped with a recent attempt by ODFW to bring back a previously “extinct” species, the sockeye salmon. This fall, ODFW had a total of 40 sockeye salmon return to the hatchery, so the program is just in its infancy. The hope is that in years to come, Culver Middle School students will be able to say that they helped bring back an extinct species, and one day may even be able to fish for this species in Lake Billy Chinook.

In February, the 2nd semester class took a more active role at the hatchery by helping spawn steelhead. Students helped “bonk” the fish, remove eggs and milt, and even take brain and kidney samples to test for disease. After the eggs were fertilized, the same eggs were delivered to Mr. Habliston’s classroom where he raised them and had them hatch in a tank. The students took daily water samples and observations. Raising the fry until they were ready to be released, the fry were taken to Smith Rock State Park where the students released the fish to hopefully migrate to the ocean. Culver’s students now have special bragging rights. Culver Middle School is the only school in the entire state to do the complete process of spawning, hatching, and releasing the fish.

The fish study didn’t stop there however. Extra carcasses were given to Mr. Kirk’s 8th grade science class where they performed dissections of the fish. With help from ODFW biologists, students learned to identify the different internal organs of the fish, the purpose of organs, and see the transformation the fish go through when they transition to spawn.

Finally, Mrs. Chapman’s 7th graders also took part in the fish action by learning Gyo-taku. Gyo-taku, Japanese fish stamping dating back to the 1800s was taught to show how fisherman used to prove their fisherman’s tale of the fish “being the biggest fish ever”. Fish were painted, and then paper was placed on the fish and removed. The result was a perfect tracing including scales and fins of the fish.



Learning to Protect Against Wildfires

Why do fires spread through the forest in one direction but not always in another? Why does a fire get out of control one month but not another? These are questions the students in the Fire Science high school class are answering. Not only are they learning the causes of fires, but they are also learning the science behind why fires start, how the environment effects the fire, and how to protect structures.

Students have conducted several experiments for the class. One experiment was on heat transfer. They created a hypothesis about whether fires would burn more intensely and quickly based on the angle of the slope. They also did an experiment testing how a fire reacts to different terrain based on conduction, convection, and radiation. In this experiment they created a scale model of hills, flat areas and drop-offs, and tested back-burns and prescribed burns as well. Wyatt Corwin stated, "Our labs in Fire Science have shown us the destructive side of fire that everyone knows about, but also the helpful side."

"We have gone to many interesting places on field trips in this class, including one to Portland, where we learned about the evolution of fires in the last twenty years," stated Kylee Pagel. This trip to the World Forestry Center in Portland gave students an opportunity to listen to experts discuss the "Era of Megafires." Students listened to Dr. Paul Hessberg, fire ecologist for the U.S. Forest Service, who has been studying the phenomenon of increasing fire activity over the past century. Students learned that prescribed burns and a return to sustained harvest logging and thinning are necessary to maintain a "patchy forest" that will endure wildfires and create a balanced ecosystem. Students also learned about safety measures in the rural-urban interface, which is growing as more people build their homes near public lands and in overgrown and wild areas.

As a result, many Fire Science kids are interested in working in the fire suppression and forest management fields. A recent trip to the Redmond Smokejumper Base and Central Oregon Dispatch allowed students to see the diverse positions available to them, from elite firefighter to summer engine crew to on-the-ground support for large disasters. During STEMfest, student-led demonstrations will teach younger kids a little about the "fire triangle" and how to be safe in the woods - just in time for summer campfires.



Planting with the First Graders

A unique aspect of Culver School District is all three schools are located on one block. This allows for integration between schools and classrooms. The elementary class took advantage of this by pairing up with the high school woodshop students in order to create planter boxes and plant flowers. "This project created a connection between my students and the elementary students. It builds a sense of community and a glimpse of a future opportunity," said Mr. Burbank, woodshop teacher.

Woodshop students first made "kits" of all the materials needed to make planter boxes. Before building could begin, the first graders were taught a basics safety lesson by Mr. Burbank. Then the first grade students worked with the high school students to build the planter boxes. For many of the first graders, this was the first time they had built something from wood. They were very excited to know that at the end of the school year these boxes would go home with them so they could continue to grow things in the boxes for years to come.

A couple weeks after the boxes were complete, the weather now made it the right time to plant! Ms. Clark's Around the World class went to help the 1st graders with this task. Students planted tomatoes, corn, peas, green beans, and sunflowers. The first grade teachers wanted to the students to understand they could grow their own food and hopefully instill a passion of gardening so in the future the school may have a school garden.