At OES, students learn and practice the foundation of inquirybased science through the study of physics, followed by chemistry and biology. In grades 11 and 12, students have the opportunity to select from an array of semester electives in which they can continue to explore their specific interests or discover

new ones.

Recently offered courses include:

- Advanced Electricity & Magnetism
- Advanced Mechanics
- Anatomy & Physiology

• Data Science

Machine Learning

• Genetics

Dynamic Equilibria

- Computational Physics
- Organic Chemistry

Introduction to Engineering

Beyond the Classroom

OES facilitates collaborative inquiry beyond the classroom. Students and faculty explore unique science education initiatives to participate in citizen science.

Recent science co-curricular opportunities include:

- Field studies at the Oregon Zoo
- Greenhouse Activity
- Environmental Citizenship Activity
- Aerospace Team
- Science-based Winterim courses like spelunking, studying wolves in Yellowstone Park, geothermal energy in Iceland, and marine science in Belize.



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Translation available at **oes.edu/science**





Ready to learn more?

ADVANCED CLIMATE SCIENCE. ADVANCED PHYSICS: MECHANICS. ADVANCED SCIENCE RESEARCH. BETTER LIVING THROUGH CHEMISTRY. GENETICS. INTRODUCTION TO ENGINEERING. ADVANCED PHYSICS: ELECTRICITY AND MAGNETISM. DYNAMIC EQUILIBRIA. GLOBAL SYSTEMS. INTRODUCTION TO BIOTECHNOLOGY









Our science program challenges students through independent research, and provides opportunities for national and international competition.

With guidance and support from practicing scientists and mentors, OES students explore interest-driven questions, learn to think like scientists, and deeply engage with the ever-changing world around them. In all OES science classes, the inquiry-driven approach to research develops students' critical thinking skills.

For each science inquiry project, students observe the world, learn to ask testable questions, design and implement strategies to collect relevant information, and analyze and interpret data to form conclusions. By the time students graduate, they have completed multiple projects that demand progressively sophisticated approaches, require developmentally appropriate skills, and foster iterative growth.

"The science program at OES empowers students to apply their own curiosity, and their growing subject knowledge, in the creation of their own unique scientific research projects. Through this hands-on approach, students craft thought-provoking questions that push and grow the boundaries of their understanding. Along the way they cultivate the essential skills of inquiry, honing their ability to observe, question, explore, and analyze, answer their own questions, while simultaneously gaining a deeper understanding of their subjects."

- Joshua Caditz, Upper School Science Teacher



This annual science, engineering, computer science, and math research exhibition gives students in grades 9 through 12 the chance to present research on topics of their choice.

communicate their process. Each year, there are an and often include OES parents and alumni.

The Aardvark Science Expo is a preliminary qualifying round for state, regional, and national competitions. Each year, OES sends students to the Regeneron International Science and Engineering Fair (ISEF)

OES engages experts from the Portland area to "judge" the Expo so all students experience what it means to defend their work and

average of 75 judges for a student-judge ratio of 3:1, so that each student has ample time for connection with and feedback from professionals from their field of study. Judges hold either a master or doctoral degree in science, math, or engineering,

EXAMPLES OF **RESEARCH TOPICS**

nimal Sciences • Biochemistry Computer Science and Robotics • Environmental Sciences • Plant Science

oes.edu/expo