

Lab Activities in Edmentum Courseware Science Courses



Courseware

Edmentum science courses are aligned to NGSS and state standards and provide students with extensive and meaningful inquiry and lab experiences through Lesson Activities, Course Activities, and Unit Activities. Taken altogether, Edmentum science courses focus a significant amount of student time and student thought into scientific inquiry.

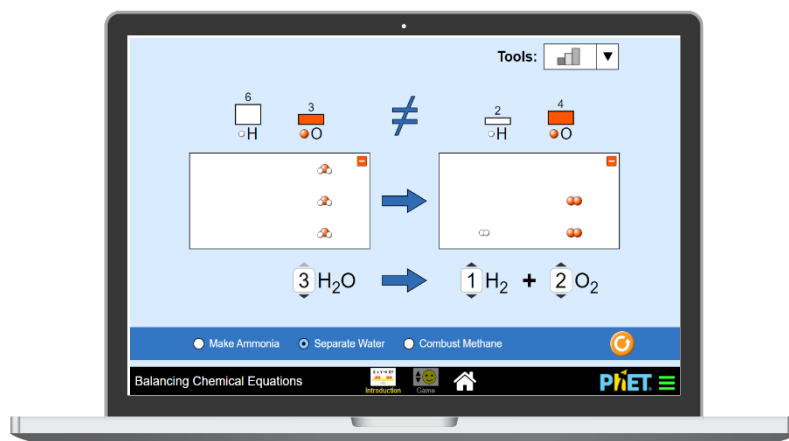
The lab activities for science subjects provide students deep personal engagement with the scientific concepts they are studying and exploring. Science instruction is as much about learning how to do science as it is about developing a conceptual understanding. Labs bring those two elements together. This document provides a summary of the types of labs in each Courseware course, and for more detailed information on course content, lab procedures, and lab materials needed, please refer to the Courseware teacher guide for the course.

Virtual Labs

In courses with virtual labs or labs with digital tools, students plan and execute investigations through carefully designed online tools and media such as simulations and videos. They also design experimental setups and analyze data and visuals derived from real-world experiments. For courses with virtual labs or labs using digital tools, all lab materials are embedded within the course and no external materials are required.

Courses with virtual labs or digital tools:

- Science 6 with Virtual Labs
- Science 7 with Virtual Labs
- Science 8 with Virtual Labs
- Biology with Virtual Labs



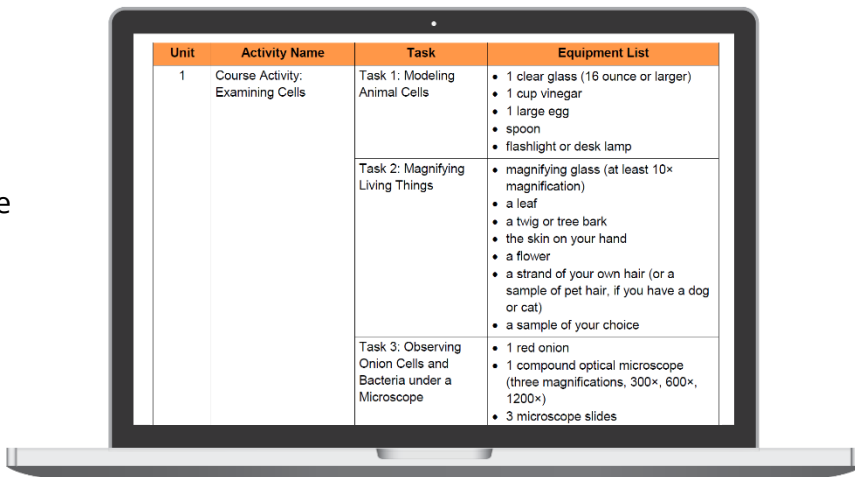
Common Materials Labs

Labs that use common materials require simple household goods or materials that are readily available in school labs. In some circumstances, items may need to be purchased (e.g., thermometer, food coloring, craft sand, etc.) Students will need to plan ahead by designating a work area, noting the duration of the experiment, and identifying the time of day the experiment needs to take place.

Students can access a list of materials needed for each lab in their course syllabus. For safety purposes, all investigations require adult supervision, and students and teachers must always follow the written safety instructions.

Courses with common materials labs:

- Science 6
- Science 7
- Science 8
- Middle School Earth and Space Science
- Life Science
- Physical Science
- Advanced Biology
- Advanced Chemistry
- Integrated Physics and Chemistry
- Physics



Unit	Activity Name	Task	Equipment List
1	Course Activity: Examining Cells	Task 1: Modeling Animal Cells	<ul style="list-style-type: none"> • 1 clear glass (16 ounce or larger) • 1 cup vinegar • 1 large egg • spoon • flashlight or desk lamp
		Task 2: Magnifying Living Things	<ul style="list-style-type: none"> • magnifying glass (at least 10× magnification) • a leaf • a twig or tree bark • the skin on your hand • a flower • a strand of your own hair (or a sample of pet hair, if you have a dog or cat) • a sample of your choice
		Task 3: Observing Onion Cells and Bacteria under a Microscope	<ul style="list-style-type: none"> • 1 red onion • 1 compound optical microscope (three magnifications, 300×, 600×, 1200×) • 3 microscope slides

Specialized Materials Labs

To provide students with hands-on experience with certain quantitative methods and with the tools and materials of laboratory science, such as electronic balances, graduated cylinders, microscopes, and scientific specimens, some labs require specialized materials. Labs with specialized materials also address the standards in states that explicitly require this kind of experience in high school science. Schools and districts can purchase economically-priced lab kits containing the necessary materials from [Ward's Science](#). All Courseware courses are customizable, so teachers can opt to remove any of the specialized-materials labs from the learning path while still retaining full coverage of the NGSS standards.

Courses with specialized materials labs:

- Biology
- Chemistry
- High School Earth and Space Science

Although some of the labs in the above courses require specialized materials, these courses also contain many labs that require common materials. For more detailed information on course content, lab procedures, and lab materials needed, please refer to the Courseware teacher guide for the course.