

Natural Sciences at a Distance: Making the Move and Meeting the Learning Outcomes

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SUNY Empire State College

SUNY Remote Teaching Clinic Presentation

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Science Lab Kits Companies

Carolina Distance Learning

<http://landing.carolina.com/distance-learning>

eScience Labs

<https://esciencelabs.com/>

Hands-On Labs

<https://www.holscience.com/>

Ward's Science

<https://wardsci.com/>

Commercial Virtual Lab Companies

Labster

<https://www.labster.com/>

SimBio

<https://simbio.com/>

Science OER (Simulations, Experiments, Data, and Content)

SUNY OER Services Ready-to-Adopt Courses

Course content/textbook that can be uploaded into the learning management system and is available to SUNY students at no cost.

<https://oer.suny.edu/>

HHMI BioInteractive

Activities, videos, and interactive simulations on different topics and science areas by the Howard Hughes Medical Institute.

<https://www.biointeractive.org/classroom-resources>

LibreTexts

An effort between the Department of Education Open Textbook Pilot Project, the UC Davis Office of the Provost, the UC Davis Library, the California State University Affordable Learning Solutions Program, and Merlot. Open resources include textbooks, lab experiments, and simulations.

<https://libretexts.org/>

Direct Links to Videos, Simulations, and Other Ancillary Materials

Biology - https://bio.libretexts.org/Bookshelves/Ancillary_Materials

Chemistry - https://chem.libretexts.org/Bookshelves/Ancillary_Materials

Geosciences - https://geo.libretexts.org/Bookshelves/Ancillary_Materials

Physics - https://phys.libretexts.org/Bookshelves/Ancillary_Materials

PhET Interactive Simulations

Simulations on a variety of topics and science areas based at the University of Colorado at Boulder.

Users can search by subject and grade level.

<https://phet.colorado.edu/>

NCBI Basic Local Alignment Search Tool (BLAST)

National Center for Biotechnology Information, U.S. National Library of Medicine

<https://blast.ncbi.nlm.nih.gov/Blast.cgi>

ChemCollective

By the Carnegie Mellon's Open Learning Initiative. Offering free resources to COVID-19 impacted institutions.

<http://chemcollective.org/home>

American Society for Microbiology

Open-access content submitted and peer-reviewed.

<https://www.asmscience.org/VisualLibrary>

The Journal of Visualized Experiments

The journal publishes experimental techniques in a visual form. Areas include chemistry, genetics, biochemistry, engineering, and the environment.

<https://www.jove.com/journal>

Virtual Labs Media Library

Repository of labs and visualizations by Stanford University.

<http://virtuallabs.stanford.edu/>

Harvard's LabXchange

A suite of lab simulations with assessments that focus on basic molecular biology techniques

<https://www.labxchange.org/>

American Association of Chemistry Teachers

Simulations

<https://teachchemistry.org/periodical/simulations>

Teaching Geosciences Online

A repository by the Science Education Resource Center (SERC) to help faculty transitioning to online education due to the current COVID-19 emergency.

https://serc.carleton.edu/teachearth/teach_geo_online/index.html

Virtual Urchin

Virtual microscope by the University of Washington.
<https://depts.washington.edu/vurchin/>

Learn.Genetics

Simulations and Activities
<https://learn.genetics.utah.edu/>

Virtual Fly Lab

Inquiry-based lab on Mendelian Genetics.
<https://www.sciencecourseware.org/vcise/drosophila/Drosophila.php?guestaccess=1>

UNAVCO Education

Geodesy data and modules for undergraduate education.
<https://www.unavco.org/education/resources/resources.html>

Incorporated Research Institutions for Seismology (IRIS)

Modules, data, animations, lessons, resources, and video lectures on seismology concepts.
<https://www.iris.edu/hq/programs/epo>

Virtual Dissections

https://thesciencebank.org/index.php?route=information/information&information_id=7

Citizen Science Projects

ESC Citizen Science Site

<https://www.esc.edu/citizen-science/other-projects-resources/>

National Geographic Citizen Science Site

<https://www.nationalgeographic.org/idea/citizen-science-projects/>

Citizenscience.gov

<https://www.citizenscience.gov/catalog/#>

Cornell Laboratory of Ornithology Citizen Science Projects

<https://www.birds.cornell.edu/citizenscience>

North American Breeding Bird Survey (BBS)

<https://www.pwrc.usgs.gov/bbs/>

eBird

<https://ebird.org/home>

Zooniverse

<https://www.zooniverse.org/projects>

Scientific American

<https://www.scientificamerican.com/citizen-science/>

U.S. EPA

<https://www.epa.gov/citizen-science/examples-citizen-science-projects-supported-epa>

NASA

<https://science.nasa.gov/citizenscience>

Case Studies, Videos, and Other Resources

National Center for Case Study Teaching in Science

<https://sciencecases.lib.buffalo.edu/>

Ted Talks

<https://www.ted.com/talks>

University of San Diego Case Studies

ethical questions about genetics technologies

https://knowgenetics.org/case_studies/

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