

Appendix A. List of some databases and/or resources for ecology and evolution active learning content, and inclusive teaching practices.

Database or website	Brief Description	Focus	Website link
American Museum of Natural History, Ecology Disrupted	A 3-part curriculum that contains videos and case studies about ecology research and connection to daily life. Also see the additional Ecology Disrupted materials created by teachers. Target audience is 7-12th grade.	Ecology	https://www.amnh.org/learn-teach/curriculum-collections/ecology-disrupted
Connecting Students to Citizen Science and Curated Collections	Teaching materials to implement a term-long student research project that involves collecting, pressing, and identifying plant specimens. Uses iNaturalist and Symbiota. Includes materials for students and instructors.	Ecology	https://collectionseducation.org/
Conservation Bridge Case Studies	Videos, resources, and case studies about conservation.	Ecology	https://www.conservationbridge.org/
DIG into Data for the Biology	Datasets and activities intended to be used in the online ecology classroom	Ecology	https://qubeshub.org/community/groups/data_incubator/tiee
Ecological Society of America Online Teaching	Webpage by the ESA with tips and links to other resources.	Ecology	https://www.esa.org/programs/ecology-education/online-teaching/#gsc.tab=0
Enduring Legacies Native Cases, Evergreen State College	A collection of case studies that contains culturally relevant curriculum by focusing on issues faced by Indigenous peoples. Also includes helpful resources and assesment options.	Ecology	http://nativecases.evergreen.edu/
GIS in Ecology	A collection of case studies highlighting where GIS has played a role in ecological or marine biology studies.	Ecology	http://gisinecology.com/case_studies.htm
National Research Council Ecological Knowledge and Environmental Problem-Solving	A National Academies of Sciences, Engineering, and Medicine free, downloadable pdf book with 13 case studies.	Ecology	https://www.nap.edu/catalog/645/ecological-knowledge-and-environmental-problem-solving-concepts-and-case-studies
Traditional Ecological Knowledge and Conservation	A three-day module for teaching Traditional Ecological Knowledge (TEK) in modern conservation. Website includes worksheets and interactive content.	Ecology	https://qubeshub.org/qubesresources/publications/1939/about?v=1
UK Center for Ecology and Hydrology	Collection of over 20 case studies on ecology, biodiversity, human health, and hydrology.	Ecology	https://www.ceh.ac.uk/case-studies
Big History	Collection of free, open, online resources for teaching about the shared ancentry on Earth. Target audience is middle and high school.	Evolution	https://school.bighistoryproject.com/bhplive
Case It!	Molecular biology simulations for case-based learning. A downloadable computer simulation for working with DNA or protein sequences.	Evolution	http://www.caseitproject.org/
Diversity and Inclusion in Evolutionary Sciences	BioMed Central collection of journal articles dealing with diversity and inclusion in evolutionary science	Evolution	https://www.biomedcentral.com/collections/DIES
DNA to Darwin	A colleciton of 10 practical bioinformatics activities that use data analysis tools and molecular data to help students understand evolution.	Evolution	http://www.dnadarwin.org/casestudies/
Evolution and the Nature of Science Institutes	A collection of classroom lesssons about evolution and natural science. Targeted to high school students.	Evolution	https://ensiweb.bio.indiana.edu/
EvoEd: Cases for Effective Evolution Education	Handful of cases dealing with evolution of traits. Has a resources tab and a games/sims tab.	Evolution	http://www.evo-ed.org/
Exploring Life's Origins	Website with open access videos for teaching about evolution of RNA.	Evolution	http://exploringorigins.org/resources.html
Gender-Inclusive Biology	Website with multiple teaching materials that link Next-Generation Science Standards with gender-inclusive teaching. Educational materials cover evolution and other topics.	Evolution	https://www.genderinclusivebiology.com/lesson-materials
National Museum of Natural History Teaching Evolution through human examples	Collection of 5 downloadable case studies for teaching evolution. Also includes a section on cultural and religious sensitivity.	Evolution	https://humanorigins.si.edu/education/teaching-evolution-through-human-examples

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PBS Teaching Evolution	Evolution library for teachers, contains a handful of case studies and other resources.	Evolution	https://www.pbs.org/wgbh/evolution/educators/index.html
Towards a More Human Genetics Education	Webpage with resources for teaching race and genetics in the classroom, with specific attention on misconceptions.	Evolution	https://bscs.org/our-work/rd-programs/towards-a-more-humane-genetics-education/
Understanding Evolution	Educational wesite dedicated to teaching evolutionary biology. Page contains lesson plans, activites, and multiple other resources for a variety of age groups.	Evolution	https://evolution.berkeley.edu/evolibrary/home.php
AACU Scientific Thinking and Integrative Reasoning Skills (STIRS) Case Studies	Project to increase problem solving and crtical thinking skills in undergraduate classrooms. Includes several case studies and additional resources.	Evolution and Ecology	https://www.aacu.org/stirs/casestudies
Biology Corner	A website with multiple lesson plans and resources. See the "classes" tab on the top right for course-specific resources. There are ecology and evolution units for AP and various Intro Bio courses. Each unit has various resources including case studies and datasets.	Evolution and Ecology	https://www.biologycorner.com/
BioQUEST Curriculum Consortium	Database of investigative case-based learning activities. Also includes many other resources. Many biology topics covered.	Evolution and Ecology	http://bioquest.org/icbl/cases.php
HHMI Biointeractive	Several cases, labs, and other resources. Page also avaialbe in Spanish. Professional development links and can sign up for an account and newsletters. Has specific online education content.	Evolution and Ecology	https://www.biointeractive.org/
iDigBio	Integrated Digitized Biocollections (iDigBio) is part of the National Resource for Advancing Digitization of Biodiversity Collections (ADBC) funded by NSF. The collection contains electronic data and images for millions of biological specimens.	Evolution and Ecology	https://www.idigbio.org/
Knowledge Project	Archive of hundreds of articles created through "knowledge wiki". Several topics are covered, including extensive resources for ecology and evolution. Resources are categorized as basic, intermediate, or advanced level.	Evolution and Ecology	https://www.nature.com/scitable/knowledge/ecology-102/
National Center for Case Study Teaching in Science	A database of nearly 900 case studies spanning multiple disciplines. Membership required to view answer keys and teaching notes, cases are freely available. Cases can take 1 of 15 different formats.	Evolution and Ecology	https://sciencecases.lib.buffalo.edu/
National Center for Science Education	Website run by NCSE which contains lesson plans for climate change, other resources also available. Target grade level is 5-12.	Evolution and Ecology	https://ncse.ngo/supporting-teachers/classroom-resources
National Geographic Education Resource Library	Collection of thousands of educational resources and activities for teaching a wide range of subjects. Can filter by subject and grade level.	Evolution and Ecology	https://www.nationalgeographic.org/education/resource-library/?q=&page=1&per_page=25
National Ecological Observatory Network (NEON)	A collection of long-term, open-access ecological data. Contains over 175 open access data projects. Great resource for data anlysis assignments.	Evolution and Ecology	https://www.neonscience.org/
NGSS Biology	A websit with mutliple biology unit lesson plans, including one on Ecology and one on Evolution & Natural Selection. Many other topics and critical thinking resources. Target grades K-12	Evolution and Ecology	https://www.ngsslifescience.com/
Network of Conservation Educators and Practitioners (NCEP)	A set of teaching modules on conservation and biodiversity	Evolution and Ecology	https://ncep.amnh.org
SERC (Science Education Resource Center at Carleton College)	Expansive website with a multitude of teaching resources. Lesson plans for Ecology and for Evolution, as well as many other topics. Contains great general information on teaching as well.	Evolution and Ecology	https://serc.carleton.edu/index.html

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SHiPS Resource Center Case Collection	Cases aimed at integrating history, philosophy and sociology in the science classroom.	Evolution and Ecology	http://www.shipseducation.net/modules/index.htm
Virtual Field Trips - Arizona State University	Contains a variety of virtual field trips offering 360 navigation and embedded lessons for the user	Evolution and Ecology	https://vft.asu.edu/
WikiEdu	As per the websight mission statement, Wiki Education engages students and academics to improve Wikipedia, enrich student learning, and build a more informed public.	Evolution and Ecology	https://wikiedu.org/
A Dozen Suggestions for Enhancing Student Learning	A list of 12 tips for increasing inclusivity in the classroom	Active and/or Inclusive Framework	https://www.uww.edu/learn/aboutdiversity/approachdiversity
Active Learning while Physical Distancing	A Google doc containing incredibly helpful tips for doing active learning online and in a physically distanced classroom; open to community comment. The page was initiated by Dr. Jennifer Baumgartner, Associate Professor at Louisiana State University, and the LSU LTC and POD Network.	Active and/or Inclusive Framework	https://docs.google.com/document/u/0/d/15ZtTu2pmQRU_eC3gMccVhVwDR57PDs4uxlMB7Bs1os8/mobilebasic?pli=1
AAAS assessment inventory	A question database with over 1000 items; part of Project 2061. Instructors can assess student knowledge compared to national data. Helpful for concept checks or beginning of the semester inventory of background knowledge.	Active and/or Inclusive Framework	http://assessment.aaas.org/
Bias-Free Language	American Psychological Association style guide for using bias-free language. The page includes several subsections, including gender, race, ethnicity, intersectionality, ability, age, and others.	Active and/or Inclusive Framework	https://apastyle.apa.org/style-grammar-guidelines/bias-free-language/
Bio-MAPS	Biology Measuring Achievement and Progression in Science or Bio-MAPS, is a suite of diagnostic assessments that aim to measure student understanding across a degree program. Includes EcoEvo-MAPS, Phys-MAPS, GenBio-MAPS	Active and/or Inclusive Framework	http://cperl.lassp.cornell.edu/bio-maps
Center for Applied Special Technology (CAST)	Website devoted to removing barriers and providing access to education. Webpage has several sections, including one on UDL, and provides several resources.	Active and/or Inclusive Framework	http://www.cast.org/
CIRTL Network	Center for the Integration of Research, Teaching, and Learning (CIRTL) aims to promote evidence-based teaching practices to enhance learning. Many resources and references on this page.	Active and/or Inclusive Framework	https://www.cirtl.net/about
Community of Inquiry	An interactive site dedicated to information about the Community of Inquiry learning framework.	Active and/or Inclusive Framework	https://coi.athabascau.ca/
Critical Multicultural Pavilion	Website dedicated to building equity in education. Website has equity case studies, easy-to-implement awareness activities, and additional teacher resources.	Active and/or Inclusive Framework	http://www.edchange.org/multicultural/
CUREnet	An online support page for all-things CURE, including networking, development, teaching, assessment, and more.	Active and/or Inclusive Framework	https://serc.carleton.edu/curenet/index.html
Diversity: A Nature and Scientific American Special Issue	A joint special issue collection discussion persistent, misguided assumptions. The message is clear: inclusive science is better science.	Active and/or Inclusive Framework	https://www.nature.com/collections/fegedeebec
EmbraceRace	A page dedicated to educating children, families, and communities about race. The webpage has several resources and action guides.	Active and/or Inclusive Framework	https://www.embracerace.org/about
FIELD Project	Fieldwork Inspiring Expanded Leadership and Diversity Project aims to make field activity in the geosciences more accessible, culturally sensitive, and inclusive by equipping field leaders with the perspectives, skills, and solidarity to address barriers in field settings.	Active and/or Inclusive Framework	https://field.berkeley.edu/
FUSE (The Forum for Undergraduate Science Education)	Online repository for best practices and dialog on undergraduate science education. Many useful links and files.	Active and/or Inclusive Framework	http://wikifuse.pbworks.com/w/page/14383803/FrontPage

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HHMI Education Resources	Links to many great resources for improving undergraduate science education.	Active and/or Inclusive Framework	https://www.hhmi.org/science-education/programs/resources#education-resources
National Association of Biology Teachers	Website with a comprehensive collection of links for teaching biology.	Active and/or Inclusive Framework	https://nabt.org/Resources-Resource-Links
National Museum of Natural History	Links to many resources for teachers, including over 100 activities. Target audience is K-12.	Active and/or Inclusive Framework	https://naturalhistory.si.edu/education
Oregon State University Annotated Bibliographies	As per the website, this is a "collection of articles on various topics that address gender and other diversity issues in STEM disciplines. It is updated regularly and is not an exhaustive list."	Active and/or Inclusive Framework	https://advance.oregonstate.edu/additional-resources-and-articles/annotated-bibliography
Problem-Based Learning Clearinghouse, University of Delaware	A webpage to help increase implementation and assessment of problem based learning strategies. Includes example syllabi, evaluation forms, a few cases, and common issues.	Active and/or Inclusive Framework	https://www.itue.udel.edu/resources/pbl-resources
Project Implicit	A non-profit and international collaboration with the goal of educating the public about hidden biases. The website provides implicit bias tests that anyone can take.	Active and/or Inclusive Framework	https://implicit.harvard.edu/implicit/
SCIPS	Strategies for Creating Inclusive Programmes of Study, a web resource devoted to promotion of inclusive teaching. Contains a section on biosciences with various links and recommendations.	Active and/or Inclusive Framework	https://scips.worc.ac.uk/subjects/biosciences/
SEA Change	AAAS partner working to make diversity, equity, and inclusion in STEM the norm. Website has some resources.	Active and/or Inclusive Framework	https://seachange.aaas.org/resources
Seeing White Study Guide	A study guide created to accompany the podcast, Seeing White, produced by Scene on Radio. Contains several resources discussing race and racism.	Active and/or Inclusive Framework	http://www.sceneonradio.org/seeing-white/seeing-white-study-guide/
Teaching in Higher Ed	Website with many resources, including a podcast series, that discuss inclusive teaching and active learning.	Active and/or Inclusive Framework	https://teachinginhighered.com/
Teaching Online Pedagogical	A database/webpage run by the University of Central Florida; a free resource	Active and/or Inclusive Framework	https://topr.online.ucf.edu/
Teaching Tolerance	A group dedicated to help teachers and schools educate children and youth to be active participants in a diverse democracy. Includes several classroom resources, activities, and lessons as well as professional development information.	Active and/or Inclusive Framework	https://www.tolerance.org/
The National Child Traumatic Stress Network	Website devoted to raise the standards of care for and provide services to traumatized students. There is an education branch of the website with many resources and articles.	Active and/or Inclusive Framework	https://www.nctsn.org/
TILT Higher Ed	Transparency in Learning and Teaching (TILT) website aims to improve higher education teaching and learning for students and faculty. Contains several examples and resources.	Active and/or Inclusive Framework	https://tilthighered.com/