

Resources for NGSS, Lesson Planning, Lesson Study, Assessment

NGSS, INQUIRY METHOLOGIES

CA NGSS Resource Center (the "go to" CA site for downloads)

<https://ngss.sdcoe.net/>

NSTA NGSS Web Seminar Series – previous ones are archived. Elem is grade by grade.

https://learningcenter.nsta.org/products/symposia_seminars/NGSS/webseminar.aspx

LACOE Webinars - Overview of the Science Framework in CA (*all archived*)

<https://connect.lacoe.edu/p9mbfn67fzs/?launcher=false&fcsContent=true&pbMode=normal>

Bozeman Science – NGSS videos **THE BEST!**

<http://www.bozemanscience.com/next-generation-science-standards/>

Academy of Academic Excellence – Everything NGSS, *including Bozeman Science videos*

www.lewiscenter.org/AAE/Departments/Science/Teaching-the-Next-Generations-Science/

Tools for Ambitious Science Teaching – **AWESOME SITE!** Case Studies of teachers thinking as they design lessons, great tools for discourse, modeling, public representations of student thinking <http://tools4teachingscience.org/>

Cameos Project (Bodega Bay Marine Lab) – Guided and Open Inquiry/PBL Resources

<http://bml.ucdavis.edu/education/cameos/resources/open-inquiry/>

Data in the Classroom – NOAA – Investigate earth processes with real data – choose levels of inquiry

<http://dataintheclassroom.noaa.gov/>

Environmental Inquiry (Cornell Univ) – Authentic Scientific Research for HS

<http://ei.cornell.edu/teacher/index.html>

Nitty-Gritty Science for MS – NGSS made simple... cheap but great resources from *Teachers Pay Teachers*

<http://nittygrittyscience.blogspot.com/2014/09/ngss-made-simple-and-manageable.html>

CSTA 2013 Conference Workshop presentations/handouts that are archived, downloadable

<http://2013californiascienceeducationco.sched.org/jessica2>

CSTA NGSS Blog by Peter A'Hearn

<http://www.classroomscience.org/author/peter-ahearn>

Science Teacher in Training Blog – new teacher struggles, triumphs about aligning to NGSS

<http://scienceteacherintraining.wordpress.com/2014/07/28/aligning-curriculum-to-ngss-lesson-plans/>

LESSON PLANNING

BETTERLESSON – NGSS-aligned Master Teacher Lessons K-12

http://betterlesson.com/search?subject_id=2&from=search_filter_subject

RESA Lessons Plans Exploring NGSS

<http://www.resa.net/curriculum/curriculum/science/professionaldevelopment/ngss-pd/lesson-plans-exploring-ngss/>

EDUTOPIA – All things PBL – blogs, discussions, tips, activities, connections to NGSS

<http://www.edutopia.org/search-results?search=PBL>

SERC K-12 Lesson Portal – Collection of inquiry-based, data-driven, peer-reviewed lessons (NSF-sponsored)

<http://serc.carleton.edu/k12/index.html>

Strategic Science Teaching – 5E model lessons, connections to Common Core – not NGSS aligned yet

<http://sst.lacoe.edu/content/>

The Concord Consortium – Digital learning, simulations – pick NGSS components, lessons pop up

<http://concord.org/ngss/>

Inquiry in Motion – Clemson Univ. (free but have to sign up with email) <http://www.clemson.edu/iim/lessonplans/>

NASA/JPL Classroom activities – Downloadable lessons, animations, simulations
<http://www.jpl.nasa.gov/education/index.cfm?page=385>

Pin Interest Science Lesson Plans (free but have to sign up with email)
<http://www.pinterest.com/search/pins/?q=science>

Kindergarten NGSS Guided Inquiry Lessons by Smithsonian Science Ed Center (Carolina Biologic)
http://landing.carolina.com/stc-k-and-science-standards?s_cid=ppc_gl_Ngss&gclid=CLbF78ne0MECFRgBgodLTYAWQ

Federal Registry for Educational Excellence – FREE resources for science
<http://free.ed.gov/science/>

Access Excellence Activities Collection (Nat. Health Museum) – biology activities, many inquiry-based, with scenarios
<http://www.accessexcellence.org/AE/>

Integrated Middle School Science Project (IMSS) – Strands for Online PD in developing Science Literacy: Discourse, Reading, Writing and Argumentation in Science
<https://www.mydigitalchalkboard.org/portal/default/Content/Viewer/Content?action=2&scld=504488>

PROJECT-BASED LEARNING (recommended by Jay McTighe)

Defined STEM has developed 100+ performance tasks/projects and associated rubrics based on various career areas. The tasks use the GRASPS format from *Understanding by Design* to establish an authentic scenario. A unique feature is the inclusion of a motivating video that shows “real world” applications of knowledge to set up the task.

In addition to the basic tasks, Defined STEM offers a set of electronic design tools allow teachers to customize the tasks and rubrics. While the title suggests that the tasks fall into the STEM arena, there are tasks in English/Language Arts and History/Social Studies as well.

To view, go to: <http://www.definedstem.com>

To register, use Access Code # **STEMACCESS** You will be prompted to create your own user name and password.

A collection of STEM projects. Click on the following website to register (free) for access.
<http://www.stemtransitions.org/>

Examples of authentic projects, rubrics and student samples developed at High Tech High School in San Diego, CA
<http://www.hightechhigh.org/schools/HTH/>
<http://www.hightechhigh.org/projects/>

VIDEOS, ANIMATIONS/SIMULATIONS FOR LESSONS

Science360° Videos (NSF) Free video clips, video series on all sciences – iPad app as well
<http://science360.gov/files/>

PBS Learning Science Videos, Lesson Plans – free, search with multiple filters, grade level, downloadable
http://www.pbslearningmedia.org/search/?q=&selected_facets=supplemental_curriculum_hierarchy_nodes%3A1&selected_facets=

PhET Online Interactive Simulations (Univ. of Colorado – free, by grade level, downloadable)
<http://phet.colorado.edu/en/simulations/category/by-level>

DNA Learning Center-Cold Spring Harbor – Biology Animation Library (one of the best)
<http://www.dnalc.org/resources/animations/index.html>

ClassZone Bio, Chem, Earth Sci (McDougal Littell) free online animations, labs, review – *still one of the best*
Click on State, then MS or HS Science, then book you want
http://www.classzone.com/cz/find_state.htm

LabBench @ The Biology Place (Pearson) – Online interactive AP Bio labs – design experiments
http://www.phschool.com/science/biology_place/labbench/index.html

ASSESSMENT

PALS Performance Assessments

<http://pals.sri.com/>

AAAS Project 2061 – Science Assessment Website 700 assessment items for MS-HS students. Select a topic to view “big” ideas, potential misconceptions about them and related assessment items and resources.

<http://assessment.aaas.org/>

Interactive Multiple Choice Study Guide (Indiana Core Assessments/Pearson)

http://www.in.nesinc.com/Content/STUDYGUIDE/IN_SG_SRI_047.htm

CT State Curriculum-embedded Performance Tasks grades 3-8 - interdisciplinary, open-ended investigations. Scroll down the page to “Curriculum-embedded Performance Tasks,” then click on grade levels to view the tasks.

<http://www.sde.ct.gov/sde/cwp/view.asp?a=2618&q=320890>

CT State Science Assessments - A collection of released HS tasks. Scroll down to “#4 Released Sample Items

<http://www.sde.ct.gov/sde/cwp/view.asp?a=2618&q=320890>

Creating Performance Assessments Step-by-Step, with videos

<https://sites.google.com/a/pitt.k12.nc.us/performance-task-assessments/create-a-performance-task>

Smarter Balance (Common Core) Practice Assessments (may be similar to online NGSS Assessments)

<http://sbac.portal.airast.org/practice-test/resources/>

NGSS Elem Lessons/Assessments (to buy) *Good to see what's missing. Low level inquiry, SEPs, CCCs not addressed*

http://scienceandkidsactivities.com/Science_and_Kids_Activities/NGSS_Assessments_Lessons/NGSS_Assessments_Lessons.html

Literacy Design Collaborative – A collection of science/technology tasks and modules linked to ELA CC

<http://www.literacydesigncollaborative.org/resources/sample-modules/science-technical-subjects/>

The New England Common Assessment Program (NECAP) A set of inquiry tasks for science.

<http://www.ride.ri.gov/InstructionAssessment/Assessment/NECAPAssessment/NECAPReleasedItems.aspx>

Rubric Book in Science An excellent K-12 resource containing 100 ready-to-use performance lists, rubrics

<http://www.corwin.com/books/Book225952>

Exemplars.com - A solid analytic rubric for scientific investigations.

<http://www.exemplars.com/resources/rubrics/science.html>

State of Connecticut Scientific Inquiry Rubrics – Scroll to “Scientific Inquiry Formative Feedback Rubrics,”

<http://www.sde.ct.gov/sde/cwp/view.asp?a=2618&q=320890>

Rubistar – Create your own Rubrics, use exemplary ones designed for science, PBL

<http://rubistar.4teachers.org/index.php>

LESSON STUDY

Lesson Study @ Mills College – Lesson Study research & working groups since 1999; good resources, examples

<http://www.lessonresearch.net/resources1.html>

Chicago Lesson Study Group - provides a forum for teachers; extensive Lesson Plan Library.

<http://www.lessonstudygroup.net/index.php>

Lesson Study - Integrated MS Science Partnership (**IMSS**)

<http://www.sciencepartnership.org/lesson-study-in-science.html>

Lesson Study Course (Developmental Studies Center) Resources, videos of each stage

<http://www.devstu.org/learning-lesson-study-course>

Lesson Study Guide – University of Wisconsin Step-by-step explanation, videos

<http://www.uwlax.edu/sotl/lsp/guide/index.htm>

SEDL Lesson Study – downloadable PDF's and entire book

<http://www.sedl.org/pubs/catalog/items/tec43.html>