

UbD-Related Websites

Compiled by Jay McTighe

I have compiled the following collection of websites in support of curriculum and assessment design using the Understanding by Design (UbD)® framework. Please e-mail me (jaymctighe@verizon.net) if you discover outdated links as well as other useful sites that you find so that I can add to this list.

Key: ** Highly Recommended * Recommended

STAGE 1 – UNDERSTANDINGS and ESSENTIAL QUESTIONS for SCIENCE and STEM

**** Science Atlas of Scientific Literacy (AAAS Project 2061)**

Presents "big ideas" in science according to conceptual strands (e.g., force, motion). Includes a basic set of "big ideas" in mathematics. The science ideas are organized as K-12 concept maps to illustrate the developmental progression of understanding of important ideas in science. The maps also show links to related concepts. Click on VIEW SAMPLE MAPS – Atlas 1 and 2 to view.

<http://www.project2061.org/publications/atlas/default.htm>

****** Click on the following link and select a topic to view "big" ideas, potential misconceptions about them and related assessment items and resources.

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

*** Connecticut DOE** developed a K-12 curriculum framework for Science framed under a set of Enduring Understandings and Essential Questions developed by the. Scroll down to "State Science Standards, Curriculum, Instruction and Assessment Publications," then click on 2004 Science matrix.

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

*** New York City** a searchable database of curriculum and assessment resources. Click on "Science" and then selected to view grade levels.

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

**** AP Biology Curriculum Framework**

Provides the basis of the revised AP Biology course. The framework is organized around four Big Ideas, Enduring Understandings and Essential Knowledge objectives. These are summarized in the Appendix, pp 89-91.

<https://secure-media.collegeboard.org/digitalServices/pdf/ap/ap-biology-course-and-exam-description.pdf>

An overview of the Course revisions may be found at the following website.

<http://advancesinap.collegeboard.org/science/biology>

* A collection of overarching (program level) big ideas, understandings and essential questions developed by the **New Jersey DOE**. Click this link to download a pdf file and scroll down to page 13 to view.

<http://www.nj.gov/education/aps/njscp/Phase1allAreas.pdf#page=13>

* A collection of overarching (program level) big ideas developed by the **Delaware DOE**. Click on “Clarification Documents” to view.

http://www.doe.k12.de.us/infosuites/staff/ci/content_areas/science.shtml

* The **New York City BOE Common Core Library** includes a searchable database of units, assessment tasks and samples of student work aligned to the Common Core Standards for pre-K – 12 in science and other subjects.

<http://schools.nyc.gov/Academics/CommonCoreLibrary/TasksUnitsStudentWork/default.htm>

A collection of Understandings for Earth Science developed through the **Earth Science by Design project**.

http://www.esbd.org/resources/big_ideas.html

* The **Literacy Design Collaborative** offers sample science curricula built around performance task templates linked to the Common Core ELA Standards.

<http://ldc.org/sample-curricula#Science>

The **Personal Genetics Education Project** has created lessons related to ethics and genetics for high school and college levels.

<http://pged.org/lesson-plans/#CRISPR>

* **NBC Learn** offers a collection of free, inquiry-based science and STEM lessons linked to engaging videos. Scroll to the bottom of this site to see the full list.

<http://www.nbclearn.com/portal/site/learn/resources>

<http://archives.nbclearn.com/portal/site/k-12>

The **EQulP Rubric** can be used for reviewing science units and lessons based on the Next Generation Science Standards.

<http://www.nextgenscience.org/classroom-sample-assessment-tasks>

View a video that provides an overview of the EQulP Rubric at:

<http://nextgenscience.org/resources/ngss-equip-rubric-overview>

***** **STEM/TECHNOLOGY** *****

* **CK-12 Foundation** is a non-profit organization that creates and aggregates high quality, curated STEM content.

<http://www.ck12.org/about/>

* A resource for teaching engineering concepts.

<https://www.teachengineering.org/k12engineering/why>

* **NBC Learn** offers a collection of free, inquiry-based science and STEM lessons linked to engaging videos. Scroll to the bottom of this site to see the full list.

<http://www.nbclearn.com/portal/site/learn/resources>

<http://archives.nbclearn.com/portal/site/k-12>

GENERAL WEBSITES

STATES/PROVINCES

The following websites provide examples of *Understanding by Design*® curriculum work in **States/Provinces**, **School Districts**, and **Schools**.

**** Massachusetts DOE**

Through the Race to the Top Initiative, teams of educators from across the state used the UbD Framework to develop more than 100 pre-k to grade 12 model curriculum units in English language arts and literacy, history/social science, mathematics, the arts and science and technology/ engineering.

A free registration is required to access these materials at the following website:

http://www.doe.mass.edu/candi/model/download_form.aspx

* A series of classroom videos showing some of these units in use.

<http://www.doe.mass.edu/candi/model/videos/MCUs.html>

* **New Jersey DOE** – Use this link to download a pdf file containing a collection of overarching (program level) understandings and essential questions.

<http://www.nj.gov/education/aps/njscp/Phase1allAreas.pdf>

* **Ohio DOE** provides model curricula tied to the Common Core Standards in E/LA, Mathematics, Science and Social Studies, along with strategies for working with diverse learners. The E/LA curriculum models include Enduring Understandings; the Social Studies units contain Essential Questions; and the Mathematics units include Common Misconceptions. From “Topics”, select subject area of interest.

<http://www.education.ohio.gov/Topics/Ohios-Learning-Standards>

* **Engage New York** offers a searchable database of curriculum and assessment resources aligned to the Common Core Standards for pre-K – 12 in E/LA and Mathematics.

<https://www.engageny.org>

New York City a searchable database of curriculum and assessment resources. Click on “filters” to search via grade levels and subjects.

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

Pennsylvania – The Pennsylvania Department of Education has established the Standards Aligned System (SAS) containing curriculum resources. Select a content area (e.g., SAS Applied to Mathematics), a grade range (e.g., 6 – 8) or a Grade/Course (e.g., Pre-Algebra) to view Big Ideas (understandings) and Essential Questions.

<http://www.pdesas.org/module/sas/curriculumframework/>

** **Literacy Design Collaborative** has developed sample curriculum based around performance tasks for E/LA, Social Studies, and Science.

<http://ldc.org/sample-curricula>

INTEL – Unit plans in various subjects and grades developed by Intel Education contain Essential Questions. Scroll to the bottom to Education Resources and Programs, then select Lesson Plans and Project Ideas.

<http://www.intel.com/content/www/us/en/education/solutions/lesson-plans.html>

STAGE 2 – PERFORMANCE ASSESSMENTS and RUBRICS

I have worked with Defined Learning to develop:

1. Seven blogs on the design & use of Performance Tasks (right side of screen)
2. A set of on-line PD modules (left side of screen)

<http://www.performancetask.com/>

** **The Performance Assessment Resource Bank (SCALE)** is a recently posted online resource developed at Stanford University. The site offers a searchable database of curated performance assessments and associated resources that support their use by educators, schools, and systems and is designed as a platform to build a rapidly expanding collection of curated resources. This was a closed site but is now available nationally!

<http://www.performanceassessmentresourcebank.org/>

**** Colorado Professional Learning Network**

Offers an assessment resource bank that includes performance tasks in a searchable database. Search by subject, grade level, item type, and cost (many of the assessments are free).

<http://www.coloradoplc.org/assessment/assessments>

**** New York State Performance Standards Consortium** provides a collection of quality performance tasks and rubrics in various subject areas.

<http://performanceassessment.org>

**** Performance Assessment Links in Science (PALS)** offers an excellent collection of performance assessment tasks in Physical, Life, Earth and Space sciences for elementary, middle and high school levels.

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

**** UbD Units with Embedded Performance Tasks**

Supported through the Race to the Top Initiative, teams of educators from Massachusetts used the UbD Framework to develop more than 100 pre-k to grade 12 model curriculum units in English language arts and literacy, history/social science, mathematics, and science and technology/ engineering. A free registration is required to access these materials at the following website:

http://www.doe.mass.edu/candi/model/download_form.aspx

**** Literacy Design Collaborative (LDC)** – Funded by the Gates Foundation, the LDC has developed a set of task templates and instructional modules linked to the Common Core E/LA Standards. The templates support the integration of the E/LA Standards with content from Science, Social Studies and Technical subjects. Click on these links to learn more and view sample templates.

<http://ldc.org/>

<http://ldc.org/sample-curricula>

You will need to register (no cost) to access the resources at this LDC link.

<https://coretools ldc.org/#/home>

**** A collection of LDC tasks are available on the PA Standards Aligned System (SAS) website.**

<http://www.iu17-2.pdesas.org/module/content/search/#search>

*** New Zealand Assessment Resource Bank**

Note: While it appears that you have to be New Zealand educator to access these website, but the search feature seems to work. Give it a try...

<https://arbs.nzcer.org.nz/>

<http://www.tki.org.nz/r/assessment/exemplars/>

**** PBS Learning Media** offers daily news articles with accompanying questions and lesson ideas for teachers to use with students. This is a useful resource for tasks involving research or issues analysis on current topics.

<http://tinyurl.com/n7zmxr9>

**** Defined STEM** has developed 100+ performance tasks/projects and associated rubrics based on various career areas. The tasks use the GRASPS format from UbD 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.

This is a paid site. To view samples, go to: <http://www.definedstem.com>

**** The Buck Institute** offers a searchable database of projects for Project-based Learning.

<http://www.bie.org/>

*** The Pennsylvania DOE** offers a set of project-based assessments.

<http://www.pdesas.org/Page?pageld=1>

**** A collection of quality performance tasks developed by the Alberta Assessment Consortium, CN.** Browse by grade and subject. Some of the collection is in open space and some is member protected which will be evident from the sub-page menus.

<http://www.aac.ab.ca/assessment-materials-2/>

*** Examples of authentic projects with rubrics and student samples developed at High Tech High School** in San Diego, CA

<http://www.hightechhigh.org/projects/>

**** TUVA LABS** offers a variety of data-related projects and analysis tools.

Requires a free sign up to access the resources.

<https://tuvalabs.com/>

*** Galileo** offers resources for Inquiry and Project-Based Learning, including a Rubric for judging inquiry-based projects

<http://galileo.org/>

<http://galileo.org/rubric.pdf>

**** The National Science Teachers Association** have developed sample performance tasks that integrate science content and practices from the Next Generation Science Standards (NGSS).

<http://www.nextgenscience.org/classroom-sample-assessment-tasks>

**** CK-12 Foundation** is a non-profit that creates and aggregates high quality curated STEM content for mathematics and science. Find a collection of rich tasks and projects via a searchable database. A free “sign-up” is required.

<http://www.ck12.org/>

<http://www.ck12.org/search/>

*** AAAS Project 2061** – Science Assessment Website provides free access to more than 700 assessment items for use with middle and early high school students. The assessments test student understanding in the earth, life, physical sciences, and the nature of science, and include checks for common scientific misconceptions. Select a topic to view “big” ideas, potential misconceptions about them and related assessment items and resources.

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

**** Curriculum-embedded Performance Tasks** - interdisciplinary, open-ended investigations that promote the inquiry developed in the state of Connecticut. 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>

**** Literacy Design Collaborative** – A collection of science/technology tasks and instructional modules linked to the Common Core Literacy Standards.

<https://ldc.org/sample-curricula>

*** Educurious Template Tasks** for science developed through the Literacy Design Collaborative

[http://www.literacydesigncollaborative.org/wp-](http://www.literacydesigncollaborative.org/wp-content/uploads/2012/07/Educurious-Draft-LDC-Science-Templates-June15-final-1.pdf)

[content/uploads/2012/07/Educurious-Draft-LDC-Science-Templates-June15-final-1.pdf](http://www.literacydesigncollaborative.org/wp-content/uploads/2012/07/Educurious-Draft-LDC-Science-Templates-June15-final-1.pdf)

**** TuVu Labs** offers tools for engaging students to think critically about real data, ask meaningful questions, make evidence-based conclusions, and communicate their findings. Good resources for inquiry-based activities and lessons in Math, Science, and Social Studies aligned with the CCSS.

<https://tuvalabs.com/>

*** Pennsylvania’s Student Aligned System (SAS)** offers sample tasks for connecting the E/LA Standards (informational and explanatory writing; argumentative/persuasive writing) to Social Studies and Science using the Literacy Design Collaborative task frames.

<http://www.pdesas.org/module/content/search/advanced.aspx#search>

* **The New England Common Assessment Program (NECAP)** releases some assessment items from each of the NECAP assessments are released to the public, along with support materials and related examples of student work. A set of inquiry tasks for science can be found at:
<http://www.ride.ri.gov/InstructionAssessment/Assessment/NECAPAssessment/NECAPReleasedItems.aspx>

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

A collection of STEM assessment tasks developed in the United Kingdom. Click on “**StemNRICH**” (on right side of screen) to see tasks in Biology, Chemistry, Physics, and Engineering.
<http://nrich.maths.org/public/>

The **Personal Genetics Education Project** has created lessons related to ethics and genetics for high school and college levels. Many of the lesson topics can be used as authentic contexts for performance tasks.
<http://pged.org/lesson-plans/#CRISPR>

* An analytic rubric for scientific investigations available from **Exemplars**.
<http://www.exemplars.com/resources/rubrics/science.html>

* A science continuum of basic science processes for use with grades K-2, available from **Exemplars**.
<http://www.exemplars.com/resources/rubrics/continuum.html>

* Scientific Inquiry Rubrics from the **Connecticut DOE**– a resource for assessing student performances in scientific inquiry and providing meaningful feedback to students to promote learning developed in the state of Connecticut. Scroll down the page to “Scientific Inquiry Formative Feedback Rubrics,” then click on grade levels to view the rubrics.
<http://www.sde.ct.gov/sde/cwp/view.asp?a=2618&q=320890>

** Rubric Book in Science from **Corwin Press**
An excellent resource containing 100 ready-to-use performance lists, holistic rubrics, and analytic rubrics for a wide range of science products and performances K-12.
<http://www.corwin.com/books/Book225952>