

Using Data in the Classroom

Reading List (compiled by Kirk Borne, July 2015)

"Big Data: The next frontier for innovation, competition, and productivity" (McKinsey report 2011)
http://www.mckinsey.com/insights/business_technology/big_data_the_next_frontier_for_innovation

Data Science and Data Literacy – A National Imperative:
<http://www.kirkborne.net/DataInEducation/DataLiteracy-NationalImperative.pdf>

"Using Data in the Classroom" (resources for educators):
<http://serc.carleton.edu/usingdata/index.html>

Oceans of Data articles: (1) "Build a research-based learning progression to make meaning from data" and (2) "Transform science education to prepare students for a data-intensive world"
<http://www.oceansofdata.org/>

Data in the Classroom: <http://dataintheclassroom.noaa.gov/>

NASA/IPAC Teacher Archive Research Program (NITARP)
http://nitarp.ipac.caltech.edu/resource_category/4-For-the-classroom

My NASA Data: <http://mynasadata.larc.nasa.gov/>

BigDataX = Big Data Research Experiences for Undergraduates
<http://datasys.cs.iit.edu/grants/BigDataX/2015/index.html>

NSTA resources:

- The Basics of Data Literacy: Helping Your Students (and You!) Make Sense of Data
http://www.nsta.org/store/product_detail.aspx?id=10.2505/9781938946035
- Career of the Month: An Interview with Data Scientist Daniel Tunkelang
http://www.nsta.org/store/product_detail.aspx?id=10.2505/4/tst12_079_06_66
- Use of Genomic Databases for Inquiry-Based Learning About Influenza
http://learningcenter.nsta.org/product_detail.aspx?id=10.2505/4/jcst11_040_04_53
- Using a Classroom Response System for Real-Time Data Display and Analysis in Introductory Biology Labs: <http://eric.ed.gov/?id=EJ921506>
- The Virtual Vee Map: A Template for Internet Inquiry
<http://www.nsta.org/publications/news/story.aspx?id=52392>

More reports posted here: <http://kirkborne.net/DataInEducation/DataInEducationReports/>

- "Big Data Enabled Specialist Profile"
- "Data Science in the Statistics Curricula: Preparing Students to Think with Data"
- "Learning To Learn From Data"
- "Visualizing Oceans of Data - Educational Interface Design"
- "Mathematics in Industry" (SIAM report)
- "Training Students to Extract Value from Big Data" (National Academies publication)
- "Using Data In Undergraduate Science Classrooms"