

## Resources for Educators

The following list of resources is based on the BIORETS Santa Cruz River Program.

### Developing Educator Data Literacy & Teaching Science

**Articles by Kristin Hunter-Thomson, Dataspire Education & Evaluation:**

<https://my.nsta.org/search?q=Kristen+Hunter+Thomson>

**Understanding Science Interactive Article:** <https://undsci.berkeley.edu/understanding-science-101/how-science-works/the-real-process-of-science/>

Review the process of science in a non-linear interactive graphic.

### Lesson Plans & Activities

**Asking Scientific Questions video:** <https://www.biointeractive.org/professional-learning/educator-voices/asking-scientific-questions>

9 minute video lesson of how to draw scientific questions out of students.

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

Science resources including lesson plans, activities and interactive media.

**Data Nuggets:** <https://datanuggets.org/>

Data Nuggets are free classroom activities, co-designed by scientists and teachers, designed to bring contemporary research and authentic data into the classroom.

**Lesson: What science is, what science is not:** <https://stemazing.org/science-is-science-is-not/>

Excellent activity for generating discussion about the nature of science from STEMazing website.

**Science Friday Lesson Plans:** <https://www.sciencefriday.com/educate/>

### Science Simulations

**Gizmos:** <https://gizmos.explorelearning.com/>

A library of over 500 virtual simulations in math and science. Free with signup.

**Tuva:** <https://tuvalabs.com/>

Real-world datasets focusing on science, math, and engineering practices. Construct models, make predictions and describe phenomena. Available in multiple languages.

## Data & Data Analysis

**CODAP (Common Online Data Analysis Platform):** <https://codap.concord.org/for-educators/>  
CODAP can be used across the curriculum to help students summarize, visualize, and interpret data, advancing their skills to use data as evidence to support a claim. Students can load their own data into an easy-to-use web-based data analysis tool to create their own datasets, share visualizations, and discover data-driven insights. In the process, they will learn to understand the world through its data.

**Dear Data Project:** <http://www.dear-data.com/theproject>  
Dear Data is a year-long, analog data drawing project by Giorgia Lupi and Stefanie Posavec, two award-winning information designers living on different sides of the Atlantic. Great resource for looking at data differently, and helping students visualize data in unique ways.

Link to TED Talk by Giorgia Lupi, one of the authors:  
[https://www.ted.com/talks/giorgia\\_lupi\\_how\\_we\\_can\\_find\\_ourselves\\_in\\_data?language=en](https://www.ted.com/talks/giorgia_lupi_how_we_can_find_ourselves_in_data?language=en)

## Graphing Resources

**52 Graph Interpretation Activities from BioInteractive:** [https://www.biointeractive.org/classroom-resources?search=&f%5B0%5D=resource\\_type%3A6](https://www.biointeractive.org/classroom-resources?search=&f%5B0%5D=resource_type%3A6)

**NY Times: What is Going on in this graph?** <https://www.nytimes.com/2020/06/10/learning/over-60-new-york-times-graphs-for-students-to-analyze.html>  
A collection of 60 New York Times graphs for students to analyze.

**Recorded webinar on Teaching Graphs from NY Times Learning Network (45 minutes):**  
<https://www.nytimes.com/2020/06/02/learning/on-demand-webinar-teaching-with-graphs-from-the-new-york-times.html>

**Quick Graphs for students to make from NCES:**  
<https://nces.ed.gov/nceskids/createagraph/Default.aspx>  
Website where students can easily make graphs using available data sets.

**Slow Reveal Graphs:** <https://slowrevealgraphs.com/>  
Slow Reveal Graphs (#slowrevealgraph) are an instructional routine that promotes sensemaking about data. This highly engaging routine uses scaffolded visuals and discourse to help students (in K-12 and beyond) make sense of data. As more and more of the graph is revealed, students refine their interpretation and construct meaning, often in surprising ways.