

Biocomplexity - Transforming Innovative High-School Curriculum

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Website: <http://biocomplexity.terc.edu>



This project is developing scaffolding materials for use with the TERC-developed Biocomplexity and the Habitable Planet curriculum— composed of innovative, inquiry-based instructional materials to engage high school students in the recent science of “coupled natural and human” (CNH) systems. The Biocomplexity developers are designing the additional UDL-aligned scaffolding to help more teachers convey the material to heterogeneous capstone high school science classrooms.

TERC is working with partners at CAST to extend the scope of Biocomplexity materials using Universal Design for Learning (UDL). UDL is an educational framework used to provide flexible and accessible educational strategies to help meet the needs of all learners. CAST and TERC researchers will develop multimedia and computer-based scaffolding tools that will include:

- Contextual supports for student work with complex data that include structured data sets, smart graphs, smart images, and other scaffolds to support data analysis;
- Reading supports, e.g., highlighting tools, embedded glossary, and careful linking of visual and textual data;
- Multimedia resources for students on challenging core science ideas and on techniques of scientific argumentation;
- Teacher materials that provide both content and pedagogical support;
- Review materials for each unit, including a study guide, test items, and glossary.

In addition, researchers will produce an article on the effectiveness of contextual supports for scaffolding student understanding of complex data and a white paper for curriculum developers that provides guidelines for scaffolding student work with complex data.