

***BiteScis: Science Research for the Classroom***  
(<https://bitescis.org/>)

After attending ComSciCom, a workshop revolving around the communication of science, a group of researchers conceived the idea to make current, relevant science research accessible to high school students. These scientists wanted to communicate their excitement for their work and the wonderings that keep them focused on their important and exhausting research. To accomplish this, they partnered with teachers to compose lessons that will entice students to begin asking questions and inspire students to “envision themselves as the researchers of the future.”

BiteScis lessons are created with the purpose of amplifying student interest in scientific research. The lessons are based on the current work of scientists from a variety of disciplines, “whether in the lab or the field; through a microscope, telescope, or the circuits of a supercomputer.” The collaboration between scientists and classroom teachers ensures relevant, authentic, and engaging experiences for students that are aligned to NGSS (Performance Expectations, Science and Engineering Practices) and Common Core State Standards. The lessons are built upon Big Questions – What does it mean to observe? What is life? Where did we come from? – and can be used as a unit opener or to enhance understanding of a topic.

Each lesson has three components: teacher materials, student handouts, and the Bite. The Bites are the basis of the lessons. These are one- to three-page snapshots of

current science written by the researchers themselves for the purpose of engaging students with the same questions they are asking as they are doing the work. Teachers partner with scientists to make sure the language used provides an entry point for all high school students. The student handout is also collaboratively written by the teacher and scientist and serves as a guide through the Bite. These vary, depending on the Bite, and follow the general format of introduction, what to do, and analysis questions. The introduction is cowritten by the scientist and teacher and provides enough background information to spark curiosity and leave students prepared for the activity that follows. In the “What To Do” section, students are directed to read the Bite and engage in sense-making activities that build upon their current content knowledge. Analysis questions strengthen connections between NGSS-based content material, the current research of the Bite, and the Big Question. The teacher materials provide guidance for integration into the classroom, background, standards alignment, learning objectives, teaching tips, and an answer key. All materials are available for download as a ready-to-use pdf and editable Google doc.

The website is simple to navigate. Lesson plans can be browsed by keyword or by topic, including Biology, Chemistry, Physics, Science and Engineering Practices, NGSS Performance Expectations, and Common Core State Standards. In addition to being written by teachers, many lessons have been classroom tested and evaluated.

BiteScis is continually reviewing and improving lessons on the basis of user feedback and actively seeks advice from educators.

Little or no prep time is needed to implement BiteScis lessons. The activities range from in-depth analysis of research documentation to low-cost laboratory experiments. No matter which lesson you choose, it is evident that the focus is on empowering students to see themselves performing rigorous and relevant science investigations. For example, in the lesson “From Gene to Disease: Sickle Cell Anemia,” students create a pedigree after reading a personal story about malaria and sickle cell disease. Students continue following prompts and finding clues in the story to build upon their knowledge of transcription and translation and make connections between genetics and environmental factors. The lesson ends with students using the combination of previous and new knowledge along with evidence from current research in the Bite to defend a claim about the big question “Where do we come from?”

Teachers looking for a way to enrich curriculum units with authentic content that has instant relevance will be pleased with what they find at BiteScis.

Bonnie Nieves  
Science Instructor  
Millbury Memorial Junior/Senior High School  
Millbury, MA 01527  
[bnieves@millburyschools.org](mailto:bnieves@millburyschools.org)