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Science Inspiration for Elementary

Encouraging Kids to Love Science at the Beginning of the Year
Written By: Jesselyn Sutter • Fifth Grade Teacher

A great year of teaching science begins with students believing in themselves as scientists. Getting kids to love science is a passion for me, and I believe that all students can be successful and thrive in science.

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High School Science Motivation

Forensics Excitement • Written By: Danelle Burleson

It's the beginning of the school year and you have a new crop of students coming in to your science class. A lot of students have a negative view of science, saying "I don't like science" or "I'm not good at it". The best way to change their perception is to grab their interest from the beginning and show them a little success.

Challenging Your Gifted Students with *CFGE*

The Center for Gifted Education: **Science Curriculum Units**
Written By: Kimberley L. Chandler, Ph.D.

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Encouraging Kids to Love Science at the Beginning of the Year

Written By: Jesselyn Sutter
Fifth Grade Teacher
Kendall Hunt Consultant

A great year of teaching science begins with students believing in themselves as scientists. Getting kids to love science is a passion for me, and I believe that all students can be successful and thrive in science. As the school year begins, it is important to create an enjoyable learning atmosphere where students can safely take risks, think like scientists, and expand their knowledge of the world around them. ***BSCS Science Tracks*** lends itself well to making this enthusiasm and excitement for science happen. In "Doing Science," students get an initial feel for what it takes to be a scientist; it prepares them for learning science and opens their eyes to the idea that anyone and everyone can be scientists.

To begin the year, I start with having students set up science notebooks. When students have a notebook, they have a place where they can track their learning and scientific discoveries. We discuss how this notebook will assist them in recording scientific information. Students take pride in setting up their science notebooks, and they carefully design the covers to their liking. This gives students ownership of their notebooks thus, empowering students to take responsibility for their own learning. Students tend to pay closer attention while recording their notes, observations, and new discoveries. ***BSCS Science Tracks*** offers many opportunities for students to refer to and record in their science notebooks; setting up the notebook in advance gives students confidence to read, write, observe and think like scientists.

Science is a content area where students are introduced to many new vocabulary words, and at first, so many new terms can feel overwhelming and interfere with learning. An interactive word wall can assist students with developing and enhancing their vocabulary. Word walls are effective for all students, and when students help create the word wall, they will use it as a tool while they record and write in their science notebooks. The word walls give students a safe place to look when they may be unsure of a certain term. Seeing the word on the wall helps them remember how the word was used and the particular situation it was used in. Students are held accountable for writing in their notebooks, using appropriate spelling and grammar with assistance from the word walls thus helping link science to literacy.

Every student of every age comes to school with a foundation that is viable for building science knowledge. From a very young age students are inspired by figuring things out. Getting started on the right track with a new science year will make all the difference in the world. Setting up notebooks and word walls will give students the immediate confidence that they need to have a successful year in science.

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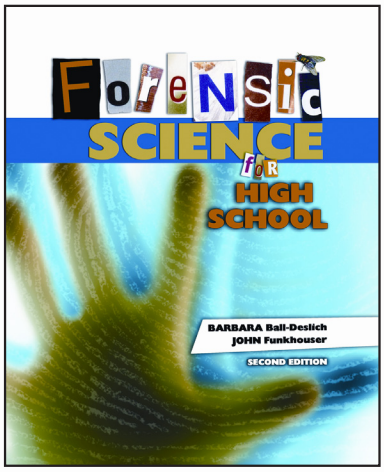
Forensics Excitement!

Written By: Danelle Burleson
Kendall Hunt Consultant



It's the beginning of the school year and you have a new crop of students coming in to your science class. A lot of students have a negative view of science, saying "I don't like science" or "I'm not good at it". The best way to change their perception is to grab their interest from the beginning and show them a little success. If you mention Forensic Science to a student, their ears immediately perk up.

The popular television shows have sparked an interest in thisgrowing field. Even if you do not teach a "Forensic Science" curriculum, you can incorporate activities into your other science classes. One thing that I like to do is have a crime scene set up in my classroom early in the year. A crime scene can enable the students to practice observational skills that are important for scientific inquiry. The crime scene activity in Chapter 3 of ***Forensic Science for High School,*** is a really good place to start. It is even more effective if you change some of the names to faculty and administration at your school in order to personalize it to your students. I have a stuffed frog in my room that has been a fixture for several years. He has even been known to sport a school spirit sweatshirt. Some of the students even greet him as they enter the room. One year, my crime scene involved the frog. I hid him in a closet. The students immediately observed that he was missing and then noticed that his outline was "chalked" on the floor in the crime scene. The race was on to see if they could determine what happened. My frog had become the "victim" in the crime scene from the book. It was an excellent opportunity to talk about observations and inferences. All of the sudden students are "doing" science and are excited about it, even the naysayers.

I am starting this year at a new school due to a move to another state. It feels like I am starting all over again. However, all it took to grab the interest of my students was to mention Forensic Science. I teach all levels of students, some of which have had limited science success. My goal this year is to get students excited about science. Do we have to be entertainers as well as teachers? Of course we do. Forensics activities lend themselves to that end.

If you would like more information please feel free to contact me at danelle.burleson@gmail.com. Also, I will be at the NSTA Regional Conference in Ft. Lauderdale, Florida this November. I will be sharing and demonstrating more activities and ideas. Don't forget to stop by the Kendall Hunt Publishing Booth as well!

Forensic Science For High School
www.kendallhunt.com/forensics
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The *Center for Gifted Education*: Science Curriculum Units

Written By: Kimberely Chandler, Ph.D.
Curriculum Director: Center for Gifted Education

Eight science problem-based learning (PBL) curriculum units developed by the ***Center for Gifted Education at The College of William and Mary*** contain simulations of real-world problems that face today's society. The units are geared toward high-ability students, yet can be adapted for use at all levels K-8. The goals of each unit are to allow students to analyze several real-world problems, understand the concept of systems, and design and conduct scientific experiments.

These units also allow students to explore various scientific topics and identify meaningful scientific problems for investigation. Through these units, students experience the work of real science in applying data-handling skills, analyzing information, evaluating results, and learning to communicate their understanding to others.

The problem-based learning format was chosen in order to allow students to acquire significant science content knowledge in the course of solving an interdisciplinary, "real-world" problem. This format requires students to analyze the problem situation, to determine what information they need in order to come up with solutions, and then to find that information in a variety of ways. In addition to library work and other information-gathering methods, students, with teacher facilitation, will perform experiments of their own design in order to find information necessary to come up with and evaluate solutions to the problem. The problem-based method also allows students to model the scientific process, from the problem-finding and information-gathering steps to the evaluation of experimental data and the recasting or solution of the problem.

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Continued... The *Center for Gifted Education*: Science Curriculum Units

Written By: Kimberely Chandler, Ph.D. • Curriculum Director: Center Gifted Ed.

Implementing problem-based learning units is a new experience for many teachers. The following are important philosophical premises to understand when considering the use of a PBL unit:

- Create a safe environment for students to contribute ideas--consider this when establishing classroom rules. (You must teach students to validate all ideas.)
- The teacher must be open to new ideas from students—even the offbeat ones.
- Model tolerance for ambiguity. No one "knows" the right answer; there may not be one.
- The teacher serves as tutor/coach.
- Students are not just "receivers" of information; they are detectives, researchers, and decision-makers.
- PBLs are not about finding the "right" answer, but finding which solution would be reasonable, given a particular situation.

The following are important logistical issues to remember when planning instruction for a PBL unit:

- Map out the unit in advance. Plan your time wisely.
- Collaborate with the language arts teachers/librarians to prepare students for researching.
- Use mini-lessons to build background knowledge when necessary.
- "Localize" the unit/problem. How does the problem related to your area?
- Use local people/agencies as resources.
- Ask parents to contribute consumable materials. Also determine if parents can serve as resources for aspects of the content of the unit.
- Assessment is ongoing and should not be limited to traditional paper and pencil tests at the end of the unit.
- Treatment fidelity is essential. You will have the possibility of student achievement gains only if the instruction in the research-based unit is delivered in the way it was designed to be delivered.

A PBL unit is highly engaging for students and is especially appropriate for high-ability students. However, a key to success is keeping these philosophical and instructional issues in mind as you plan for the implementation of the unit.

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Blog.kendallhunt.com Launches!

Kendall Hunt has entered the blogosphere with our Gifted Learning and Inquiry Science blog! Several KH sales, editorial development and marketing staffers will be blogging about our products, updates, trends, and other things related to these two hot topics. We'll also have authors from some of our inquiry science and gifted programs contributing to the blog. Additionally, you can access each blogger's individual blog and learn a bit more about us by clicking on any of our names in our blog posts.

By subscribing to blog.kendallhunt.com, you'll be the first to know about our new product releases and you might even have the opportunity to join in some product research. Our goal is to let you know what's new and what we're doing each day to help change the world through education. Come join us, read, comment, learn…we love to hear what you think and how you teach!

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