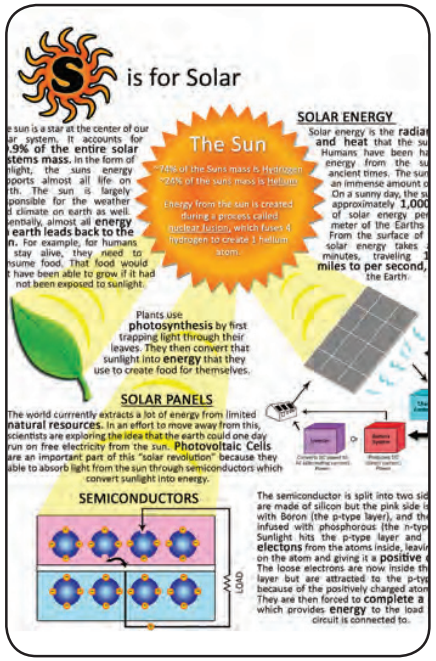

Physics A to Z

Andrew Gloag, Physics/Math, High Tech High

The decision to make a *Physics A to Z* guide came from merging physics concepts with the style of the London A-Z travel guide. Each student completed research on a physics concept of their choice, with the intention that their best ideas would become book pages. We used David Macaulay's *The Way Things Work* to see how illustrations can help explain science, as well as *The Cartoon Guide to Physics* and the illustrated version of *A Brief History of Time* to gain inspiration for what those visuals might look like. Students created all of the art, and we spent class time refining the visual elements on the pages. The final book is available at the HTH bookstore: http://www.hightechhigh.org/books.

Teacher Reflection

This project lasted eight weeks, with each student writing several drafts and creating illustrations along the way. It was crucial that the students read and critiqued each other's work. We regularly posted the work online in a Moodle discussion forum for whole-class critiques, which meant that every student was familiar with all the science. Shuffling the topics students had chosen into 26 different lettered sections was a challenge—for example, we combined several pages into an "E is for Electricity" section. Many of the illustrations were drawn by hand and then reproduced in Photoshop. Some students used Adobe illustrator or Google SketchUp, while others used watercolor. The finished book gave the students a sense of accomplishment, and the professional finish gave me a sense of pride in what we achieved.

Student Reflection

In this project we were balancing science and writing, teamwork and private study, learning and teaching, collaboration and cooperation. By the end, it was clear that all of our topics were interconnected. This opened our eyes to the true meaning of science: a powerful collaborative force empowering individuals of different talents and strengths to make a difference in society while learning about the world.

—Rachel Roberts, 10th grade

To learn more about this project and others visit www.hightechhigh.org and Andrew Gloag's digital portfolio at http://staff.hightechhigh.org/~ajgloag

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