



Test Prep & Tutoring Professionals STEM Programs - Collateral Descriptions

Expert Architects: Grades 3 and 4. 5 Days, 15 Hours Total

Students each serve as the president of an architectural firm that is posed with a challenge: How to design and build a downtown skyscraper while simultaneously considering city life. Students must account for the environment, traffic, parking, historic landmarks and urban structures as they plan and build a LEGO model to represent their creation.

As they build, students learn key math skills (Geometry, Arithmetic, Elementary Statistics) including perimeter and area while solving questions from their “clients” related to multiplication, division, median, mean and mode, time, budgets and much more

On the final day, all of the skyscrapers are placed in a central downtown as each architectural firm considers how to reach for the skies while still considering the people below and the environment around them.

Off the Grid: Grades 3 and 4. 5 Days, 15 Hours Total

When your child turns on the tap, water comes out. When they flip on a switch, the light comes on. When they flush the toilet...well you get the idea. In this class, our students look back a century and a half to learn about the processes of daily life during the Civil War and how they have evolved into the life we live now. The grid that delivers light and water to our homes and takes trash and other undesirables away is both complicated and fascinating. We learn about each process and both how it works and has changed.

Students learn scientific processes, discuss engineering principles, research skills, note-taking and textual literacy skills, and build an electric circuit or/and water treatment model.

As a final project, the students create a large and complex map illustrating how a city grid would work for a very real city of their own imagination

Green Power Grades 6 - 8. 5 Days, 15 Hours Total

Each student in this class is posed with a challenge: They have just been elected as the new Director of the Environmental Protection Agency. It is their job to save Mother Earth while also gaining support from the American people. In the class, students study the science behind Global Warming, rainforest depletion, air and water pollution, the Ozone layer, acid rain, overpopulation and other environmental issues. Based on what they learn, students are asked to form policies and make recommendations to the president. They are also asked to give speeches and create informational campaigns to convince the public that the EPA is doing what is right.

Students learn the science behind environmental reporting (particularly air and water quality), master public speaking and presentation skills, and explore related statistical and mathematical concepts.

On the final day, students will deliver group presentations on their particular focus, highlighting the science used to inform their conclusions and the implications of those conclusions to people fifty years in the future.

Mathball! Grades 6 - 8. 5 Days, 15 Hours Total

In the past decade, professional sports has undergone a math revolution. In the Major Leagues, most teams no longer rely on cigar-chomping former ballplayers to scout the next Babe Ruth. Instead, they are hiring young Ivy League grads with degrees in mathematical statistics to figure out on whom to spend their millions. In basketball and hockey, advanced metrics are used to determine which players play the best defense and which are loafing on the other end of the court or rink. It is often said that math is everywhere and that is no truer than in the sports world. In this class, our 7th and 8th graders apply what they have learned in the classroom to what they may have previously just considered “recess.” Each student chooses a particular aspect of a popular sport and delves into an analysis of the mathematics and statistics underlying it.

Students learn statistics, basic physics, geometry, presentation skills and economic principles.

On the final day, each student delivers a power-point presentation through which they educate the class in such topics as why your best hitter should not bat third in the batting order, why a marathon runner is at a disadvantage by jumping out to a lead or any other sports-related mathematical subject they wish to explore