

## 6th Grade

Engineering is the branch of science and technology concerned with the design, building, and use of engines, machines, and structures. The engineering design is a process of understanding a problem and designing a solution. In this class, students will learn the engineering design process and use their powers of innovation to solve a real world problem. There are 4 projects (and project management planning) that take the first half of the school year. They are part of the Future City Competition. Future City is an international engineering competition for 6th – 8th grade students. This year's topic is waste management.

## 7th Grade

Students revisit the 6 simple machines, starting with the lever and pulley and moving on to incline plane. Students will use simple design challenges (such as building a catapult) to learn about the simple machines. Simultaneously, 7th graders will learn about Arduino. Arduino is an open-source electronics platform based on easy-to-use hardware and software. Arduino is intended for anyone making interactive projects. It uses step-by-step instructions to teach simple electronics and coding.

## 8th Grade

The 8th grade technology class focuses on getting students ready for high school level thinking. Students learn about sustainable living here on Earth and experiment with living on the moon. Students practice thinking, designing and building like engineers and use the engineering design process. Students program EV3 Lego Mindstorms with advanced coding.

