Engineering Inventions CURRICULUM SUMMARY

The purpose of the summary is to present an overview of the curriculum. Parents, community, and teachers of other disciplines are the intended audience of the curriculum summary.

Topics/Content	Processes/Skills
• Unit 1 - Cable Cars: Physical Science Meets Transportation Engineering • Unit 2 – Active Ingredient: Life Science Meets Bioengineering • Unit 3 – Resilient Shelters: Earth Science Meets Construction Engineering • Unit 4 – Pump Production: Physical Science Meets Manufacturing Engineering • Unit 5 - Aerospace Engineering • Unit 6 - Agriculture • Unit 7 - LEGO Robotics	**All *Engineering is Now* (EIN) units involve the 8-step design process and each of these steps will encompass the skills bulleted below.** Engage in the Engineering Design Process (8 steps) o Exploring the Design Challenge (define the problem) o Research o Brainstorming and selecting a design o Building a prototype o Testing the model o Communication o Critique peers o Redesign and test o Understanding career connections • Group Collaboration • Sketching techniques • Apply science and mathematics to engineering problems • Use creativity and careful thinking to solve problems • Envision one's own abilities as an engineer • Troubleshoot and learn from failure • Understand the central role of materials and their properties in engineering solutions