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JC Schools 6th Grade
Gateway to Technology Yearly Standards

Overarching Standards		
DM1.3 T1 Use the techniques, skills, and modern engineering tools necessary to measure accurately and precisely		
Units	**Priority Standards**	**Supporting Standards**
Unit 1	**DM1.1 T1** Understand the impact of engineering solutions in a global, economic, environmental, and societal context	**DM1.1-U1** Create an engineering notebook to record original ideas or designs and to document the design process related to an invention or innovation **DM1.1-U3** Differentiate between science, as the study of the natural world, and technology, as the study of how humans develop new products to meet needs and wants **DM1.1-U5** Explore technological change as seen through inventions, innovations, and the evolution of technological artifacts, processes, and systems **DM1.1-U6** Contrast positive and negative social, cultural, economic, political, and environmental consequences of technology
Unit 2	**ST5.3 T1** Apply scientific knowledge to design a mechanical system that transfers energy	**ST5.3-U1** Discover how simple machines can make work easier by increasing mechanical advantage **ST5.3-U2** Explore mechanical advantage as the ratio of the force produced by a machine to the force applied to the machine **ST5.3-U3** Conclude that compound machines are made from a

		combination of several simple machines **AR2.1-U3** Compare and contrast the use of automation and robotics and their various effects on humans, both positively and negatively
Unit 3	**AR2.2 T1** Apply knowledge of mathematics, science, and engineering to design and build mechanisms	**AR2.2-U1** Explain the capacity of energy to do work; the use of mechanisms is necessary to transfer energy **AR2.2-U2** Analyze mechanisms designed by engineers and technologists that change energy by transferring direction, speed, type of movement, and force or torque **AR2.2-U3** Explore how mechanisms can be used individually, in pairs, or in systems
Unit 4	**AR2.3 T2** Use the techniques (design process), skills (mechanisms), and modern engineering tools (VEX and Programming Software) necessary for engineering practice	**AR2.3-U1** Explore how automated systems require minimal human intervention **AR2.3-U3** Discover that troubleshooting is a problem-solving method used to identify the cause of a malfunction in a technological system **AR2.3-U5** Research invention as a process of turning ideas and imagination into devices and systems
OVERARCHING STANDARDS	**DM1.3 T1** Use the techniques, skills, and modern engineering tools necessary to measure accurately and precisely	**DM1.3-U1** Students explore how we use both standard and metric systems of measurement in the United States **DM1.3-U2** Measuring accurately is important at school, home, work and when pursuing hobbies **DM1.3-U3**

		Explore how the correct use of measuring tools are needed for accuracy and precision