

Nature of Technology

Core Idea	Performance Expectations
<p>Technology innovation and improvement may be influenced by a variety of factors.</p> <p>Engineers create and modify technologies to meet people’s needs and wants; scientists ask questions about the natural world.</p>	<ul style="list-style-type: none"> ● 8.2.5.NT.1: Troubleshoot a product that has stopped working and brainstorm ideas to correct the problem. ● 8.2.5.NT.2: Identify new technologies resulting from the demands, values, and interests of individuals, businesses, industries, and societies. ● 8.2.5.NT.3: Redesign an existing product for a different purpose in a collaborative team. ● 8.2.5.NT.4: Identify how improvement in the understanding of materials science impacts technologies.

Effects of Technology on the Natural World

Core Idea	Performance Expectations
<p>The technology developed for the human designed world can have unintended consequences for the environment.</p> <p>Technology must be continually developed and made more efficient to reduce the need for non-renewable resources.</p>	<ul style="list-style-type: none"> ● 8.2.5.ETW.1: Describe how resources such as material, energy, information, time, tools, people, and capital are used in products or systems. ● 8.2.5.ETW.2: Describe ways that various technologies are used to reduce improper use of resources. ● 8.2.5.ETW.3: Explain why human-designed systems, products, and environments need to be constantly monitored, maintained, and improved. ● 8.2.5.ETW.4: Explain the impact that resources, such as energy and materials used to develop technology, have on the environment. ● 8.2.5.ETW.5: Identify the impact of a specific technology on the environment and determine what can be done to increase positive effects and to reduce any negative effects, such as climate change.

Ethics & Culture

Core Idea	Performance Expectations
<p>Technological choices and opportunities vary due to factors such as differences in economic resources, location, and cultural values.</p>	<ul style="list-style-type: none"> ● 8.2.5.EC.1: Analyze how technology has contributed to or reduced inequities in local and global communities and determine its short- and long-term effects.

