Rhode Island Engineering and Technology

Grades 5, 6

Adopted 2011

Engineering and technology impacts the world and humankind. ET1

1 (5-8). Compare, contrast, and provide evidence of how technology influences history and impacts society. ET1.1 (5-8)

1 (5-6). Students demonstrate an understanding of the impact of technology by: ET1.1 (5-6)

1a. researching and displaying how technological advancements have inspired historical events (e.g. Cold War/Sputnik, slavery/cotton gin)

1b. listing and describing the importance of technology in daily life and its trade-offs

1c. evaluating the many and varying uses of technology within different geographic regions (e.g. geothermal, tidal, and wind power

2 (5-8). Describe and demonstrate the effects of technological systems on humankind in terms of a national scale. ET1.2 (5-8)

2 (5-6). Students demonstrate an understanding of the outcomes of technology by: ET1.2 (5-6)

2a. making connections between technological inventions and their impacts on a nation. (e.g. automobiles and highway systems; computerized machines and manufacturing).

2b. researching and analyzing the effects on humankind and the environment that a particular technology has had over a period of time (e.g. landfill, dam on a river, desalinization plant).

Effective design through engineering and technology is the outcome of a problem solving process involving the application of content knowledge, acquired skills, and creativity. ET2

1 (5-8). Utilize the attributes of a design process to solve a real world problem. ET2.1 (5-8)

1 (5-6). Students demonstrate an understanding of the attributes of a design process by: ET2.1 (5-6)

1a. defining a problem that addresses a scenario with given criteria and constraints.

1b. selecting an appropriate design solution for a given scenario or task.

1c. fulfilling a specific function as a team member to achieve a desired result.

2 (5-8). Use and maintain technological products and systems, as well as their tools. ET2.2 (5-8)

2 (5-6). Students demonstrate an understanding of technological products and systems by: ET2.2 (5-6)

2a. safely using the required tools and organizing information resources for a specific task.

2b. incorporating assigned materials and assigned tools throughout the design process.

2c. using information to discover, diagnose and troubleshoot problems that arise in the course of the design process.

2d. interpreting the accuracy of information for the purpose of developing possible solutions.

3 (5-8). Utilize processes (i.e. research and development, invention and innovation, experimentation, and troubleshooting) in designs that use criteria and constraints leading to useful products and systems. ET2.3 (5-8)

3 (5-6). Students demonstrate an understanding of effective designs of products and systems by: ET2.3 (5-6)

3a. given a process, with criteria and constraints, solve a real world problem.

3b. utilizing materials provided to construct a working model for a given task (e.g. construct a contraption that utilizes all the simple machines – chain reaction machine).

3c. testing, troubleshooting, and evaluating a design solution.

3d. presenting final working model for peer review and revision.

The designed world community selects and uses appropriate technologies. ET3

1 (5-8). Explore the various areas in engineering and technology and their interconnections. ET3.1 (5-8)

1 (5-6). Students demonstrate an understanding of the areas of engineering and technology by: ET3.1 (5-6)

1a. differentiating among the various engineering and technological careers (e.g. medical technologist vs. biotechnologist).

1b. researching the connections within the areas of engineering and technology as they apply to a given product.

2 (5-8). Compare and contrast tools to measure, design, and implement specific technologies. ET3.2 (5-8)

2 (5-6). Students demonstrate an understanding of selecting appropriate tools by: ET3.2 (5-6)

2a. comparing and contrasting tools used for the same purpose across different technologies (e.g. linear measurement tools in construction vs. digital measurement tools in biotechnology).

2b. researching and selecting the optimal tool for a given task in a specific area of technology.