Rhode Island Engineering and Technology

Grades K, 1, 2

Adopted 2011

Engineering and technology impacts the world and humankind. ET1

1 (K-4). Demonstrate and identify reasons for the development of technology and its effects on humankind. ET1.1 (K-4)

1 (K-2). Students demonstrate an understanding of the nature of technology by: ET1.1 (K-2)

1a. investigating life without current technology (e.g. role-play use of the bucket brigade instead of a fire truck)

1b. describing how technology affects daily human routines (e.g. How does milk get from the cow to the home refrigerator?)

1c. differentiating between needs/wants, helpful/harmful, disposable/reusable, and natural/human-made products.

2 (K-4). Discuss and develop an understanding of technology and its relationship to the natural and designed (human-made) world in the local community. ET1.2 (K-4)

2 (K-2). Students demonstrate an understanding of the need for technology by: ET1.2 (K-2)

2a. understanding that technology can make life easier (e.g. clothes, telephone, automobile, microwave).

2b. discussing the purpose of technology and its relationship to the natural and designed world

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 (K-4). Explore and recognize the attributes of a design process. ET2.1 (K-4)

1 (K-2). Students demonstrate an understanding of the attributes of a design process by: ET2.1 (K-2)

1a. asking questions, making observations, and brainstorming various ideas.

1b. exploring solutions to a problem based upon observations and brainstorming ideas.

1c. completing tasks cooperatively in a group setting.

2 (K-4). Explore and recognize basic technological products and systems, as well as their tools. ET2.2 (K-4)

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

2a. identifying and safely using the required tools (e.g. glue, scissors, tape) for a specific task.

2b. collecting and using information about everyday products and symbols. (e.g. shape and color of a stop sign)

2c. exploring how things work.

2d. exploring the properties of a product (e.g. size, type of material, shape).

3 (K-4). Explore the processes of research and development, invention and innovation, experimentation, and troubleshooting in planning practical solutions to problems. ET2.3 (K-4)

3 (K-2). Students demonstrate an understanding of effective design by: ET2.3 (K-2)

3a. recognizing there are steps to solving a problem.

3b. experimenting/exploring with various simple machines (e.g. wheels, axles, gears, pulleys) to demonstrate their uses and discuss their differences.

3c. asking questions and making observations of design solutions (e.g. comparing toothbrush designs).

3d. comparing and contrasting various design solutions (e.g. bus vs. race car).

The designed world community selects and uses appropriate technologies. ET3

1 (K-4). Recognize that there are various areas in engineering and technology. ET3.1 (K-4)

1 (K-2). Students demonstrate an understanding of the areas of engineering and technology by: ET3.1 (K-2)

1a. identifying community workers in the areas of engineering and technology. (e.g. bus driver in the area of transportation)

1b. making connections between the different areas of engineering and technology (e.g. recognize that transportation technologies are involved in construction).

2 (K-4). Select and utilize appropriate tools to measure, design, and implement specific technologies. ET3.2 (K-4)

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

2a. recognizing that there are specialized tools for different areas of engineering and technology.