Technology Education 9

Outcomes

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2014

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Prepared by the Department of Education and Early Childhood Development

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General Curriculum Outcomes

1. Students will be expected to design, develop, evaluate, and articulate technological solutions.
2. Students will be expected to operate and manage technological systems.
3. Students will be expected to demonstrate an understanding of the history and evolution of technology, and of its social and cultural implications.
4. Students will be expected to demonstrate an understanding of the consequences of their technological choices.
5. Students will be expected to demonstrate an understanding of current and evolving careers and of the influence of technology on the nature of work.

Specific Curriculum Outcomes

Students will be expected to

Fundamentals of Technology Education

(Threading Outcomes, Grade 7, Grade 8, and Grade 9)

5.1 work independently, co-operatively, and collaboratively to solve technological problems
5.2 demonstrate an awareness of ethics and environmental responsibility in technological decision-making and work habits
5.3 demonstrate preparedness for technological problem solving
5.4 demonstrate safe and healthy practices with regard to materials, processes, and equipment
5.5 document the design process
5.6 independently demonstrate appropriate application of skills learned
5.7 demonstrate measuring skills with accuracy and precision
5.8 communicate ideas using 2-D and 3-D technical drawings and sketches
5.9 use appropriate language and terminology as applied to technology education
5.10 investigate connections among technology education, STEM (Science, Technology, Engineering, and Math), and careers

Module 1: Communications Technology

1.1 develop a plan to solve authentic communications technology problems
1.2 create solutions to authentic communications technology problems
1.3 evaluate their solutions to authentic communications technology problems
1.4 create and manipulate a variety of communication technology media to solve a design problem
1.5 determine criteria for specific target audiences
1.6 apply principles of design
1.7 present a solution and rationale to a target audience using a given medium

MODULE 2: ENERGY ENGINEERING

2.1 develop a plan to solve energy engineering problems
2.2 design and construct solutions to energy engineering problems
2.3 evaluate solutions to energy engineering problems
2.4 construct or modify a device that demonstrates the conversion of energy
2.5 create a mechanical device that demonstrates a change in motion
2.6 use mechanical advantage in the solution of a technological problem
2.7 use knowledge of energy sources to make decisions about real-life energy problems

MODULE 3: INNOVATIONS AND INVENTIONS

3.1 design and construct a system incorporating simple machines that will initiate a series of events
3.2 design an adaptation for an existing product that solves a new need
3.3 explain a complex system in terms of its subsystems
3.4 evaluate the impact of invention and innovation
3.5 develop improvements to an existing product
3.6 hypothesize and investigate how products are manufactured
3.7 employ control systems to regulate processes
3.8 reverse-engineer a product to explain its inner workings

MODULE 4: PRODUCTION TECHNOLOGY

4.1 demonstrate an understanding of all safety features of production technology machines and equipment used to solve design problems
4.2 demonstrate safe and effective use of a variety of production technology tools and processes
4.3 demonstrate an understanding of safe management of wood dust
4.4 develop a plan to solve authentic production technology problems
4.5 construct solutions to authentic production technology problems
4.6 evaluate solutions to authentic production technology problems
4.7 safely use production equipment and machines to process materials
4.8 work with real-life clients or situations to solve production related problems within school or community environments
4.9 use a variety of fasteners to combine materials or assemble a product
4.10 use environmentally friendly finishing techniques to enhance the esthetics or functionality of a product