

## CONTINUUM FOR TECHNOLOGICAL PROBLEM-SOLVING SKILLS

Beginning → Exploring → Emerging → Competent → Proficient			
<b>Initiating and Planning</b>			
<b>The student:</b>			
recognizes a practical problem in a given context	identifies practical problems to solve in the immediate environment	identifies practical problems to solve in the local community	identifies practical problems to solve
with support (e.g., as a class or in small groups), brainstorms possible solutions to a practical problem	with support (e.g., as a class or in small groups), generates a list of possible solutions to a practical problem and determines which are realistic in the classroom and/or the real world	identifies possible solutions to a practical problem and explains how each might solve the problem	identifies possible solutions to a practical problem and prioritizes them with regard to their potential for solving the problem
with support (e.g., as a class or in small groups), selects one possible solution to implement	selects a possible solution to implement	selects a possible solution to implement, and provides reasons for the choice	selects a possible solution, and provides reasons for the choice that take into account considerations such as function, aesthetics, environmental impact
with support (e.g., as a class or in small groups), makes a simple plan to carry out the solution	makes a simple plan (individually or in small groups), including simple drawings and/or diagrams, to carry out the solution	outlines (individually or in small groups) the steps of a plan, including labelled drawings and/or diagrams, to solve the problem	outlines in detail, including technical drawings and/or diagrams, each step of a plan to solve the problem
with support (e.g., as a class or in small groups), establishes a limited number of criteria for evaluating proposed solutions to the problem	with support (e.g., as a class or in small groups), establishes a limited number of criteria for evaluating proposed solutions to the problem	contributes to establishing general criteria for evaluating objects or devices designed to solve the problem	contributes to establishing general criteria for evaluating objects or devices designed to solve the problem
<b>Performing and Recording</b>			
<b>The student:</b>			
with support (e.g., as a class or in small groups), carries out the pre-determined plan	with support (e.g., as a class or in small groups), carries out the pre-determined plan	carries out the pre-determined plan (individually or in pairs or small groups)	carries out the pre-determined plan
with support, designs, builds, and tests (on the basis of pre-determined criteria) a device or an object to solve the problem	with support, designs, builds, and tests (on the basis of pre-determined criteria) a device or an object to solve the problem	designs, builds, and tests (on the basis of pre-determined criteria) a device or an object to solve the problem	designs, builds, and tests (on the basis of pre-determined criteria) a device or an object to solve the problem
records results using pictures and/or tally charts	records results in a variety of ways, such as sentences, simple drawings, diagrams, and/or charts	records results in a variety of ways, such as sentences, drawings, labelled diagrams, graphs, and/or charts	records results in a variety of ways, such as sentences, technical drawings, labelled diagrams, graphs, and/or charts

## Analysing and Interpreting

### The student:

with support, identifies how well the chosen solution solved the practical problem, using the pre-determined criteria	identifies how well the chosen solution solved the practical problem, using the pre-determined criteria	explains how well the chosen solution solved the practical problem, and suggests possible changes to the criteria and the solution	explains how well the chosen solution solved the practical problem, using qualitative and/or quantitative data, and suggests possible changes to the criteria and the solution
with support, suggests something that might be changed about the solution to the problem	identifies some things that could be done differently to improve the solution to the problem	identifies and explains what changes could be made to the plan and how to improve the solution to the problem, and gives reasons for the changes	identifies and explains what changes could be made to the plan and the testing process, and how to improve the solution to the problem, and gives reasons for the changes
	identifies some possible beneficial and non-beneficial impacts of the chosen solution for himself/herself or others	identifies the effects of the chosen solution on himself/herself, others, and/or the environment, considering things such as cost, materials, time, and/or space	identifies the effects of the chosen solution on himself/herself, others, and/or the environment, considering things such as cost, materials, time, and/or space, and suggests ways in which undesirable effects could be lessened or eliminated

## Communicating

### The student:

describes orally, and/or using drawings, pictures, and/or simple sentences, the problem and how he or she solved it	describes orally, and/or using drawings, pictures, and/or simple sentences, the problem and how he or she solved it	describes orally, and using labelled drawings and diagrams, charts, graphs, and/or written descriptions, the problem and how he or she solved it	describes orally, and using labelled drawings and diagrams, charts, graphs, and/or written descriptions, the problem and how he or she solved it
uses grade-appropriate science and technology vocabulary correctly	uses grade-appropriate science and technology vocabulary correctly	uses grade-appropriate science and technology vocabulary correctly	uses grade-appropriate science and technology vocabulary correctly