

# Ontario Math Curriculum Expectations 2020

## Coding Strand .. Grade 1

### Ontario Mathematics September 2022, EXPECTATIONS for CODING

Resource - "First Steps in Coding to Learn" (2022 Neufeld Learning Systems Inc.)

RS are Reproducible Sheets

### Grade 1 Coding Expectations

- 1.C3.1 Coding Skills** .. Solve problems and create computational representations of mathematical situations by writing and executing code, including code that involves sequential events.
- 1.C3.2 Coding Skills** .. Read and alter existing code, including code that involves sequential events, and describe how changes to the code affect the outcomes.

**In Preparation for Upcoming Lessons, discuss following from Resource with Students/Teachers/Parents.**

- 1. FORWARD** - An opportunity to set up a special learning environment for all.
- 2. PREFACE - The Role of Robots** to facilitate a special learning environment - learn by teaching.
- 3. PREFACE - The Role of Journaling** is an essential way to express understanding.

### Chapter 1 of Resource, " - First Steps in Coding to Learn" Neufeld - First Steps to Coding

- Goal:** Provide screen free, interactive experiences where students learn importance of providing understandable, sequential directions -- the foundation of coding.
- Overview:** We will consider the role of and the coding of robots.  
Exercises will have students organize events sequentially.  
Communication skills will be emphasized.  
Exercises will introduce concepts in distance and turning.
- Concepts:** Communication, cooperative learning and sequencing  
Decomposition - breaking down problems into steps  
Accurate measurements of distances and turns

#### SPECIFIC ACTIVITIES: SEQUENTIAL EVENTS

##### Part A: Coding - First Steps

Activity #1: What is a Robot		pg 2
Activity #2: Journal Report on Robots		pg 3
Activity #3: Tomorrow's Robot .. A Baseball Umpire		pg 4
Activity #4: Robots on an Assembly Line	<b>Duplicate 1RS.1</b>	pg 5
Activity #5: End of the Day ... An Algorithm	<b>Duplicate 1RS.2</b>	pg 7
Activity #6: My Breakfast ... An Algorithm	<b>Duplicate 1RS.3</b>	pg 8
Activity #7: Jam Sandwich ... An Algorithm	<b>Duplicate 1RS.4</b>	pg 9
Activity #8: Copying		pg 11
Activity #9: A Design ... Need for Code		pg 11
Activity #10: Secret Code	<b>Duplicate 1RS.5</b>	pg 12

##### Part B: Code For a Clock Turn

Activity #1: Introduce the Code		pg 13
Activity #2: Clock Turn - Exercise 1		pg 15
Activity #2: Clock Turn - Exercise 2		pg 17
Activity #3: Clock Compass for a Clock Turn	<b>Duplicate 1RS.6</b>	pg 17
Activity #4: Clock Turn Code results in a Path	<b>Duplicate 1RS.7</b>	pg 20

Prepared by Neufeld Learning Systems Inc.

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