

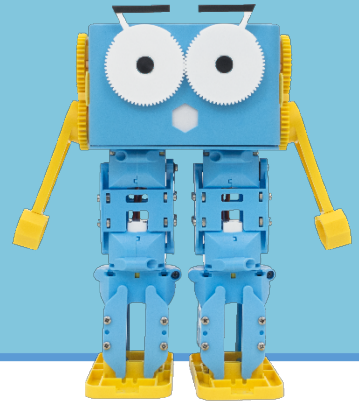
# Lesson 1.2 – Introduction to Programming

**Education Level:** Second Level (Ages 7-11)

**Lesson Duration:** 45 minutes

**Prerequisite Knowledge:** Lesson 1.1

**Device Compatibility:** Laptop, PC or Tablet



## Lesson Overview

Now that students have their own Marty paper prototype, we will start to build upon student's understanding that programming is essentially a list of instructions. There will be an emphasis on trying to relate this back to 'real life' to make things more relatable. Students will be able to start breaking down blocks of code to make sense of each individual instruction before starting to put together their own small programs to control Marty.

### Learning Objectives

- Relate coding blocks and coding to real life situations
- Predict what outcomes different blocks of code will have on the world
- Put together different blocks of code to achieve certain actions/outcomes

### Key Vocabulary

- Programming
- Paper Prototyping
- Block Coding
- Instructions/Recipe

### Resources & Equipment

- Paper Marty (created from Lesson 1)
- Marty Workbook (Lesson 2)
- Marty Says action cards
- Marty the Robot
- Access to computers/laptops/tablets
- Scratch editor linked to Marty the Robot

### Additional Reading

- Educators Guide
- Introduction to Programming with Marty using Scratch

### Learning Plan & Activities

1. Show a few different examples of Marty Says action cards showing the different poses that Marty can make
2. Students should then try to recreate these actions using their paper prototype
3. Get students to think about the steps that they took to recreate the pose using their paper Marty and write down instructions for someone to repeat (relating back to the idea that programming is like a recipe). Then test these out using either paper Marty prototypes or by getting a student volunteer to pretend to be the class robot
4. Students should then move to their devices and launch the Scratch editor before starting to put together different blocks together to achieve the pose shown on a variety of different cards that they select from random

### Additional Challenges

- Try combining different poses to start putting together some dance moves for Marty
- Students could try to come up with their own different actions for Marty and try to draw these for other students to try and recreate (first of all using their paper prototype and then using coding blocks)

## Curriculum Benchmarks

### Curriculum for Excellence – Technologies Benchmark Guide

● = Fully Addresses Benchmark    ○ = Partially Addresses Benchmark

Curriculum Organiser	Benchmark Covered	Lesson 1.2
Digital Literacy	TCH 0-01a	●
Technological Developments in Society and Business	TCH 0-05a	○
	TCH 3-05a	●
Craft, Design, Engineering and Graphics	TCH 0-11a	●
	TCH 1-11a	●
	TCH 0-12a	●
Computing Science	TCH 0-13a	●
	TCH 1-13a	○
	TCH 0-14a	●
	TCH 0-14b	●
	TCH 1-14a	●
	TCH 1-14b	○
	TCH 2-14a	○
TCH 0-15a	○	

### National Curriculum – Computing, Design & Technology

● = Fully Addresses Benchmark    ○ = Partially Addresses Benchmark

Curriculum Organiser	Benchmark Covered	Lesson 1.2
Computing	1-a	○
	1-b	●
	1-c	●
	1-e	○
	2-a	●
	2-c	○
	3-b	○
Design & Technology	1.1-a	●
	1.1-b	○
	1.3-b	●