



About this Challenge

The Halloween Candy Cargo activity is a coding challenge that uses Scratch with the intelino train extension. Students have to fix bugs in a program to make sure that the intelino train picks up all the candy from the port and delivers everything to the city!

The activity is **self-guided** and is recommended for grades **K-8**. You can choose from two different programs that need to be fixed. Program 1 has less bugs and is easier to fix, so it's intended for grades K-2. Older kids will find program 2 as more of a challenge! You have the option to download and load the programs that need to be fixed, or to print the program and then assemble it from the blocks in Scratch. Either way works, but downloading the program saves some time!

Since kids will program the smart train using **Scratch**, a general knowledge of how to use Scratch is recommended. However, the challenge is designed such that the kids only need to use the provided program to figure out what is wrong or missing. This means they can try this activity even if they haven't programmed the train with intelino Scratch before!

For more info and help on how to use Scratch with intelino, please see these [support pages!](#)

Grades

- K-8
- differentiated for K-2 and 3-8

Code Modes

- mode 3 (intelino Scratch)

Time

- one session
- about 30 min

Group

up to 3 students per group

Prerequisites

experience with Scratch in general is recommended

Supplies

per group:

- 1 intelino starter set or classroom set track box
- charged engine
- device running intelino Scratch
- printout of pages 1 +2
- printout of program (p. 3 or 4) if the program is not downloaded
- scissors

Standards

- CSTA: 1A-AP-08, 1A-AP-11, 1A-AP-14, 1B-AP-12, 1B-AP-14
- Common Core: CCSS.MATH.PRACTICE.MP1, CCSS.MATH.PRACTICE.MP3
- ISTE: 1.6.b, 1.7.b, 1.7.c

Questions?

email julia@intelino.com

Halloween Candy Cargo



Ages:

5-7 program 1

8+ program 2

Difficulty:

beginner

Code Modes:

mode 3 - Scratch

about 30 min

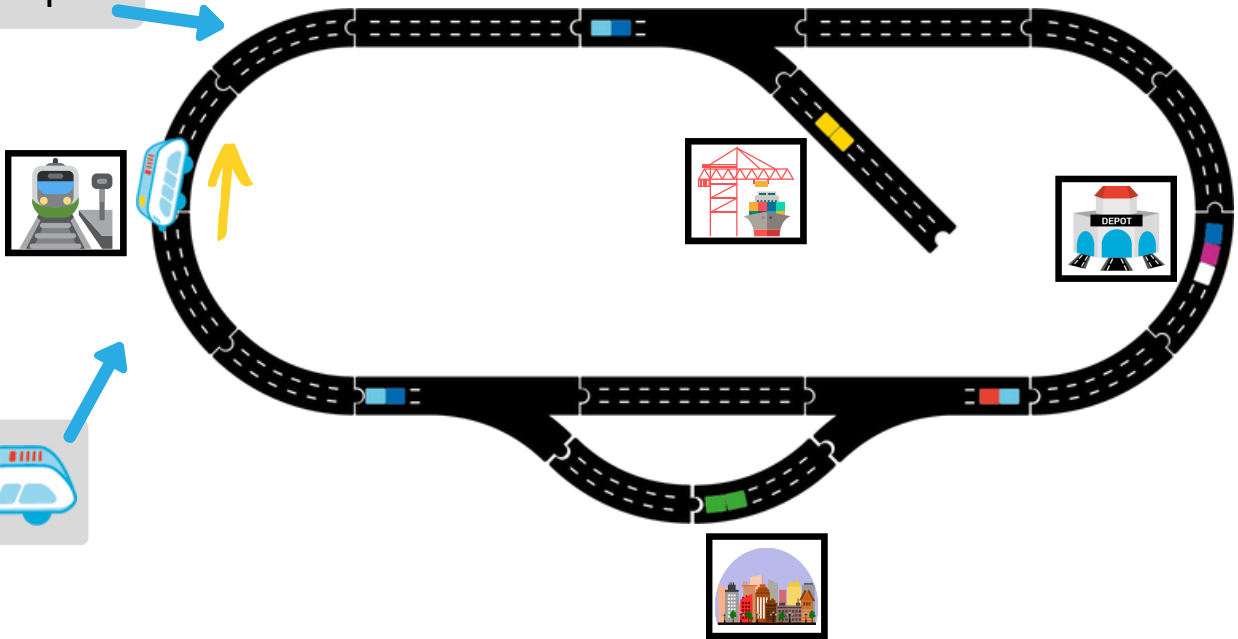
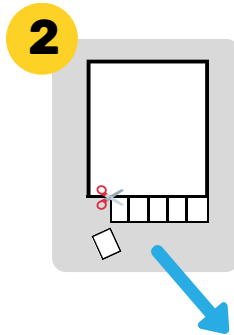
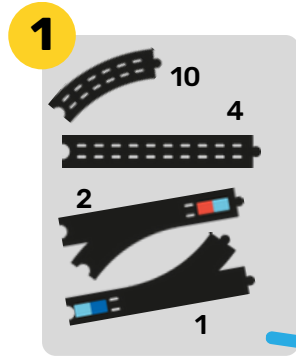
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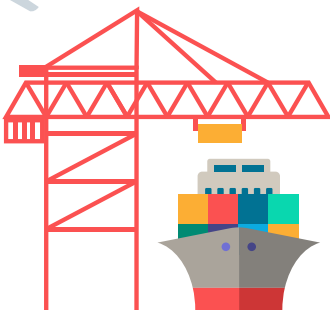


We need to save Halloween!

Oh no - all the Halloween candy is still at the port. We need to program my train so I can drop it off in the city. This is the only way we can save Trick or Treat!



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Someone already wrote the Scratch program to bring the candy to the city, but it doesn't work! Can you fix it?

Follow these Steps:

1. Open intelino scratch: scratch.intelino.com.
2. Start Scratch Link.
3. Turn engine on.
4. Load the intelino smart train 1 extension and connect to the engine.
5. Load the **program** or assemble it yourself (see next page):
 - a. ages 5-7: Program 1 **scratch-halloween-easy.sb3** (it's a bit easier) download at bit.ly/3eEqwj3
 - b. ages 8+: Program 2 **scratch-halloween-hard.sb3** (this one is harder) download at bit.ly/3gnYo3R
6. Fix the program so the train runs on schedule!



Candy Cargo Schedule

	Start at the station
	Stop 2 sec at the port to pick up the candy
	Stop 2 sec in the city to drop off the candy
	Stop at the depot



Program 1

scratch-halloween-easy.sb3

Ages 5-7

This program is a bit easier to fix!

Assemble this program from the blocks in intelino scratch or download and open it from bit.ly/3eEqwj3

```
when clicked
  drive forward at 40 cm/s
  on next split go straight

when train sees yellow (3)
  stop driving
  wait 2 seconds
  drive forward at 40 cm/s
  on next split go right

when train sees red (1)
  pause driving for 10 seconds

when blue (4) seen
  stop driving
```

The image shows a Scratch script for a train character. The script is composed of several event-driven blocks. It starts with a 'when clicked' event block, followed by a 'drive forward at 40 cm/s' block and an 'on next split go straight' block. The next section is triggered by a 'when train sees yellow (3)' event, leading to a 'stop driving' block, a 'wait 2 seconds' block, another 'drive forward at 40 cm/s' block, and an 'on next split go right' block. The third section is triggered by a 'when train sees red (1)' event, leading to a 'pause driving for 10 seconds' block. The final section is triggered by a 'when blue (4) seen' event, leading to a 'stop driving' block.

Program 2

scratch-halloween-hard.sb3

Ages 8+



Assemble this program from the blocks in intelino scratch or download and open it from bit.ly/3gnYo3R

```
when clicked
  drive forward at 40 cm/s
  on next split go left

when train sees yellow (3)
  stop driving
  wait 2 seconds
  drive forward at 40 cm/s

when blue (4) seen
  stop driving
```



Standards:

- CSTA: 1A-AP-08, 1A-AP-11, 1A-AP-14, 1B-AP-12, 1B-AP-15
- Common Core: CCSS.MATH.PRACTICE.MP1, CCSS.MATH.PRACTICE.MP3
- ISTE: 1.6.b, 1.7.b, 1.7.c

Solution

Note: The same sample solution is a fix for both programs!

A Scratch script for a blue robot character. The script starts with a yellow 'when clicked' block. This is followed by two green 'drive' blocks: 'drive forward at 40 cm/s' and 'on next split go right'. The next section is a green 'when train sees yellow (3)' block, followed by a green 'stop driving' block, an orange 'wait 2 seconds' block, another green 'drive backward at 40 cm/s' block, and a final green 'on next split go right' block. The third section is a green 'when train sees green (2)' block followed by a green 'pause driving for 2 seconds' block. The final section is a green 'when blue (4) seen' block followed by a green 'stop driving' block.