

intelino coding challenges

TRY IT FOR:

HOUR
OF
CODE



Teacher Info

ABC Code is one of intelino's coding challenges and it combines **coding** with **phonics** practice. It's a great way to participate in the Hour of Code™, since this activity is as interesting for beginning coders as for advanced ones. However, neither kids nor teachers need to know anything about coding or the intelino smart train!

The activity is **self-guided** and works for grades **K-8**, although younger kids may need some help reading the instructions. There are two parts to the challenge: first, students try to figure out what the secret word is without running the train. This gives them practice in “reading the code”, i.e. understanding the color commands that are on the track. Then, they can let the train run and see if their guess was correct. If students have time, they can finish the optional challenge.

ABC Code is an **unplugged** coding lesson. The intelino smart train is programmed with action snaps, which are colored tiles that snap onto the track and form commands that the train can execute.

If you are new to teaching with intelino, take a look at our [Teacher's Quick Start Guide](#). We also have more lessons and activities (unplugged or using Scratch or Python) in the [intelino lab!](#)

Grades

K-8

Code Modes

mode 1 (action snaps),
unplugged

Prerequisites

none - no
knowledge of
coding or intelino
is required

Group

up to 5 students
per group

Time

about 45 min

Standards

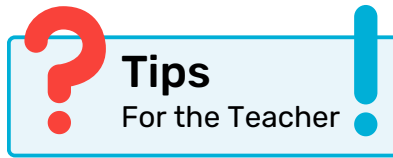
- CSTA: 1A-AP-10, 1A-AP-11, 1A-AP-14, 1B-AP-10, 1B-AP-11, 1B-AP-12, 1B-AP-15
- Common Core: CCSS.ELA-LITERACY.RF.K.3, CCSS.ELA-LITERACY.RF.1.3, CCSS.ELA-LITERACY.RF.2.3
- ISTE: 1.1.c, 1.7.b, 1.7.c

Supplies

- per group:
- 1 intelino set with action snaps
 - charged engine
 - printout of pages 1-4
 - scissor
 - pencil

Questions?

email julia@intelino.com



Tips
For the Teacher

Task 1: Secret Word without the Train

- Make sure that students do not use the train just yet. The purpose of this task is to familiarize students with the color commands. It's equivalent to reading through example code.
- It may help to go through the first couple of commands together. The key thing they may miss is that the train needs to see the white snap first in order to read the command. Also, ask them where the train will go at the split tracks.

Go Step-by-Step

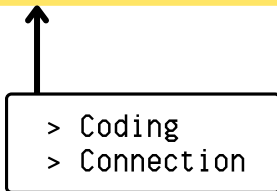
Start by asking your students if the train will stop at the first command (letter E), then ask them where the train will go at the split.

Going slowly, step by step, helps kids understand the commands and their sequence. Much like planning and writing a program line by line!

Simulate the Train

Help your students visualize what the train will do by moving your hand over the track as if it was the train. Stop at snap commands and talk about what the train would do.

This process is like stepping through your software program in a simulator - something that programmers do often while debugging!



Task 2: Secret Word with the Train

- It's now time to bust out the train! Walk them through turning it on and starting to drive.
- Make sure that they are driving in the direction of the arrow!

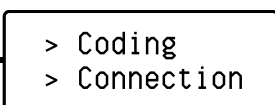
Task 3: Challenge

- Do not move the letters! The task is to make new words by changing the snap commands, not the letters.
- They may want to write out possible words and then plan how to program the train to spell out the words.
- Some possible words are: do, are, car, mode, made, more, core, care, mood, come, came, Rome, dome, dare.

Try, then Adjust

Put snap commands on the track, then let the train run. Watch what happens, add or adjust snaps, and repeat this process.

You are, in fact, programming and debugging like this!





Ages:
5+

Difficulty:
beginner

Code Modes:
mode 1 - action snaps

45 min

TRY IT FOR:



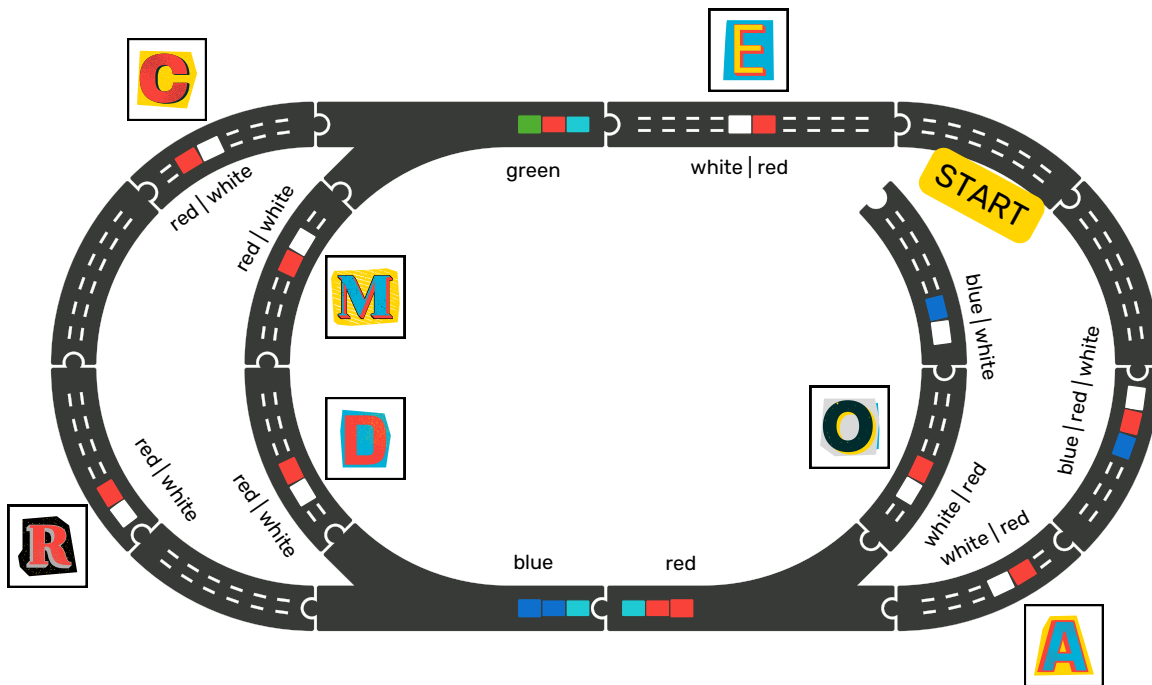
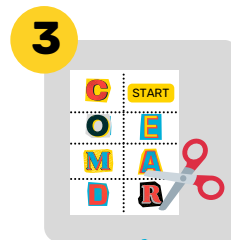
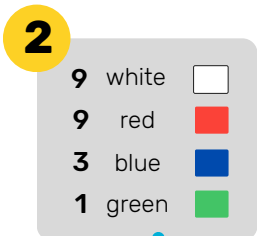
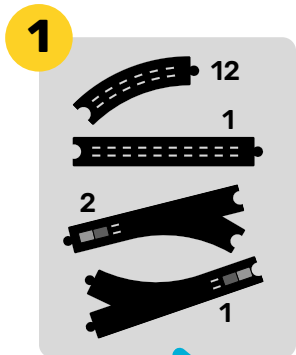
NAME _____



Hi, I'm Jamy! I'm an intelino smart engine.

I'm trying to crack a code, but it looks like just a bunch of letters.

Do you want to give it a go?





What are these colored tiles?

We call them **action snaps** and when you put them in the right order, they make up **commands** that the train can read. Each of them makes intelino engines do something. Let's take a closer look!



direction



→ straight



↖ turn left



→ straight



↘ turn right



↔ reverse



stop / end



⌚ stop 2 sec



≡ end route

Rule:

I need to see the white snap first, otherwise I don't know a stop/end command is coming!



Word Bank



tracks



engine



action snaps



command



Now look back at the letters and commands on your track.

We can figure out what the secret word is.



Crack the Code!

- The train will spell out a secret word.
- **BUT: do not turn on the train just yet.** Try to figure out how the train would drive!
- A letter is part of the secret word if the train stops at it.
- The train stops at the first letter of the secret word first, then the second letter and so on.
- The secret word is complete when the train ends driving and turns off.
- Hint: the train may not stop at every letter on the track.



Do not turn the train on and let it drive. Figure out how the train would go!

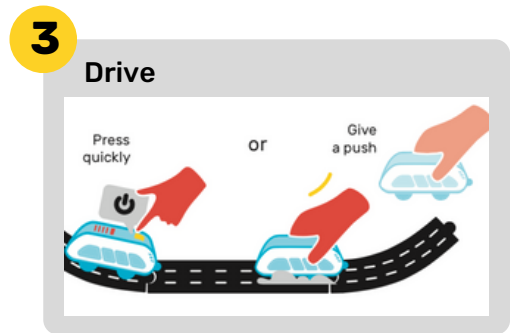
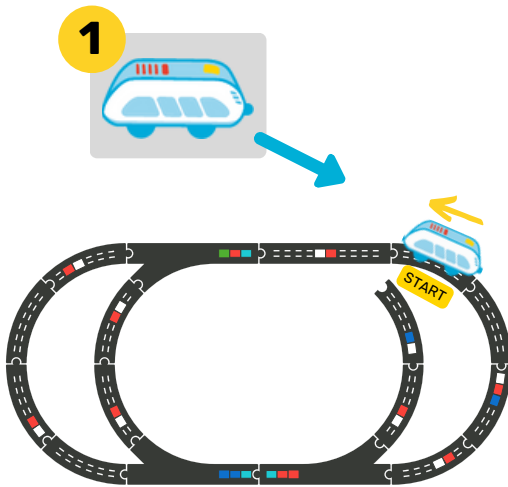
The secret word is : _____

(my guess)



Now let's see if you were correct!

Get the engine and let it drive. Write down the letters at which the train stops. Is it the same word you guessed before?



The secret word is : _____

(when the train spells it)



Can you make other words?

- Figure out what other word you can spell with the letters, but do not move the letters!
- Change the snap commands to spell your new word.
- You can take away some snaps or add more snaps if you need.



Well done!

