



PLTW Virtual Learning

6th Grade Intro to Tech

May 15, 2020



6th Grade Intro to Technology Lesson: May 15 (Part 5 of 10)

Objective/Learning Target:

Students will develop knowledge of the fundamentals of the coding process through a blocky code language (or a text-based language if they choose a more advanced challenge).

Warm-Ups:

What do loops do?

How do we use loops?

We have now done something, we will be super cool:
using loops inside loops. What kinds of things did we use a
loop inside of a loop for?

Warm-Ups: **Answers**

What do loops do?

Loops repeat a set of commands.

How do we use loops?

We use loops to create a pattern made of repeated actions.

We have now done something, we will be super cool: using loops inside loops. What kinds of things did we use a loop inside of a loop for?

If a loop repeats a pattern, then looping a loop would repeat a pattern of patterns!

Lesson Introduction/Background Information:

Regardless of your previous experience (or lack of) with coding, you are going to be spending the next two weeks working through structured coding lessons and learning some fundamental concepts of writing code that apply whether you are doing blocky (drag and drop) coding or you are doing text-based coding. Coding can be used from everything to making games, designing websites, creating apps, and programming robots (which you will be doing next year if you take Automation and Robotics).

Practice (Signing-In):

- Go to code.org
- This is not required, but if you want to save your progress on this FREE site, click the turquoise “Sign In” button in the top right corner.
- Click the red “Continue with Google” button on the right side.
- Click your school email (or any Google account) to continue.
- Watch [this video](#) to see these steps in action to get logged in (which is optional!)

Practice:

- Navigate through the course catalog to the Express Course, or follow this link: <https://studio.code.org/s/express-2019>
- Today you are going to be introduced to the idea of conditionals - code that uses logic to decide when to run certain parts of the code in lessons 11-13.



Practice:

- Just like your brains can use logic to make decisions, so can code! Using conditionals like “if/else” and “while” allow your code to get smarter, which allows you to do more. Explore this concept with today’s lessons, featuring the bee, the farmer, and Minecraft!



The image shows a coding interface for a game. On the left is a 10x10 grid representing a game world. A bee character is at the top center. The grid contains several orange flowers and green trees. Below the grid are two buttons: a blue 'Run' button with a play icon and an orange 'Step' button. Below the buttons is a link that says 'See a solution'. On the right is a code editor with a purple header 'Instructions' containing a bee icon, a lightbulb icon with the number '2', and the text 'Collect all of the nectar using as few blocks as possible'. Below the instructions is a purple header 'Blocks' containing a list of code blocks: 'when run' (orange), 'move forward' (blue), 'turn right' (blue), 'turn left' (blue), 'get nectar' (blue), 'make honey' (blue), 'if at flower' (blue), 'do' (blue), and 'repeat ??? times' (pink) with a 'do' block below it.

Self-Assessment:

Each lesson will check your work as you go, so you get immediate feedback!

Did you use more blocks than recommended on a level? Go back and see if you can complete it while staying under the block maximum.

Extend Your Learning/Continued Practice:

Tried this and think it is too easy for you?

In this section, I'll be recommending some other coding sites that will be a bit more challenging than code.org because they require text-based coding.

Today's recommendation:

[Code Academy](#)