



PLTW Virtual Learning

6th Grade Intro to Tech

May 14, 2020



6th Grade Intro to Technology Lesson: May 14 (Part 4 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:

Go back to some of the puzzles from lessons 2-5. Can you see where looping would have been able to eliminate some of the blocks you used?

What do you think is the benefit of using loops as opposed to writing out all of the code?

Lesson Introduction/Background Information:

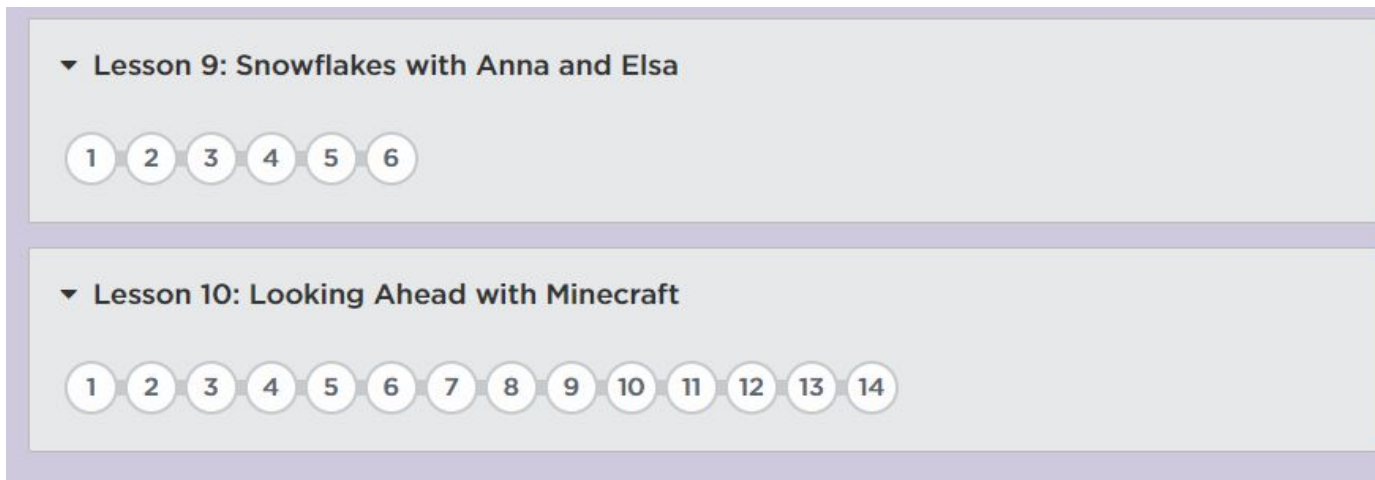
Regardless of your previous experience (or lack of) with coding, you are going to be spending the next two weeks working through structured coding lessons and learning some fundamental concepts of writing code that apply whether you are doing blocky (drag and drop) coding or you are doing text-based 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!)

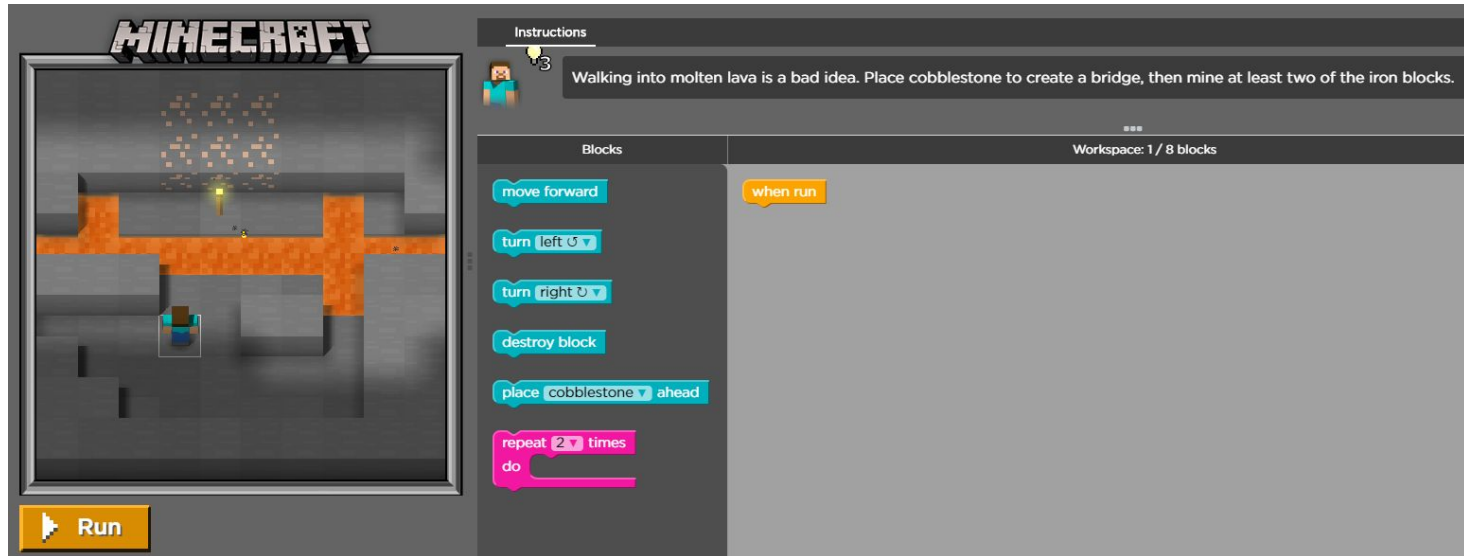
Practice:

- 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 finish introducing the concept of Looping, or taking some of the repetition out of our code, in Lessons 9 and 10.



Practice:

- You might have discovered while working on sequencing that sometimes code repeats itself, and it gets annoying to have to keep putting the same code in that really just needs to be repeated. That is what loops do for us! Explore this concept with today's lessons, featuring Frozen and Minecraft!



The screenshot displays a Minecraft coding interface. On the left is a 3D game view showing a character in a cave with a lava flow and a bridge of cobblestone. The top right features an 'Instructions' panel with the text: 'Walking into molten lava is a bad idea. Place cobblestone to create a bridge, then mine at least two of the iron blocks.' Below this is a 'Workspace: 1 / 8 blocks' area. A 'Blocks' menu on the left lists actions: 'move forward', 'turn left', 'turn right', 'destroy block', 'place cobblestone ahead', and 'repeat 2 times'. The 'repeat' block is currently expanded to show a 'do' loop structure. A 'when run' block is also visible in the workspace.

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:

Code.org also has some great videos about computer science. Check out the next two in the series about How Do Computers Work below!

[Binary and Data](#)
[Circuits and Logic](#)