

Student: [Redacted]
Year: 2019-20
Term: Term 4
Subject: STEM
Guide: Abigail Henderson

Can We Code Beauty?

In this Quest, we learned how to use code to create art while also pondering the ways in which code itself can be beautiful. After exploring the foundations of geometry, students used coding concepts such as variables, loops, and functions to create their own masterpieces using the Turtle module of the programming language Python. Students demonstrated their mastery over each coding concept by recording their own video explanations of each concept on Flipgrid, as if they were teaching it to a brand new programmer. The Quest culminated in a Code+Art Competition, with judges critiquing the artistry of their final pieces as well as the style of the code that created it.

Mastery Level

Topic	Self-Assessment	Self Rating	Guide Rating
		(1-3)	(1-3)
Key Concepts	Student Explanation of Mastery Level	Self	Guide
Variables	I can explain what a variable is, why they're useful, and how to use them effectively in code.	3	3
Loops	I can explain what a loop is, why they're useful, and how to use them effectively in code. I understand and can explain how to use the iterator variable "i".	3	3
Functions	I can explain what a function is, why it's useful to define your own functions, and how to use arguments to customize functions.	3	3
Geometry of Angles	I can identify the most common angles, and I can use my knowledge of angles to draw any shape in Python Turtle or to predict what drawing will result from looking at the code.	3	3
Group Project and Culmination	Student Explanation of Mastery Level	Self	Guide
Beauty of Code	My culmination code was properly spaced, easy to follow, is original and uses loops, functions and variables properly.	3	3
Beauty of Comments	My comments are simple and to the point, explains things when they aren't clear, summarizes and organizes my code and gives credit when due.	3	2
Beauty of Art	My art uses line, color, shape, motion, and size intentionally in a way that is pleasing to the senses and it can be expressive or technical, abstract, or clear, simple or complex.	3	3
Personal Accountability & Habits of Mind	Student Explanation of Mastery Level	Self	Guide
Attention to Morning Journaling	I used all five minutes consistently to write or illustrate the journal prompt for the day. I took notes or repeated back what my partner shared so that I could accurately share with the class.	3	3
Resilience	When something didn't work or was difficult to figure out, I didn't let it get me down. I tried several solutions, asked for help when I needed it, and really dedicated myself to seeing it through.	3	3
Collaboration in Pair Programming	I can take on the full role of driver or navigator and work effectively with a partner to maximize flow. I know how to share the keyboard and can explain my ideas while also listening to my partner.	3	3

Student Narrative Self-Assessment

Feel free to just write me a letter about your experience in this Quest. If you need ideas for what to write about, here are some prompts: What will you remember from this Quest? What were your biggest strengths or successes in this Quest? What were your biggest challenges? What do you want to learn more about in the future?

Two things that I will remember from this quest is that coding is really fun and that hard things can be fun. I really loved this quest and it was fun how there wasn't a lot of structure in the culmination assignment. I think that one of my biggest strengths was working with other people and not taking over the computer. I think I did the driver/navigator thing well. I also think another of my biggest strengths was being flexible in the culmination project. I really wanted to work with Marie because we work really well together and we don't argue. I think that when we thought we should do something different ways, we would just try one of them and then try the other if that didn't work so that we didn't waste time arguing. Something that challenged me was understanding variables because not until we did the video did I really understand what they were. I want to learn more about variables because I feel like they can get really hard and confusing. I also want to learn more about different things you can do with coding.

Guide Narrative Assessment and Response

[Redacted], I'm so glad that you had fun in this Quest! Coding is definitely one of those things that can be both hard and fun, and I think you really have the right attitude and skills to succeed as a programmer! You never back down from a challenge, and you often have creative solutions to problems. I'm glad that you were able to work well with Marie on your final project, and I encourage you to continue to take those skills to your work with others as well, even if you think they are smarter or better at coding than you (they're not!). Your videos demonstrating mastery of each topic were well-done, and your culmination was fun to watch. Great work, [Redacted]! I can't wait to see what you create with code next!