

BREAKTHROUGH

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OVERVIEW:

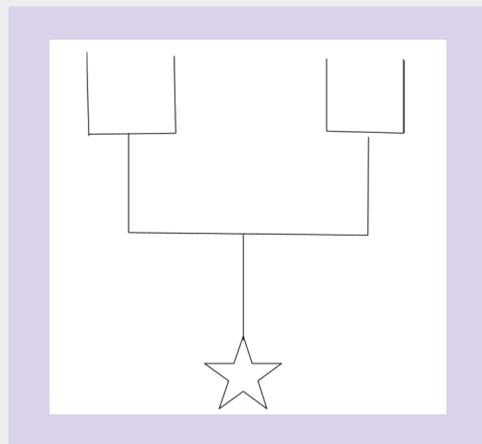
Last summer, I volunteered at Breakthrough Kent Denver. I taught an elective class on computer programming that I called “Break the Code: Intro to Coding.” I wanted to share my interest in computer science with middle-schoolers!

PREPARATION FOR CLASS

- I asked my computer science teacher for advice
- From previous experience, I decided to use Scratch, a perfect platform kids can learn the fundamentals of coding.
- Since each student was going to have different background knowledge about computer science, I had to come up with assignments and games that were fun, interesting, and engaging for every type of student whether they already knew how to code or had never heard of computer science at all
- I created a preliminary schedule with game ideas with my teacher after meeting with her
- I then researched more about teaching code. I altered my lesson plans and found some short lessons videos
- I then coded some games as examples that I could walk through with the students.

TEACHING

On the first day, we played the Drawing Game. The lesson of the game was for kids to understand how a computer works. A machine like a computer will only give you your desired output if you give it basic but precise instructions.



First Day of Class- Drawing Game

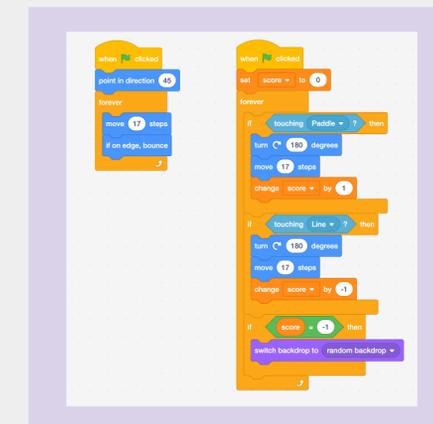
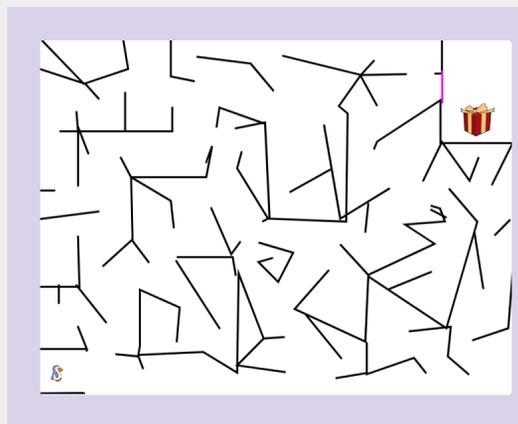
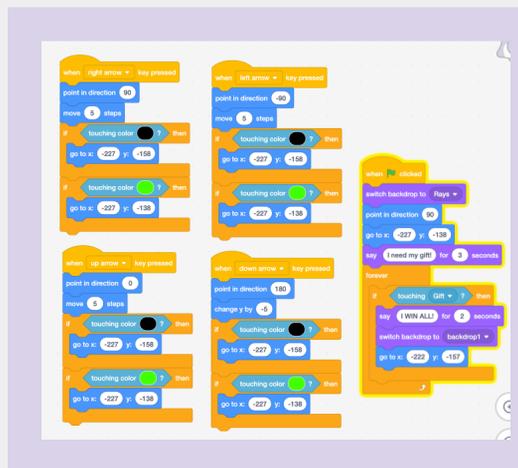
Every day, I would start the class with a video or guide them through a game I created in Scratch. Scratch is a visual-based coding platform (block coding) perfect for kids who are just getting started and want to learn about programming. The class environment was laid back, and we had a lot of fun playing around with all the visual effects and block code.

PROJECTS

I wanted the class to be project-based so the kids could explore coding games independently and let their creativity shine. With the help of some example lesson plans and games Scratch published on their site, I constructed a few projects that the students worked on throughout the course. The projects included:

- An animation program
- Ball & paddle game
- Chase game
- Maze game

I wanted to make fun and engaging assignments that taught different fundamental parts of computer programming.



LEARNING EXPERIENCE/NEXT STEPS:

Although it was my first time teaching, and I quickly realized that teaching middle schoolers is no small act, I look forward to teaching at Breakthrough again this summer. My experiences have taught me the importance of education and helped me appreciate educators even more!