

Title: Scratch Pen, Shapes, and Clones

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Target Group and Composition: Middle School Coding Camp - students from Moscow and Pullman who will be entering grades 6-8 in Fall 2018.
About 20% of the students are female.

Standards:

6-8.AP.01 Solicit, evaluate, and integrate peer feedback as appropriate to develop or refine a product. (Grades 6-8)

6-8.AP.02 Compare different algorithms that may be used to solve the same problem by time and space efficiency. (Grades 6-8)

6-8.AP.04 Apply an iterative design process (define the problem, generate ideas, build, test, and improve solutions) in problem solving, both individually and collaboratively. (Grades 6-8)

Problem: Students need to take the procedure for drawing one shape, manipulate it to be more simplistic, add in more colors and replicate the shape throughout the page, then apply those same concept to drawing other shapes.

Tasks:

Students will utilize the iterative design process to create their own games and to improve partners' games.

Students will take a complex Scratch code and simplify to more efficiently solve the same problem.

Students will provide peer feedback to complete final projects.

Assessment:

Students will take the provided code to draw a square and do the following:

1. Figure out another way to write the code to make a square.
2. Make the square have four different colored sides.
3. Make multiple squares at random locations.
4. Manipulate the code to make 3 other shapes.
5. Share projects between partners to gain new ideas.
6. Work with your partner to make many connecting shapes throughout the page.

Questions for Reflection:

1. Is there another way to make a square than with the provided code?
2. How did your partner's code differ from your own? Which is more efficient?
3. How did you and your partner share ideas to complete the final task?

Support Material:

Students will start with this initial code: <https://scratch.mit.edu/projects/182494999/>

Example Answers:

<https://scratch.mit.edu/projects/182529783/>