



Making Good Algorithms Part 2

Participant Name:	Adam Barse
District:	Brasher Falls
Grade Level:	7
Subject/Course:	Technology 7
Cross-curricular Link:	
Approximate Time (IN MINUTES):	40

CONTENT AND SKILLS
Learning Objectives: - Recite the qualities of a good algorithm. - Create, compare, and evaluate algorithms.
Essential Questions (optional): - What makes a good set of instructions? - What are the qualities of an algorithm? - Why is knowing how to make clear instructions important?
Students' I can statements . . . - I can list the qualities of an algorithm. - I can create and compare algorithms to determine which is a preferred set of instructions for a task.
How will you meet the needs of SWD and ELL/MLL students? - Instructions are kept short and clear in order to model the lesson. - Pictures (such as Ikea manuals) are used for instructions as well as written instructions. - Activities are kept extremely simple in order to understand the importance of following each quality of an algorithm.
NYS COMPUTER SCIENCE AND DIGITAL FLUENCY STANDARDS List all standards that authentically align (e.g., K-1.CT.4)
7-8.CT.6 Design, compare, and refine algorithms for a specific task or within a program.
OTHER SPECIFIC STANDARDS (e.g., Content, SEL Benchmarks) List all standards that authentically align https://www.p12.nysed.gov/sss/documents/SELBenchmarks2022.pdf
1C.3a. Develop a plan and prioritize steps in working toward a goal.

INSTRUCTIONAL PLAN

List the steps of the lesson, including instructions for the students.
Add and highlight Standard Indicator next to activity that aligns

Day 2: Review the [Qualities of an Algorithm](#) with the class by asking students to decide which quality is most important to them. (10 min)

- Be sure to touch on all qualities taught.

Have students recite the objective: I can compare algorithms to determine which is a preferred set of instructions for a task.

Have students recite why we want to achieve the objective: Knowing what good instructions look like helps you spot bad instructions and know when to check them again.

Have students open their notes and handout 1 [Algorithm Activity Checklist](#) (1 min)

Give the student 90 seconds to write the algorithm for opening a pen. (25 mins)

- After the time is over, select a student to read their algorithm. Follow it to the best of your ability without interpreting anything, just do exactly what they said. Have a little fun and intentionally interpret something in a weird way to show that we must be absolutely clear.
- It helps to have the student reading face away from you so they don't change anything while delivering their algorithm.

Have the students look at their checklist and indicate which qualities were seen. Decide who had the best algorithm.

Repeat this for other examples such as:

- Drawing a Smiley Face
- Drawing a Piece of Pizza
- Drawing a Stick Figure

For the drawing examples you can also have two students come to the front of the class and use small dry erase boards to try and follow another student's instructions.

Closure (4 mins)

Have students recall the qualities of a good algorithm.

Have students recite the objective

Have students recite why we want to achieve the objective.

SPECIFIC NEEDS: MATERIALS / RESOURCES / TECHNOLOGY

Add additional resources needed for this lesson such as instructional technology templates, images, videos, etc.

- Deliver with Google Slides: [Qualities of an Algorithm 2](#)
- Handout 1 [Algorithm Activity Checklist](#)
- Dry erase boards and markers.