Secret Handshake Sequencing

Red Level: Unit 1, Lesson 3

Objectives

In this activity, students will:

- Record a sequence with symbols.
- Revise a sequence based on criteria.
- Compare sequences with classmates.
- Choreograph and teach classmates original sequences.

Activity Description (30-40 minutes)





15 min.	Main Activity: So we learned three moves to make a secret handshake, but as you can see, we don't have to keep them in that order! The order that we put our steps is the <i>sequence</i> . (To draw more attention to vocabulary, consider challenging students to wiggle their fingers silently in the air, or some other signal, each time they hear or use the vocabulary word of the day.)
	<u>Challenge 1:</u> Make a sequence using the three moves we learned: wave, jellyfish, and ice cream, in whichever order you want, but make sure you use each move only once.
	(Either pre-cut some <u>printed-out icons</u> in advance, and have students paste them onto their <u>sequencing sheet</u> , or model how to do a simple line drawing in the boxes, or in journals.)
	Teach a neighbor your secret handshake. You may show them your sequencing sheet.
	Sorting Challenge 1: I'm curious to see how people thought about this problem. If you chose to do wave first, could you please stand over here? If you chose to do jellyfish first, please stand here. Finally, if you chose ice cream first, could you please stand here? (Print-out signs to give visual cues.)
	Wow, what do we notice?
	Now, compare your sequence with those people around you. Can you find someone who put the moves in the exact same order as you? If you find someone, say, "Same sequence!" Keep looking. Maybe you'll find three or more people with the same sequence!
	<u>Challenge 2:</u> Here's our second challenge. It's a bit spicy, but I know you'll do great! Instead of doing each move one time, pick two of your favorite moves then choose one of them to do twice. For example, I might do:



	Which move did I leave out?
	Which move did I do twice?
	Record your second sequence on your sequence sheet.
	Sorting Challenge 2: I'm curious to know how people thought about this problem! If you used wave more than once, stand here. If you used jellyfish more than once, stand here. Finally, if you used ice cream more than once, stand here. Can you find someone who put the moves in the exact same order as you? If you find someone, say, "Same sequence!" (Print-out signs to give visual cues.)
	<u>Challenge 3:</u> I love seeing your thinking! Now, let's make up a move using our imagination - that's called choreographing. Take a moment and think, "What could it look like? What will I call it? What symbol will I use to represent it?" Now put it into a three-move sequence. When you're done recording your sequence on your Sequence Sheet, teach it to someone else!
	<u>Challenge 4:</u> Such variety! Such creativity! You've made up one move already. Can you make up another? Let's create the ultimate four-move secret handshake sequence! Take a moment and think, "What could my new move look like? What will I call it? What symbol will I use to represent it?" When you're done recording your sequence on your Sequence Sheet, teach it to someone else!
5 min.	Debrief: (Have one or two Same Sequence groups perform their sequence in front of the class. Have the audience name the steps in the sequence.)
	Let's look at our <u>special chart</u> to celebrate what we're learning in computer science. Today, we practiced putting handshake moves (wave, jellyfish, ice cream, and our own ideas) in different orders. The order that we choose is called the <i>sequence</i> . Let's say the word together! Sequence! When you paid very close attention to what came first, second, and third, you were practicing <i>sequencing</i> ! Congratulations, you've earned your sequencing star today!

Reviewing Student Work

- ★ Consider student talk during not only the group share but the independent or partner/small group work time. Are certain students dominating? Is there a balance of female, male, gender-fluid, mono and multilingual students speaking?
- ★ What kind of language did students use to describe their process and negotiate with peers?
- ★ Consider reflections, either done orally or in journals. What concepts from the lesson resonated most with particular students?



Lesson Notes

- The terms sequencing and algorithm are similar, but it's helpful to think about these distinctions:
 - An algorithm is steps to solve a task. These steps are in a specific order.
 - A sequence is steps in a specific order, however, the order can change.
 - An algorithm has a sequence, but a sequence is not necessarily an algorithm.
- Depending on the size of your class, you may need to print and cut-out more than one sheet of wave, jellyfish, and ice cream icons to have enough for all four challenges.

Extension Activities

- Debrief the content and the process orally and/or in journals. Feel free to select one or of these prompts, or create one specific to your class:
 - Who is someone you'd like to thank for working with you today?
 - Draw yourself as a computer scientist, organizing something into a sequence.
 - What will you tell someone at home about what you learned today?

Secret Handshake #2 by Koo Koo Kangaroo

Secret Handshake #3 by Koo Koo Kangaroo

Vocabulary

- **algorithm**: steps to solve a task
- **choreography**: the art or practice of designing sequences of movements
- **sequence**: a set of instructions that follow one another in order

Standards

• K-2.AP.10

