

Number Sequence Game

Your task: To develop a method to predict the numbers on the cards and then simulate implementing the instructional practice in their entire network.

As an imperfect analogy, a sequence of numbers will represent a promising instructional practice that you want to implement across your network. Your team will run a series of PDSAs to discover this sequence. In each cycle, you will assess your confidence in your theory to decide whether you will gather more data to understand the sequence, test your prediction, or implement at scale.

Testing "Strategies"

Your system has a set of starting resources to put towards improvement efforts. We call these "improvement resources," which generally include time, money will, etc. Testing your theory of improvement inevitably involves the gain or loss of these resources. The strategy you choose for testing has implications on the magnitude of this gain or loss.

- If you choose to **understand** by collecting data, you will typically take a small hit on your resources. It's not "expensive," but you still experience a loss since your use of improvement resources (time and will, namely) do not result in any improvements.
- If you choose to **test**, then the drain or increase in overall resources will depend on the size of your test and on the accuracy of your predictions. A particularly large disconnect between your theory and the results will result in a large loss of improvement resources.
- Finally, if you decide to **implement**, the stakes are higher. Failure with this strategy is very expensive since once you choose to implement, you must run at least two additional cycles using the same theory. If you succeed, you will gain improvement resources and accelerate the learning across the network.

All teams will begin with 200 points and will either lose or gain points based on their testing strategy based on the scoring guidelines in the table below. You will receive cycle 0 and 1 numbers in order to collect baseline data for the number sequence. These cycles will not impact your overall points.

Strategy	Gain or Loss		
Understand	Prediction Correct OR Incorrect:		- 10
Test	Prediction Correct:		+ 10
	Prediction Incorrect:		
	miss by <2	miss by 2-4	miss by >4
	-20	-30	-40
Implement	Prediction Correct:		+ 30
	Prediction Incorrect:		- 80

Instructions

You will run a series of PDSAs to identify the sequence of numbers (the “promising instructional practice”). One number will be revealed in each cycle. For each cycle, your team will take the following steps:

PLAN

Complete your testing PLAN on your team’s recording sheet.

- a. Discuss your theory for the sequence.
- b. Determine your prediction for the next number based on that theory.
- c. Decide if your team will use this cycle to UNDERSTAND, TEST, or IMPLEMENT.

DO

- a. The next number in the sequence will be revealed.
- b. Record the next number in the sequence.

STUDY

- a. Determine whether your theory (articulated in your planning) is correct.
- b. Account for how many resources were gained or lost.

ACT

- a. Decide whether you are ready to implement.

Return to the PLAN step to repeat cycle as needed.

Number Sequence Team Recording Sheet

IR units	Cycle	PLAN			DO	STUDY	ACT	Gain/Loss
		Strategy: Understand, Test, Implement	What is your theory?	Prediction for the next number	Actual next number	Was the prediction correct? (YES/NO)	Ready to implement? (YES/NO)	
200	0	--	<i>First number is given</i>	--	1	--	--	
	1							
	2							
	3							
	4							
	5							
	6							
	7							
	8							
	9							
	10							
	11							
	12							
	13							
	14							
	15							