****

Systems Thinking: Gone Fishin

Adaptations for Distance Learning

Gone Fishin is a great introduction to systems thinking and the important relationships in an outcome of a system. Below you will find different ways to adapt this lesson for distance learning.

**Synchronous:** The lesson takes a minimum of 50-60 minutes to complete, so if you plan to run this lesson synchronously over a video conference platform such as Zoom or Google Hangouts, plan on spending at least that long to finish the lesson. The biggest challenge in synchronous delivery is running the simulations using teams. Split your class into three to five teams. These teams will be the same for both simulation #1 and #2 as well as discussion before and after the simulations (note that if you plan on running simulation #2, the lesson will likely require another 10-15 minutes). When running the simulation, move the teams into breakout rooms so they can discuss their strategy and determine their catch requests. You can adjust the breakout times to meet your student’s needs, but we recommend no more than 2 minutes to keep the simulation going. The teams will communicate catch numbers to you through private chat or email so you can input those numbers on the spreadsheet. Once orders are received, fill them randomly at your discretion, message back to the teams whether the order was filled or not, and repeat for the subsequent rounds.

Examples, debriefs, and questions can be run using breakout rooms and then have teams share out when they are back with the larger group. There are final questions and extensions that can be given to students to do offline and turn in later so you can evaluate individual learning if desired.

**Asynchronous**: In this format you can spread the lesson over a longer period of time by adjusting the time given for each round of the simulations. Remember that simulation #1 takes between 4-6 rounds before it fails so factor that into your decision on setting the length of simulation rounds. We recommend that you divide the class into three to five teams. Instead of the teams working together, each individual of that team acts independently. This is done to reduce the challenges around individual students communicating asynchronously. Each round is given a time length such as an hour, or a day, and each student needs to turn in their catch request by the end of the round. You then take the average catch numbers for each team and put that into the spreadsheet. Fill catches randomly at your discretion, message back to the teams how many fish they caught, and repeat for the subsequent rounds.

Discussions about pre- and post- simulations would be done through the learning content management software you are using, such as Google Classroom. This could be on a discussion board or by turning in individual assignments.

If it is easy for your students to communicate asynchronously, teams could have a “fisheries manager” that would get the catch consensus from their team and then report that back to the teacher. This limits the amount of data that you have to go through for each round, so if this is a possibility, it may be easier to run the simulations in this way.

**Non digital:** If your students do not have a digital option, it is possible to provide a paper packet that has the simulation directions and have the students run it at home, ideally with family members participating as other teams. Once the simulation is run, the students can go through the example and discussion using the provided worksheets. This may be challenging for students to do, especially if they do not have access to others to run the simulation.



To find the complete virtual lesson “**Using Systems Thinking ‘Harvest’ with Dustin Diep”** and other lessons visit our Precollege Programsvirtual professional development page.

**https://precollege.oregonstate.edu/virtual-professional-development-teachers**