

Lesson 5 Home-Learning: How do bacteria grow?

Today in class you modeled what the growth of a bacteria population looked like if you started with a single bacterium. Then you critiqued some of the limitations of that model when trying to use it to predict how bacteria might grow in a Petri dish, when starting with more than one bacterium, and when starting with bacteria of different types or variations.

NEXT STEPS:

Scientists often build computer simulations to help investigate and visualize outcomes in systems that have parts in them that are too small to see. Computer simulations are programmed to have the objects and interactions that the user wants or needs. Think about what you would want to see included in such a computer simulation that would help you understand, explore, and predict how bacteria reproduce in a Petri dish.

1. How would you want the computer to simulate a constant rate of bacteria growth?
2. How would we want to visualize or keep track of one line of descendants from one bacterium vs. a line of descendants from another bacterium?
3. What would be a reasonable assumption to include in the simulation for what happens to bacteria growth when they reach the wall of the Petri dish, where there is no agar?
4. What sort of data would you want the simulation to graph automatically for you?