Unique Simulation

Your Group's Unique Model

Assumptions:

- Your initial population (generation 0) should be 10 red beads and 2 pink beads.
- When bacteria reproduce, the new bacteria is exactly the same as the old one.
- The bacteria are in a location in the body where antibiotics can get easily.

Your additional assumptions *(use the back of this sheet if you need more room)*

Roles for group members:

- **Counter and calculator:** counts and sets up the bacteria after each roll of die and calculates percentages.
- **Procedure checker:** rolls the die and makes sure the correct action is taken for the number rolled.
- **Navigator:** reads the directions aloud and reminds members of norms for collaboration.
- **Data recorder:** records the prediction and all data on the data sheet.

Procedures (use the back of this sheet to list any additional procedures):

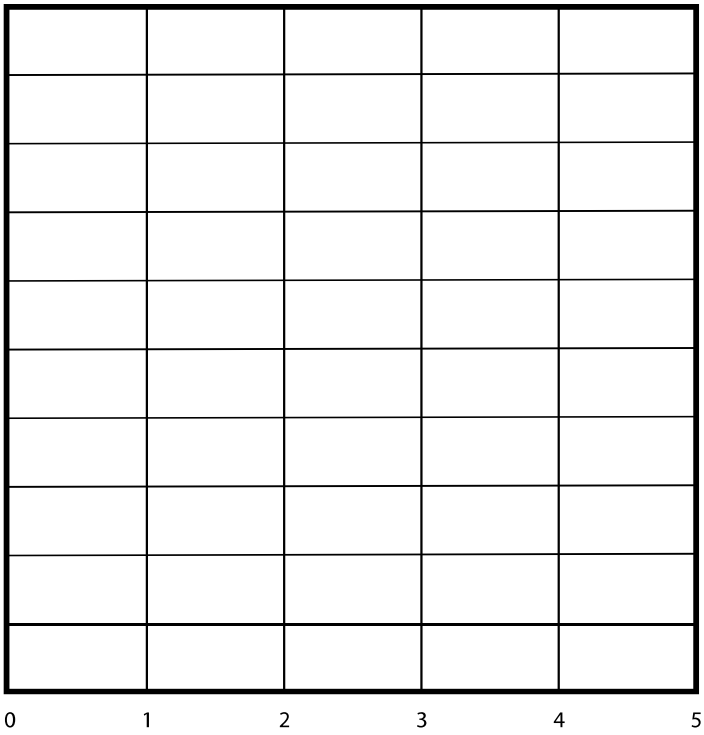
1. Set out the initial population on the desk. Fill out *the whole row* for generation 0 in your data table for this simulation including a drawing of the setup.
2. Roll the die to determine how many of the susceptible and resistant bacteria are killed. Cross out the dead bacteria on your drawing.
3. Repeat steps 2–4 until you reach generation 5.

Unique Simulation Data Table

Predict what you will see with resistant and susceptible bacteria:

Generation	Drawing of bacteria	Susceptible population	Resistant population	Total population	Percent resistant
0 (Initial)					
Outcome (number rolled) _____ In your drawing above, cross out each bacterium killed.					
1					
Outcome (number rolled) _____ In your drawing above, cross out each bacterium killed.					
2					
Outcome (number rolled) _____ In your drawing above, cross out each bacterium killed.					
3					
Outcome (number rolled) _____ In your drawing above, cross out each bacterium killed.					
4					
Outcome (number rolled) _____ In your drawing above, cross out each bacterium killed.					
5					

Total Bacteria Population



Percent Resistant Bacteria