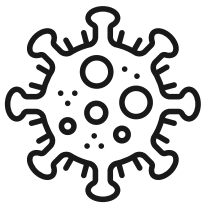
HIDDEN SURVIVORS STATION WORKSHEET



Name _____ **Date** _____

STATION 1 QUESTIONS:

1. Which scenario will lead to healthier animals? Explain your reasoning.

2. Why is it important to consider total parasite population, not just the percentage of resistant organisms? (hint: Which scenario created the highest number of total parasites)

3. Why is underdosing increase the risk of resistance over time?

STATION 2 QUESTIONS:

1. Why did one group of bacteria (staph) survive completely in the the first scenario?

2. Why does the first treatment scenario create more opportunities for mutations to occur?

3. **Which treatment would be most effective in helping the cow recover and return to health? Explain your reasoning.**

STATION 3 QUESTIONS:

Should farmers use blanket antibiotic treatments to control disease in a flock?

1. Write an argument to support blanket treatment.

2. Write an argument to limit blanket treatment.

3. Is there one "correct" answer in every situation? Explain your reasoning.

STATION 4 QUESTIONS:

1. Why did the resistant bacteria increase more in the scenario where the same drug was used repeatedly?

2. How did rotating drug classes affect the resistant bacteria population?

3. Why is rotating drug classes an effective strategy for managing disease and slowing resistance?

STATION 5 QUESTIONS:

1. If you were managing a herd, how would you decide whether to use a targeted topical antibiotic vs. a whole-body injectable treatment?

2. How might cost, time, or labor influence treatment decisions?

3. Who is responsible for making these decisions, and how should they balance animal health with long-term antibiotic effectiveness?

STATION 6 QUESTIONS:

1. Why is it important to improve the environment before using antibiotics in a fish farm?

2. Why might antibiotics be less effective if environmental conditions are poor?

3. How can improving environmental conditions reduce the risk of antibiotic resistance?