Key Concept:

A. There is Heritable trait variation within a population of organisms.

Examples- A

Color of bacteria in the computer simulation (red, purple, brown & green)

# of pores

Addie- staph/ MRSA/ Stenotrophomonsis

Purple bacteria only went through binary fission to produce other purple bacteria

Key Concept:

B. Something changed in the environment that the population of organisms was in (or went into).

Examples- B

Moving the bacteria into a new patient

Adding antibiotics (Dosage, when delivered)

Location of the bacteria- they could move from the bottom of the screen to the top of the screen in the next one.

Key Concept

C. The environmental change put selection pressure on the population of organisms so that some trait variations had a competitive advantage (increased odds) for surviving over time.

Examples: C

Zone of inhibition with the E. coli and ampicillin

Bottom of the screen location had a better chance of surviving than the top, when antibiotics were added

# of pores, fewer pores, the bacteria had a better chance of surviving the antibiotics

Key Concept

D. When there are available resources, those organisms that survive will reproduce, making more organisms with the same variation(s)as the parent(s). Organisms that die cannot reproduce and cannot pass on their variations.

Examples: D

Space & food

Population of bacteria changed in our model over the 5 generations- from much less purple to more purple than any other kind

Those bacteria that died, didn't reproduce and they were removed from the population

Connecting it ALL

The proportion of organisms in the population with favorable variations (for that environment) increase over time while organisms in the population with less favorable variations decrease over time. This is called evolution by natural selection.