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| Fitness | Genes | Genetic Variation |
| Mutation | Natural Selection | Artificial Selection |
| Population | Selection Pressure | Trait |
| The ability of an individual to survive and reproduce viable offspring in its specific environment | Genes are coded DNA instructions that control the production of proteins within the cell. | Differences in the alleles of genes between individuals in a population |
| Mutations are any changes in the genetic material of an organism. | Process by which individuals who are better suited to their environment survive and reproduce most successfully | Selection by humans for breeding of useful traits from the natural variation among an organism |
| A group of individuals of the same species that live in the same area; the bacteria in the petri dish make up a population | Any element in a population’s environment that makes certain traits more beneficial than others | A specific characteristic that varies from one individual to another; antibiotic resistance and slow reproduction speed are traits different bacteria may hold |
| Antibiotic | Strain | DNA |
| Antibiotic Resistance | Adaptation |  |
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| Antibiotics are chemical compounds that block the growth and reproduction of bacteria. | A variation in a particular species that possesses minor differences but still remains distinguishable | The molecule that carries the genetic instructions used in the development and function of all known living creatures |
| A trait developed through mutation that allows a bacteria to resist the effects of medication used to treat them | A trait that improves the fitness and survival of a species within its environment |  |
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