**M5.1 Matching: Evolution**

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| Definition | Term | Example |
| An error that occurs when DNA is replicated. | Mutation | When the 21st chromosome is copied an extra time in all or some cells, the result is down syndrome – also known as trisomy 21. In the US, this occurs in about one out of every 700 babies. |
| **Changes in allele frequency that occur due to chance. The individual not more fit, just different.** | Genetic drift | By the late 1880s, the American bison were nearly extinct, with fewer than 100 remaining in the wild. As a result, today’s bison population has very little genetic variation |
| Movement of genes between populations. Genetic mixing with new, genetically different populations | Gene flow | All the finch species on the Galapagos Islands evolved from a single ancestral species which colonized the islands a few million years ago. The population changed rapidly to fill the different empty ecological spaces on the islands. |
| Nature determines which variations are advantageous. Descent with modification. | Natural selection | Peahens prefer peacocks with large and colorful tails, so those peacocks get to mate more frequently and have more offspring. Peacocks with extravagant tails will have more offspring. |
| When mates are chosen based on characteristics unrelated to survival. Non-random mating | Sexual selection | Alleles for fitter organisms become more frequent. |
| After a species occupies a new ecological niche, its population quickly increases and changes enough to become one or more new species. | Adaptive radiation | For more than 350 years, the transatlantic slave trade brought more than 12 million Africans to the Americas. By 1820, more than three times as many Africans had boarded ships for the New World as Europeans. |
| Characteristics that are determined by a single gene. | Mendelian Trait | One gene determines whether a pea plant flower is white or purple. |
| Alternate forms of a single gene. | Alleles | **Eye color genes may contain information for either blue or brown eyes.** |
| The physical expression of genes. | Phenotype | Observable characteristics such as height, hair color, or blood type. |

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