

Creating Celebrity Offspring: Understanding Allele Inheritance

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Understanding the relationship among DNA, genes, chromosomes and alleles is challenging for most students at the undergraduate level. Connecting scientific concepts to material students care about and find relevant is especially difficult in a non-majors biology course. Here we share a lab activity that we developed for non-major students to be used in combination with a DNA/genetics wet lab or as an active learning exercise during lecture. This activity asks students to investigate the heredity of alleles from celebrity parents. Students are given facial photographs of a celebrity couple and table outlining the various facial genotypes presented. They are then asked to determine which alleles would contribute to their potential offspring, having to flip a coin in cases where parents are heterozygous for a trait. Students record their offspring genotypes and then assemble their child's senior picture by cutting out the phenotypic traits from each parent and assembling them. Students then post their assembled photo in the front of the room, or electronically in a learning management system, for all to see. Students find this hilarious exercise engaging and relevant. This lab activity allows us to review inheritance concepts and ask new questions related to the heritability of traits.

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