

Reading classical (Mendelian) genetics:

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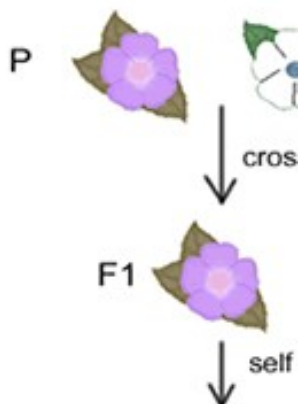
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The offspring of sexual reproduction obtain one gene of each type from each parent. The different forms of a gene are called **alleles**. In humans for instance, there are two alleles for earlobe construction. One allele is for earlobes that are attached, while the other allele is for earlobes that hang free. The type of earlobe a person has is determined by the alleles inherited from the parents. The set of all genes that specify an organism's traits is known as the organism's genome. The **genome** for a human consists of about 100,000 genes. The gene composition of a living organism is its **genotype**. For a person's earlobe shape, the genotype may consist of two genes for attached earlobes, or two genes for free earlobes, or one gene for attached and one gene for free earlobes. The expression of the genes is referred to as the phenotype of a living thing. If a person has attached earlobes, the phenotype is "attached earlobes." If the person has free earlobes, the phenotype is "free earlobes." Even though three genotypes for earlobe shape are possible, only two phenotypes (attached and free) are possible.

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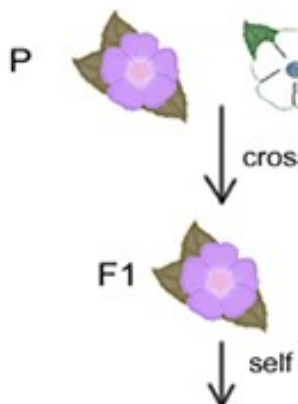
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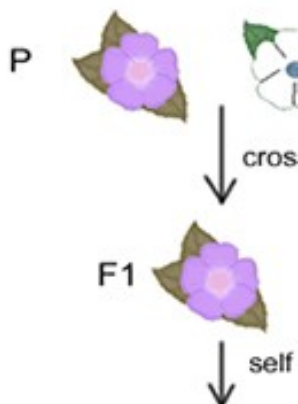
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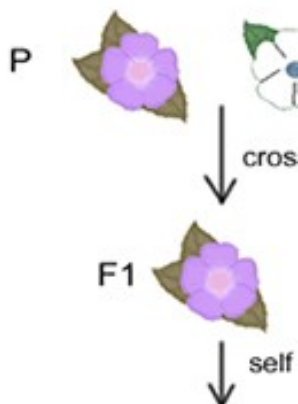
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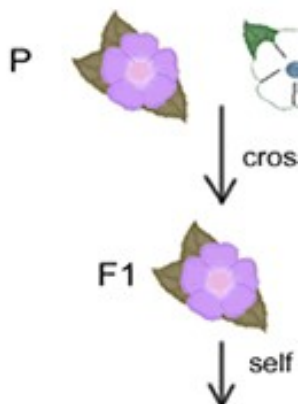
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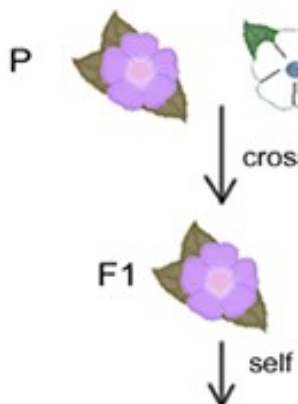
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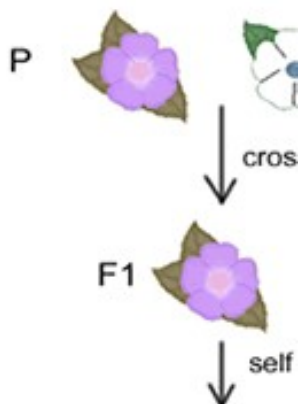
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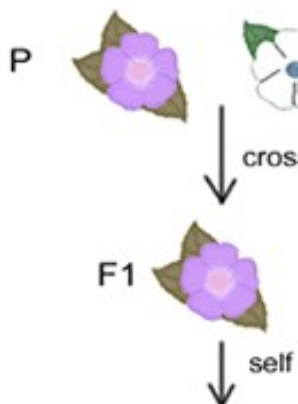
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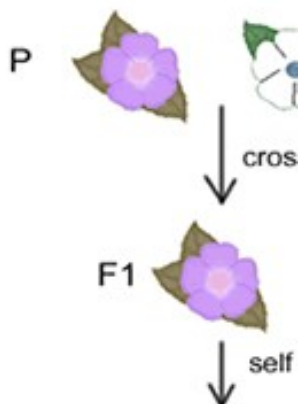
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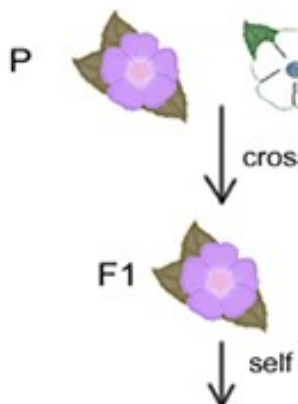
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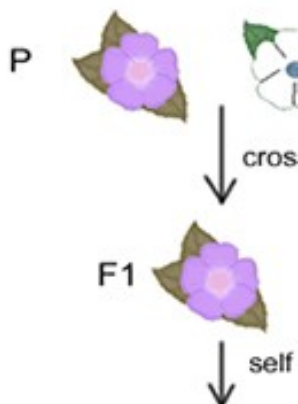
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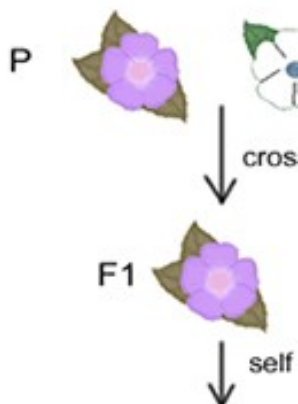
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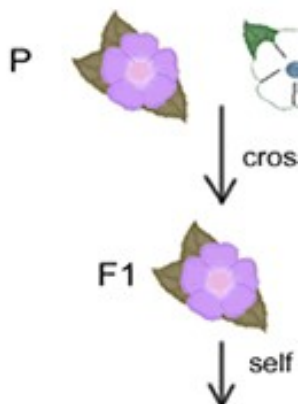
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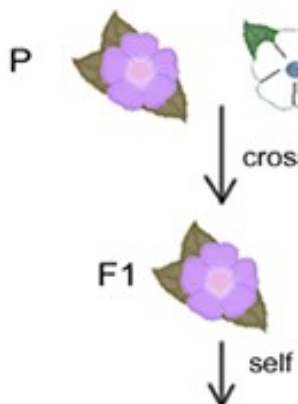
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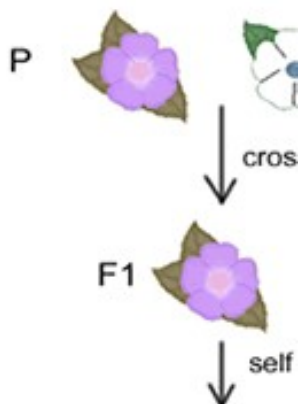
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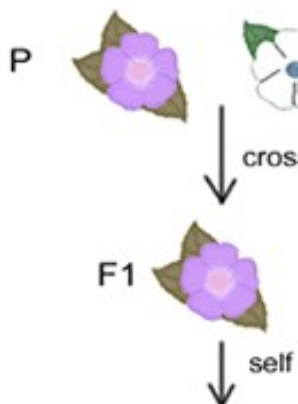
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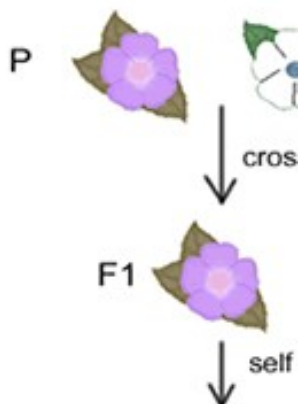
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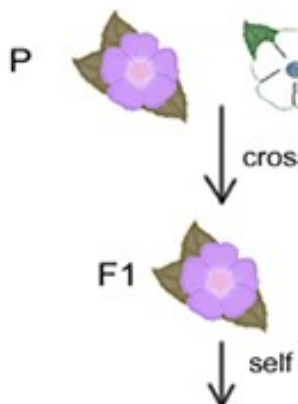
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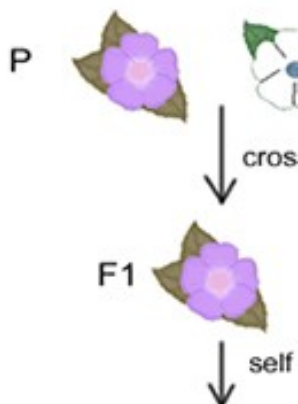
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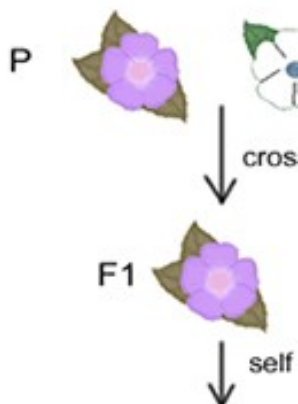
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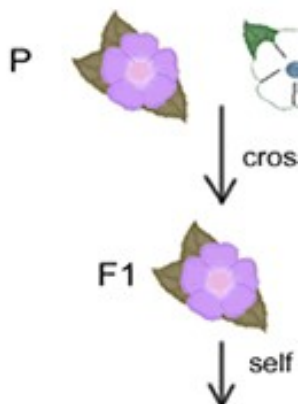
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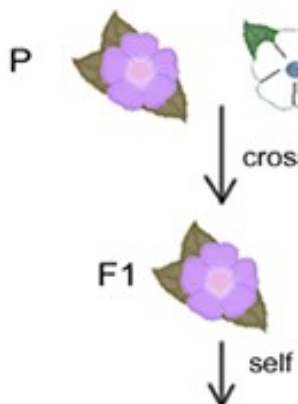
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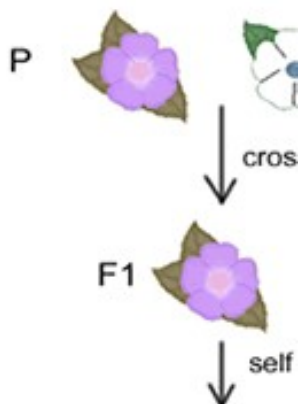
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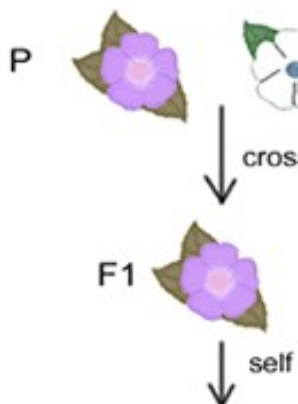
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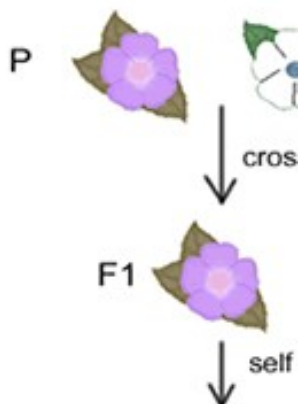
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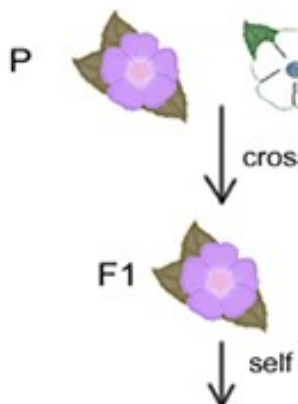
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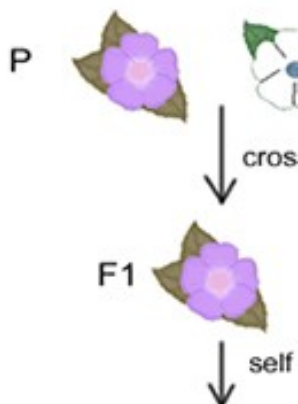
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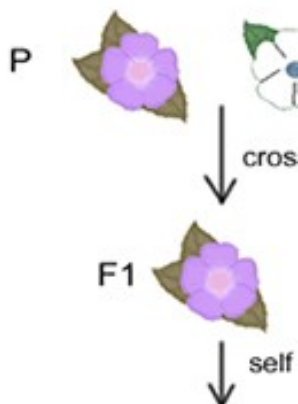
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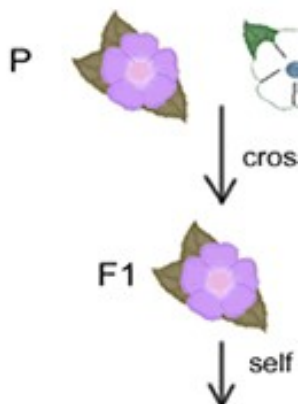
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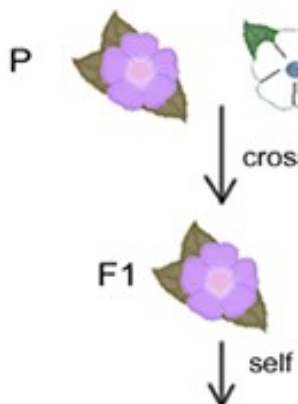
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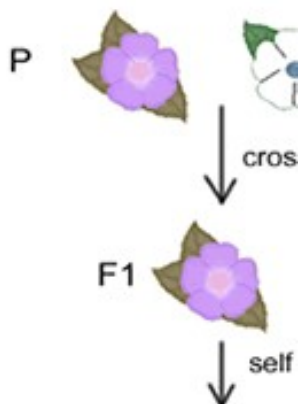
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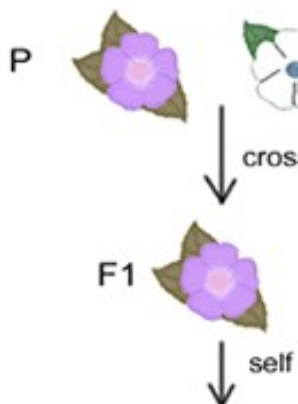
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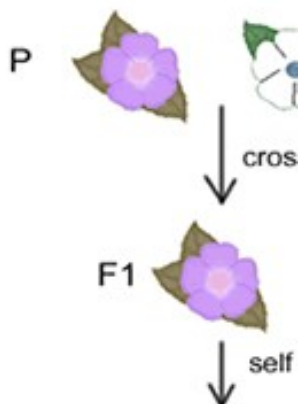
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