8th Grade Heredity

Cells Review Notes

* There are two main types of cells
	+ Prokaryotic – do not have a nucleus
	+ Eukaryotic – does have a nucleus
* Each gene has two versions (Allele – different versions of a gene)
	+ Dominant – represented by a capital letter
	+ Recessive – represented by lowercase letter
		- * Example
				+ BB

Two dominant alleles for the same gene

-homozygous dominant

* + - * + bb

Two recessive alleles for the same gene

-homozygous recessive

* + - * + Bb

Two different alleles for the same gene

-heterozygous

* Punnett Squares – a way to predict possible genotype and phenotype of the offspring
	+ Genotype – genetic makeup, alleles
	+ Phenotype – physical expression of the genes (looks)
		- Example
			* BB x BB

|  |  |  |
| --- | --- | --- |
|  | **B** | **B** |
| **B** | BB | BB |
| **B** | BB | BB |

100% homozygous dominant, all offspring will show the dominant trait of blue flowers

* + - * Bb x Bb

|  |  |  |
| --- | --- | --- |
|  | **B** | **b** |
| **B** | BB | BB |
| **b** | Bb | Bb |

Genotypic ratio

* + - * + 1:2:1
				+ Homozygous dominant : heterozygous : homozygous recessive

Phenotypic ratio

* + - * + 3:1
				+ Dominant : recessive