

## Patterns of Inheritance (continued)

Where is DNA located, and what shape does it take?

DNA is in the nucleus  
It is in a double helix (twisted ladder)

What does dominant mean?

A dominant allele is one that will show in either the homozygous or heterozygous combination

What does recessive mean?

Recessive alleles will only show when in the homozygous combination.

### Incomplete Dominance

In this case, when the alleles are heterozygous, the phenotype is a blending of the traits.

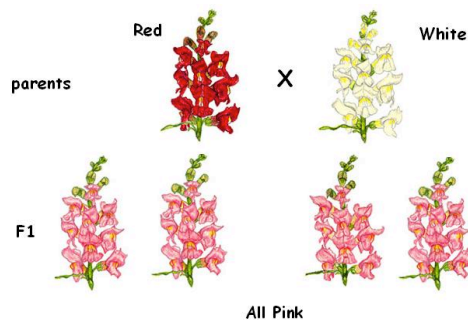
Example: Snap dragons

Gene - Hair Colour

Alleles R - red flowers

r - white flowers

Genotype	Phenotype
RR	red
Rr	pink
rr	white



## Incomplete Dominance - Key

Let's try two heterozygous snapdragon parents

Parent one genotype Rr Gametes produced R + r

Parent two genotype Rr Gametes produced R + r

	R	r
R	1) RR	2) Rr
r	3) Rr	4) rr

Offspring Genotypes

RR	$\frac{1}{4}$	25%
Rr	$\frac{2}{4}$	50%
rr	$\frac{1}{4}$	25%

Offspring Phenotypes

Red	25%
White	25%
Pink	50%

What if a pure bred white plant (homozygous recessive) produced offspring with a hybrid plant? What are the chances of having a red flowers?

Parent one genotype rr Gametes produced r + r

Parent two genotype Rr Gametes produced R + r

	r	r
R	Rr	Rr
r	rr	rr

Offspring Genotypes

Rr	$\frac{2}{4}$	50%
rr	$\frac{2}{4}$	50%

Offspring Phenotypes

Pink	$\frac{2}{4}$	50%
White	$\frac{2}{4}$	50%

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