

Extending Mendelian Genetics
7.2 Complex Patterns of Inheritance

Notes

OBJECTIVES:

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Key Concept

_____ is affected by many
_____ factors.

Vocabulary

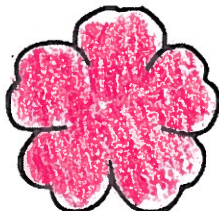
- **Incomplete dominance** - heterozygous phenotype that is a blend of the two homozygous phenotypes. (p.204)
- **Codominance** - heterozygous genotype that equally expresses the traits from both alleles (p.205)
- **Polygenic trait** - trait that is produced by two or more genes. (p.206)
- **Epistatic gene** - a gene that determines whether or not a trait will be expressed. (p.206)

Phenotype can depend on _____ of alleles.

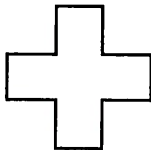
- In _____ dominance, neither allele is completely _____ nor completely _____.
 - Heterozygous phenotype is _____ between two (parental) homozygous phenotypes
 - Homozygous parental phenotypes not seen in _____

What is Incomplete Dominance?

Incomplete Dominance Flower Example



Parent 1: RR



Parent 2: rr



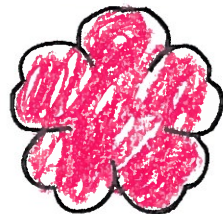
F1 Offspring: Rr

What is Codominance?

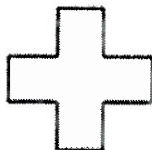
- _____ alleles will both be completely expressed.
 - Codominant alleles are neither _____ nor _____

Codominance continued

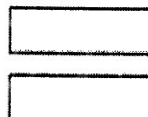
Codominance Flower Example



Parent 1: RR



Parent 2: rr



F1 Offspring: Rr

– The ABO _____ types result from _____ alleles

What is a Multiple-allele trait?

- Many genes have more than two alleles. This is known as a _____ trait.
- ABO blood type comes from _____ different alleles.
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What is Polygenic Traits?

_____ genes may interact to produce _____ trait

- _____ traits are produced by two or more genes.
- An _____ gene can interfere with other genes.

What is an Epistatic gene?

How can environmental factors affect phenotype?

The environment interacts with genotypes

- Phenotype is a combination of _____ and _____
- The sex of sea turtles depend on both _____ and the _____
- _____ is an example of a phenotype strongly affected by the environment.

Exit Ticket Questions

- A red bird mated with a blue bird and the offspring were born purple. This is an example of what?
- What color offspring would a Black cow and White cow have if the allele for fur color is codominant?