

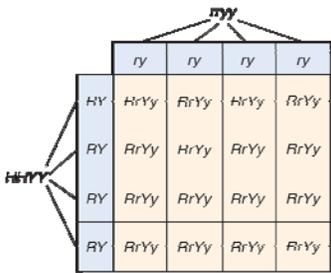
Section 11.3- Exploring Mendelian Genetics

At the end of this lecture you should know:

Standards

- 2g. How to predict the possible combinations of alleles in a zygote from the genetic makeup of the parents
- 3b. The genetic basis for Mendel's Laws of Segregation and Independent Assortment

Review Questions



1. All of the offspring above will have what genotype? Write out the whole genotype. Do not use letters.

2. When do genes for different traits separate or segregate independently?

3. List Mendel's 2 laws of genetics?

Fill In Notes

I. Independent Assortment
 A. How did Mendel determine if a gene for one trait controlled another trait?

- B. The Two-Cross Factor: F1
1. How many traits are studied in a two-cross factor experiment? _____
 2. Describe Mendel's F1 two-cross factor experiment.
 3. What was the outcome of the F1 two-cross factor?
- C.

The Two-Cross Factor: F2

1. Describe Mendel's F2 two-cross factor experiment.
2. What was the outcome of the F2 two-cross factor?
3. Explain the Law of Independent Assortment

II. A Summary of Mendel's Principle

- A. Individual units that determines the inheritance of biological characteristics are called _____.
1. _____ are passed form parents to offspring.
- B. List the 2 possible forms of a gene.
- C. Genes _____ from each other during gamete production.
1. How many genes does an individual receive from each parent? _____
- D. The alleles for different genes segregate _____ of one another.

Lecture Notes

III. Beyond Dominant and Recessive Alleles

A. Why is genetics more complicated than just patterns of simple dominant and recessive alleles?

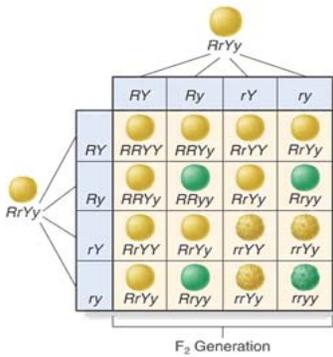
B. Many traits are controlled by _____
 _____ or _____.

C. Incomplete Dominance
 1. Describe incomplete dominance.

D. Codominance
 1. Describe codominance

E. Multiple Alleles
 1. Define multiple alleles.

F. Polygenic Traits
 1. Define polygenic trait.



4. In the Punnett square above, what percentage of the offspring will be the genotype heterozygous round and heterozygous yellow?

5. Using the above Punnett square explain the Law of Independent Assortment. Be sure you include in your explanation pea shape and pea color.

Summary/Thinking Map

In a well written paragraph, with the following structure, explain the difference between segregation and independent assortment.

1 Topic sentence: 1

4-6 Concrete details: 1

2

3

4

5

6

1 Conclusion sentence: 1

Key Vocabulary

Define the Key Vocabulary for this section. Be sure to number and underline your Key Vocabulary word.