

Name _____

Study Guide and Review Sheet on DNA and Genetics

DNA UNIT

1. History of DNA

- a. The scientists involved in the discovery of DNA found

Book pages 128-129

Use your class notes to fill out the chart below:

Scientist(s)	Contribution/ discovery
	Discovered that, in a DNA molecule, the amounts of adenine and thymine are always equal and the amount of cytosine and guanine are always equal.
Rosalind Franklin	
Watson and Crick	

2. The Structure and Function of DNA

- a. The overall shape.
b. What each part is made of.
c. How DNA makes a copy (replication)
d. Generally know how DNA makes a protein

Book pages 128-133

3. How does DNA make a copy?

You should be able to **describe**, in your own words, how **DNA makes a copy** of itself. Try it now.
You should use the **word nucleotide** correctly in your answer and **draw a picture with labels**.

4. Mutations

Book pages 138- 139

- a. The three kinds of errors
- b. Name the possible causes of mutations

Define these terms:

mutation- _____

substitution- _____

deletion- _____

insertion- _____

mutagen- _____

5. Vocabulary- You should know the following vocabulary words/terms:

gene = a short section of a DNA molecule which is coded for one specific protein which controls one specific physical characteristic.

chromosome = A long section of a DNA molecule which is made up of many genes

DNA = Deoxyribonucleic acid

nucleotide = a building block of DNA or RNA; always contains a sugar, a phosphate, and a base. The bases in DNA include adenine (A), thymine (T), guanine (G), and cytosine (C). A with T; G with C

amino acid = a building block of a protein

GENETICS UNIT

6. History of Genetics: Gregor Mendel

A. What type of plant did he use? _____

B. Why did he use that plant? _____

7. Meiosis- Be able to describe the kind of cells produced in meiosis and how those cells compare to cells formed in mitosis.

8. Punnett Squares: Be able to make and analyze a Punnett Square

Try this question.

Leopards may have large spots (L) or small spots (l). Two large spotted leopards had a small spotted son.

- a. Which are dominant, large or small spots?
- b. What is the genotype of the son?
- c. Make the Punnett square



9. Parts of the Flower- label the diagram below.

anther

stigma

stamen

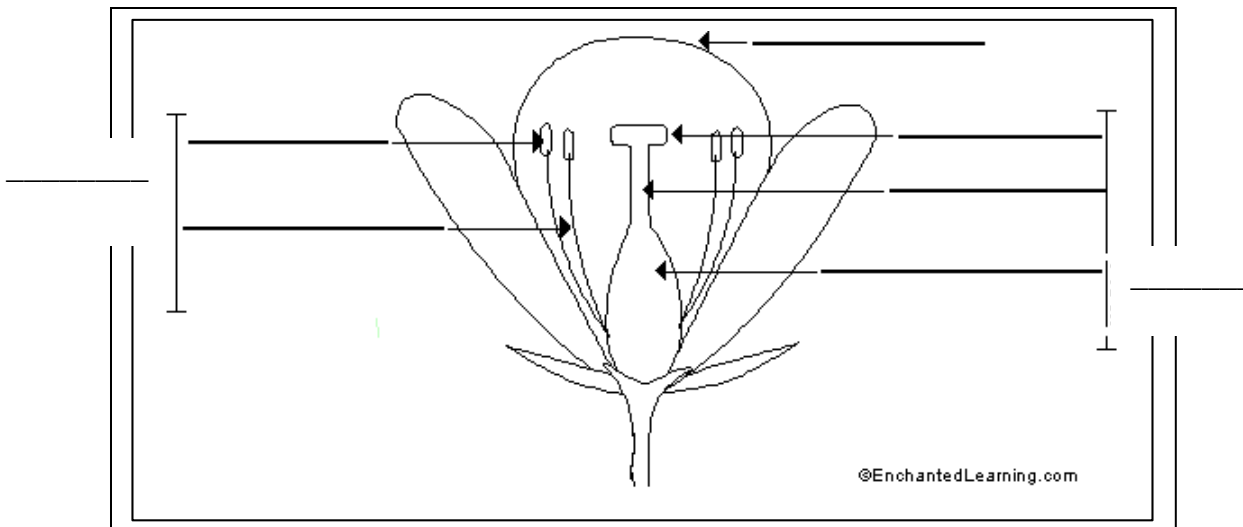
style

filament

ovary

petal

pistil



10. Vocabulary – You must know the meaning of the following words.

- A. Dominant (Stronger)
- B. Recessive(Weaker)
- C. Genotype (2 letters:BB, Bb, or bb)
- D. Phenotype(Physical appearance)
- E. Homozygous(genes are the same BB or bb)
- F. Heterozygous (genes are different Bb)
- G. Allele
- H. Heredity
- I. Genetics