Name _____ Class_____Date_____

Skills Worksheet

Directed Reading

Section: Regulating Gene Expression

Complete each statement by writing the correct term in the space provided.

1. A molecular system that controls the expression of a specific gene is called a genetic _____.
2. A group of related genes that lie close together and that work together as a unit is called a(n) _____.
3. To break down lactose, *Escherichia coli* need three different _____, each of which is coded for by a different gene.
4. The three structural genes in the *lac operon* are located next to each other, and all are controlled by the same _____ and _____ site.
5. A(n) _____ gene specifies a protein that binds to an operator and physically blocks RNA polymerase from binding to a promoter site.
6. A(n) _____ factor is an enzyme that is needed to act as a genetic switch in eukaryotes.

Read each question, and write your answer in the space provided.

7. Why is there more opportunity for gene regulation in eukaryotic cells than in prokaryotic cells?

_____

_____

_____

8. What are enhancers in eukaryotes?

_____

_____

9. What is unique about eukaryotic gene regulation?

_____

_____

_____

_____

10. When can gene regulation occur in eukaryotic cells?

_____

_____

_____

11. What are introns and exons?

_____

_____

_____

12. What happens to mRNA that includes introns?

_____

_____

_____

13. What might be the advantage of RNA splicing?

_____

_____

_____