Chapter 14

14.2

1. Identify the structure of RNA. Explain how the structure of RNA relates to its function as mRNA, rRNA, and tRNA.

14.3

1. *Briefly* describe the process of transcription.

14.4

1. In eukaryotic cells the mRNA transcript undergoes a series of enzyme regulated modifications. Describe the following: addition of poly-A tail, addition of GTP cap, and excision of introns.

14.5

1. Describe the steps of translation. Include the following: mRNA, rRNA, tRNA, codon, amino acids, polypeptide/protein.
2. Identify the locations of translation in eukaryotic cells.
3. Contrast protein synthesis in prokaryotes and eukaryotes.

14.6

1. What happens to proteins after they are made? Where do they go? Why?

Sections 15.1, 15.2

1. List and describe different types of point mutations.
2. List and describe different types of chromosomal mutations.
3. What do restriction enzymes do?
4. *In summary,* what does gel electrophoresis accomplish?

Section 13.5

1. *In summary,* how does the polymerase chain reaction (PCR) amplify DNA?

Sections 18.1, 18.2

1. What is recombinant DNA and how is it made?
2. Describe three different ways new genes can be inserted into cells.
3. Give a couple examples why scientists would want to insert new genes into cells. *(You may need to skim ahead in chapter 18.)*
4. What is a transgenic organism?