Key

Chapter 4: DNA Study Guide

Name

Answer	the	following	questions:
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Date:

1. What happens to cells if an individual has cancer? (MS grow and
1. What happens to cells if an individual has cancer? (MS grow) and divide uncontrollable. 2. What may cause cancer? Inherited Traits, Environmental Tar, UV Radiation herited Traits, Environmental 3. How can cancer be treated? Surgery Radiation Substances Drugs/ Chemotherapy
3. How can cancer be treated? Surgery Radiation Substances
3. How can cancer be treated? Surgery Radiation Substances Drugs/ Chemotherapis? 4. How can cancer spread in an individual? Ab normal cells break off and the tumor cell may enter the bloodstream. 5. Where does protein synthesis take place?
5. Where does protein synthesis take place? Ribosomes
Please be able to recognize what is occurring in the figures found on pages 116 and 117 of the textbook. You will need to identify mRNA, tRNA, a ribosome, an amino acid and bases. Draw a ribosome complex on the back of this sheet and identify the parts listed in the previous sentence.
6. What is an amino acid? Basic units of proteins 20 different amino acids combine to form 1000's of proteins
7. How many bases code for one amino acid? Three
8. What does the order of the nitrogen bases determine? It determines what proteins are being made
9. What is the role of mRNA in protein synthesis?
10. What is the role of tRNA in protein synthesis?
Carries the amino acids to the ribosomes 11. What bases are in a DNA strand A, T, C, G and an RNA strand?
a. How do the bases bond in each of these molecules? A bonds with Thymne C bonds with Quanine
12. What is the role of the DNA bases? The order of the bases determing what is a mutation? Why could they have harmful effects? Vibosomes
Mutations can cause cells I harmful
to produce an incorrect protein mutations during protein synthesis. decrease the
during protein synthesis. decrease the

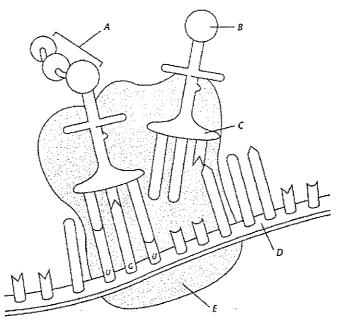
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DNA Study Guide Part III

Using Science Skills

Use the figure below to answer the following questions in the spaces provided.

Protein Synthesis



1.	Identify structure A and state what it is made of.
	Structure A is a protein made
	of amino acids
2.	Identify structures B and C.
	Structure B is one amino acid
	Structure C is t RNA (transfer RNA)
3.	Identify structure D and state where it is made.

DNA: The Code of Life (continued)

Essay

Write an answer for each of the following questions in the spaces provided.

4. Describe what messenger RNA and transfer RNA do during protein synthesis.

MRNA - Messenger RNA copies the DWA code in the nucleus and carries

it to the ribosome in the cytoplasm.

t RNA - Transfer RNA carries the amino acids to the ribosomes and adds them to the growing protein.

5. Contrast the effects of harmful and helpful mutations.

Harmful mutations decrease the

Chance that an organism Will Survive -> ex. White buffalo in wild

Itelpful mutations increase an organism's ability to survive and reproduce.