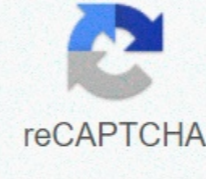




I'm not robot



Continue

Dna replication coloring answers

Name: _____ Date: _____

Often referred to as the control center because it controls all activity of cells, including cell regeneration and genetics. How does it do this? Chromosomes found in the nucleus are microscopic, filamentous chains consisting of chemical DNA (short for deoxyribonucleic acid). Simply put, DNA controls the production of proteins in cells. These proteins form the structural units of the cell and control all chemical processes in the cell. Chromosomes are composed of genes. Genes are segments of DNA that code specific proteins and code traits. Therefore, you hear that it is commonly called the gene for the hair and blue eyes. DNA, on the other hand, is a chemical in which genes and chromosomes are made. It stands for Deoxyribonucleic Acid. DNA is called a nucleic acid because it was first found in the nucleus. Dna actually controls the function of cells in the nucleus, but dna is also found in organelles, mitochondria, and leafoplasts. In 1953, James Watson and Francis Clydt established the structure of DNA. The structure is like a double-layered, twisted ladder. The sides of the ladder are made of alternating sugars and phosphate molecules. Sugar is deoxy ribose. Make all phosphates pink (one is labeled with p). Color all deoxy ribose (D) blue. Rudder lang is a pair of four types of nitrogen bases. The two bases are pure adenine and guanine. Pyrimidine is thymine and cytosine. The base is known by the coded characters A, G, T, and C. These bases always bind in a certain way. Adenine binds only to thymine. Guanine only binds to cytosine. This is called a base pair rule. Bases can occur in any order along strands of DNA. These base sequences are code that contains instructions. For example, ATGCACATA codes a different gene than ATTACGGA. Strands of DNA contain millions of bases. (For clarity, the image should contain only a few.) Note that the base adheres to the side of the ladder with sugar, not phosphate. Color the base to DNA: thymine = orange. Adenine = green. Guanine = purple. Cytosine = yellow. A combination of a single base, deoxy ribose sugar, and phosphoric acid constitutes nucleotide. DNA is actually a molecule of repeated nucleotide. Take a closer look at nucleotide. The two bases are pure adenine and guanine. Pyrimidine is thymine and cytosine. Note that pyrimidine is a single ring and purine is double-ringed. Color the nucleotide using the same color as the double hen color. Both sides of the DNA ladder are loosely held together by hydrogen bonding. The hydrogen bond is gray. Messenger RNA So now we know that the nucleus controls the activity of cells through chemical DNA, but how? It is the sequence of bases that determines which proteins are made. A sequence is like code that can be interpreted right now. This sequence determines which proteins are made and which activities the proteins perform. And that's how the nucleus is the control center of cells. The only problem is that the DNA is too large to pass through the pores of the nucleus. Therefore, chemicals are used to read DNA in the nucleus. The chemical is messenger RNA. Messenger RNA (mRNA) is small enough to pass through nuclear pores. It conveys what kind of proteins need to be made by taking dna messages into ribosomes. Remember that proteins are the building blocks of the body. Imagine that the code taken on the ribosome tells the ribosome what it needs, like a recipe. Messenger RNA is similar to DNA, but is single-stranded and very one except that it does not have thymine. Instead of thymine, mRNA contains basal uracil. In addition to that difference, mRNA has sugar ribose instead of deoxy ribose. RNA stands for ribo nucleic acid. Color the mRNA as dna did. Color the ribose with DARKER BLUE and Uracil Brown. Name: _____ Date: _____

The new cell receives the instructions and information needed to function. The process of copying DNA is called replication. Replication is done in a unique way: instead of copying a complete new strand of DNA, one of the original strands is saved or stored. For this reason, replication is called semi-conservative. When the DNA is ready to be copied, the molecule thaws itself and a new nucleotide is added on both sides. Images showing replication are similar to DNA and mRNA coloring. Nucleotide is one of four bases identified by sugar and phosphate (blue) and shape, but is shown as two parts of the same color as other models. Blueprints of life Every cell in your body has the same blueprint or the same DNA. Similar to telling builders how to build a house, like a house blueprint, a DNA blueprint tells cells how to build an organism. But if all cells contain the same instructions, how does the heart differ so much from the brain? There is a lot of work left in genetics, but it has been revealed that cells have the ability to turn off most genes and only treat the genes needed to do the job. To build the body, the code carried to the messenger RNA moves to the ribosome, where the three bases in the code (called codons) specify a single amino acid. Long mRNA chains can contain thousands of these amino acids. When you link to each other, Acid forms proteins and constitutes many structures in the body. This section colors bases and RNA chains as before. Color the amino acids red. Question: Why is the nucleus called the control center of the cell? What is the gene? Where are the chromosomes in the cell? What organelles can dna be found in? What are the two scientists who established the structure of DNA? What is the side of the original strand DNA ladder made of? The three parts that make up one nucleotide: What are the four bases that make up the lang of the DNA ladder? What is the sugar contained in DNA? In RNA, in RNA? How are the bases connected? Bonds with G bonds with 12. Why does RNA need to function as a messenger? 13. Where is the protein made in the cell? (Listing 3) The process of copying DNA What is the shape of DNA? 17. What sub-units are proteins made from? The three bases found in mRNA are called . If the DNA of all cells is exactly the same, how do some cells become brain cells and others become skin cells? In other words, if the instructions are exactly the same, how does one cell become a brain cell and the other a skin cell?20. Why is DNA called the blueprint of life?Name: _____ It is often referred to as the control center because it controls all activity of cells, including cell regeneration and genetics. How does it do this? Chromosomes found in the nucleus are microscopic, filamentous chains consisting of chemical DNA (short for deoxyribonucleic acid). Simply put, DNA controls the production of proteins in cells. These proteins form the structural units of the cell and control all chemical processes in the cell. Chromosomes are composed of genes. Ais a segment of DNA that codes a specific protein, sequentially coded traits. Therefore, you hear that it is commonly called the gene for the hair and blue eyes. DNA, on the other hand, is a chemical in which genes and chromosomes are made. It stands for Deoxyribonucleic Acid. DNA is called a nucleic acid because it was first found in the nucleus. Dna actually controls the function of cells in the nucleus, but dna is also found in organelles, mitochondria, and leaf loplasts. In 1953, James Watson and Francis Clydt established the structure of DNA. The structure is like a double-layered, twisted ladder. The sides of the ladder are made of alternating sugars and phosphate molecules. Sugar is deoxy ribose. Make all phosphates pink (one is labeled with p). Color all deoxy ribose (D) blue. Rudder lang is a pair of four types of nitrogen bases. The two bases are pure adenine and guanine. Pyrimidine is thymine and cytosine. The base is known by the coded characters A, G, T, and C. These bases always bind in a certain way. Adenine binds only to thymine. Guanine only binds to cytosine. This is called a base pair rule. Bases can occur in any order along strands of DNA. These base sequences are code that contains instructions. For example, ATGCACATA codes a different gene than ATTACGGA. Strands of DNA contain millions of bases. (For clarity, the image should contain only a few.) Note that the base adheres to the side of the ladder with sugar, not phosphate. Color the base to DNA: thymine = orange. Adenine = green. Guanine = purple. Cytosine = yellow. A combination of a single base, deoxy ribose sugar, and phosphoric acid constitutes nucleotide. DNA is actually a molecule of repeated nucleotide. Take a closer look at nucleotide. The two bases are pure adenine and guanine. Pyrimidine is thymine and cytosine. Note that pyrimidine is a single ring and purine is double-ringed. Color the nucleotide using the same color as the double hen color. Both sides of the DNA ladder are loosely held together by hydrogen bonding. Color-re-color-color the hydrogen bonds in gray. Messenger RNA So now we know that the nucleus controls the activity of cells through chemical DNA, but how? It is the sequence of bases that determines which proteins are made. A sequence is like code that can be interpreted right now. This sequence determines which proteins are made and which activities the proteins perform. And that's how the nucleus is the control center of cells. The only problem is that the DNA is too large to pass through the pores of the nucleus. Therefore, chemicals are used to read DNA in the nucleus. The chemical is messenger RNA. Messenger RNA It is small enough to pass through the pores of the nucleus. It conveys what kind of proteins need to be made by taking dna messages into ribosomes. Remember that proteins are the building blocks of the body. Imagine that the code taken on the ribosome tells the ribosome what it needs, like a recipe. Messenger RNA is similar to DNA, but is single-stranded and very one except that it does not have thymine. Instead of thymine, mRNA contains basal uracil. In addition to that difference, mRNA has sugar ribose instead of deoxy ribose. RNA stands for ribo nucleic acid. Color the mRNA as dna did. Color the ribose with DARKER BLUE and Uracil Brown. Name: _____ Date: _____

The new cell receives the instructions and information needed to function. The process of copying DNA is called replication. Replication is done in a unique way: instead of copying a complete new strand of DNA, one of the original strands is saved or stored. For this reason, replication is called semi-conservative. When the DNA is ready to be copied, the molecule thaws itself and a new nucleotide is added on both sides. Images showing replication are similar to DNA and mRNA coloring. Nucleotide is one of four bases identified by sugar and phosphate (blue) and shape, but is shown as two parts of the same color as other models. Blueprints of life Every cell in your body has the same blueprint or the same DNA. Similar to telling builders how to build a house, like a house blueprint, a DNA blueprint tells cells how to build an organism. But if all cells contain the same instructions, how does the heart differ so much from the brain? There is a lot of work left in genetics, but it has been revealed that cells have the ability to turn off most genes and only treat the genes needed to do the job. To build the body, the code carried to the messenger RNA moves to the ribosome, where the three bases in the code (called codons) specify a single amino acid. Long mRNA chains can contain thousands of these amino acids. When linked together, amino acids form proteins that make up many structures in the body. This section colors bases and RNA chains as before. Color the amino acids red. Question: Why is the nucleus called the control center of the cell? What is the gene? Where are the chromosomes in the cell? What organelles can dna be found in? What two scientists have established DNA? What is the side of the original strand DNA ladder made of? The three parts that make up one nucleotide: What are the four bases that make up the lang of the DNA ladder? What is the sugar contained in DNA? In RNA, in RNA? How are the bases connected? Bonds with G bonds with 12. Why does RNA need to function as a messenger? 13. Where is the protein made in the cell? (Listing 3) The process of copying DNA What is the shape of DNA? 17. What sub-units are proteins made from? The three bases found in mRNA are called . If the DNA of all cells is exactly the same, how do some cells become brain cells and others become skin cells? In other words, if the instructions are exactly the same, how does one cell become a brain cell and the other a skin cell?20. Why is DNA called the blueprint of life?