

What is the Structure of DNA?

Name: _____

Date: _____

The Twisted Ladder

- Workers use a _____ to interpret what work needs to be completed.
- _____ is the cell's blueprint.
- Study the image. Looking carefully at the sides of the ladder.
- This twisted ladder is called a _____.
- It is made of two strands of DNA _____ around each other.
- DNA is made of smaller subunits called _____.
- Each nucleotide has a _____ molecule, a phosphate group, and one of the _____ bases: *adenine*, *guanine*, *thymine*, and *cytosine*.
- Each base has a different _____.
- They can fit together like pieces of a _____ puzzle.
- Because of their shapes, when they air up, _____ always pairs with thymine.
- Guanine always pairs with _____.
- These bonded base pairs hold the _____ strands of the DNA molecule together.
- The four-letter code of the nucleotides explains how chromosomes can _____ and _____ genetic information.
- These four pairs, _____, _____, _____, and _____, make up the letters of the DNA code.
- DNA's four nucleotides can be arranged in a _____ of ways.
- The _____ of the base pairs provides coded instructions.
- Structures in your cells read the letters of this code to make the _____ you need to live.

Copying DNA

- Before cells can divide, they must _____ their DNA.
- Making a copy of your cell's blueprints is just the _____ of the building, or growth, process for your body.
- The double-helix design of the DNA molecule makes the complicated process of duplication much _____.
- _____ code for the formation of the proteins.

- These _____ play a large part in the duplication and packaging of DNA.
- 1. A group of _____ proteins is involved in DNA synthesis.
- 2. These proteins _____ portions of the DNA molecule that need to be duplicated.
- 3. As the DNA molecule unzips along its length, the two strands pull _____. Each strand acts as the pattern for the missing part of the DNA molecule.
- 4. _____ help pair up nucleotides with the correct partners. Cytosine will pair with guanine. What will pair with thymine?
- 5. The finished copies are _____ by the cell.
- 6. Each strand zips back up, forming the two new daughter stands of DNA. The name “daughter” indicates an _____ strand is produced.