**DNA structure(overall structure of the DNA molecule. )**

1.DNA is composed of 2 chains of nucleotides that form a double helix双螺旋 shape.

2.The two strands are antiparallel反向平行

3.The backbone of the DNA molecule is composed of alternating交替的 phosphate groups磷酸基 and sugars

4.The complimentary nitrogenous bases含氮碱基 form hydrogen bonds氢键 between the strands

5. A is complementary to T and G is complementary to C

**DNA functions**

1. Storage of genetic information

2. Self-duplication & inheritance

3. Expression of the genetic message

DNA’s major function is to code编码 for proteins. Information is encoded in the order of the nitrogenous bases.

**Biological roles of RNA**

1. RNA is the genetic proaterial of some viruses

2. RNA functions as the protein-synthesizing machinery

3.RNA functions as an asaptor(tRNA) between the codons密码子 in the mRNA and amino acids氨基酸

4. RNA serves as a regulatory molecule, which through equence complementarity binds to, and interferes with the translation of certain mRNAs.

5. Some RNAs are enzymes that catalyze催化 essential reactions in the cell

**Summarize the relationship between genes and DNA.**