1. DNA, or deoxyribonucleic acid, is the molecule that carries the genetic instructions for the growth, development, function, and reproduction of all known living organisms.

**Fill in the Blank**: Fill in the blank with the correct words.

DNA guanine cytosine base double-helix

1. Each strand of \_\_\_\_\_\_ is made up of building blocks called nucleotides.
2. The four types of nucleotides in DNA are adenine, thymine, cytosine, and \_\_\_\_\_***\_\_***.
3. Adenine and thymine always pair together, while guanine and ***\_\_\_\_\_\_\_*** always pair together. These are called \_\_\_\_\_\_\_\_\_ pairs
4. The sugar-phosphate backbone and the paired nucleotides create the ***\_\_\_\_\_\_- \_\_\_\_\_\_*** structure of DNA.
5. What is the main function of DNA?  
   a) To carry genetic information  
   b) To provide energy for cells  
   c) To regulate cell division  
   d) All of the above
6. What is the shape of the DNA molecule?  
   a) Linear  
   b) Circular  
   c) Spiral  
   d) Rectangular
7. Which of the following is **not** a type of nucleotide found in DNA?  
   a) Adenine  
   b) Thymine  
   c) Cytosine  
   d) Uracil
8. Watch the Amoeba Sisters video and decide if the following statements are true or false.

|  |  |
| --- | --- |
| **Statement** | **T/F** |
| The classroom pet, Spike, was a Texas rat snake. |  |
| Spike's DNA is not found in most of his body cells. |  |
| DNA stands for deoxyribonucleic acid. |  |
| Human eye colour is solely determined by one gene. |  |
| Nearly every body cell in humans has 23 chromosomes. |  |
| Both sperm and egg cells in humans contain 23 chromosomes each. |  |
| DNA is made up of nucleotides, and their sequence codes for traits |  |
| The chromosome contains genes which consist of portions of DNA |  |
| Understanding DNA and chromosomes is not essential for comprehending heredity principles |  |

1. Hereditary traits are characteristics that are passed down from one generation to the next. These traits are determined by the genes we inherit from our parents. Some examples of hereditary traits include eye colour, hair colour, and the ability to roll your tongue.

**Fill in the Blank**: Fill in the blank with the correct words.

trait genes passed dominant biological hereditary

1. Hereditary traits are characteristics that are \_\_\_\_\_\_***\_\_*** down from one generation to another.
2. Our ***\_\_\_\_\_\_\_\_*** determine the traits we inherit.
3. Eye colour and hair colour are examples of ***\_\_\_\_\_\_\_\_\_\_\_\_*** traits.
4. The ability to roll your tongue is an example of a heritable \_\_\_\_\_\_\_\_\_\_.
5. Traits that are passed down are determined by the genes we inherit from our \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_parents.