DNA Transcription

DNA Transcription also begins with the double helix unwinding and unzipping. Then a strand of material called messenger RNA (mRNA) comes in and copies the section of base pairs, reading it like a code.

1. Messenger RNA is similar to DNA except that the sugar in RNA is a ribose (DNA’s sugar is a deoxyribose).
2. RNA is shorter in length than DNA with only 50-1000 nucleotides (DNA can have a million).
3. Instead of the base T (thyamine) - RNA has U (uracil), which is complementary to A (adenine).

The order of the base pairs is like a code that names amino acids for building proteins. Three bases together are called a “codon.” Each codon spells out one amino acid. There are 64 possible codon combinations, but only 20 amino acids. The code has many overlaps. Many amino acids together build a specific protein. This is called protein synthesis and this is what is called your genetic code.

When the mRNA carries the code out of the nucleus it is much shorter than the DNA strand it copied. That is because:
1. The DNA strand has Introns. Introns are non-coding areas with bases that don’t code for any amino acids.
2. Introns lie between Exons, which are chains of bases that do code for amino acids. Exons have expressed sequences.
3. When mRNA copies the DNA strand, the introns are cut out before it leaves the nucleus to be made (translated) into proteins.

Transcription is complete. Translation is next.
DNA Transcription

1. **DNA Transcription** begins with the double-helix unwinding and unzipping (as in replication).
2. A strand of **messenger RNA** comes in and copies the section of base pairs, reading it like a code.
3. The order of the base pairs is like a code that names amino acids for building **proteins**.
4. mRNA carries the code out of the nucleus.
5. Transcription is complete. (Translation is next.)

**mRNA Facts:**

1. *Messenger RNA* is similar to DNA except that the sugar in RNA is a ribose (DNA's sugar is a deoxyribose).
2. RNA is shorter in length than DNA with only 50-1000 nucleotides (DNA can have a million).
3. Instead of the base Thyamine (T) - RNA has **Uracil (U)**, which is complementary to Adenine (A).