**Vocabulary:** **RNA and Protein Synthesis**



**Vocabulary**

* Amino acid – an organic molecule containing a carboxyl and an amino group
	+ Amino acids combine to form proteins.
* Anticodon – a region of a tRNA molecule that consists of three bases that are complimentary to an mRNA codon.
* Codon – a set of three nucleotides that encodes an amino acid or signifies a start signal or stop signal.
* Gene – a DNA sequence that codes for a specific protein.
	+ By coding for proteins, genes determine many traits of living things.
* Messenger RNA – (mRNA) a strand of RNA that encodes information to make a protein.
* Nitrogenous base – a component of DNA that forms the “rungs” in the DNA structure.
	+ There are four nitrogenous bases in RNA: adenine, uracil, cytosine, and guanine.
* Nucleotide – a subunit of a nucleic acid molecule (DNA or RNA) that consists of a sugar, a phosphate, and a nitrogenous base.
* Ribosome – a cell organelle that is the site of protein synthesis.
	+ Ribosomes are composed of RNA and protein.
* RNA – (ribonucleic acid) a nucleic acid that plays a role in protein synthesis.
	+ The three main types of RNA are messenger RNA (mRNA), transfer RNA (tRNA), and ribosomal RNA (rRNA).
* RNA polymerase – an enzyme that enables the process of transcription by separating a strand of DNA and forming a complimentary strand of mRNA.
* Transcription – the process of forming a nucleic acid by using another molecule as a template.
	+ Transcription starts the process of protein synthesis by using a strand of DNA to form a complementary strand of mRNA.
* Transfer RNA – (tRNA) a strand of RNA that transfers amino acids to the growing end of a protein molecule during translation.
* Translation – the process of using the codons in an mRNA molecule to specify the sequence of amino acids in a protein molecule.
	+ Translation takes place in a ribosome.