

3.2 BioPsyc Worksheet: DNA

1. Facts about **DNA**: True or False?

If False, how could you change the statement to make it true?

- a. A chromosome is just DNA.
- b. The nucleotides of DNA are composed of bases, which are like the edges of the “twisted ladder” double helix, and phosphate sugar bonds, which are like the steps of the ladder.
- c. The bases of DNA compose the genetic code.
- d. Synthesizing proteins is DNA’s only activity.
- e. Protein synthesis takes place within the nucleus of the cell.
- f. DNA replication takes place during translation.
- g. All genetic mutations result in horrible effects.

2. Matching:

- | | |
|--------------|---|
| 1) mRNA | a) Sequence of 3 bases that can translate to a specific Amino Acid. |
| 2) Protein | b) Sequence of 100 – 1,000 Amino Acids. |
| 3) Introns | c) Specific to 1 of 20 Amino Acids. |
| 4) Exons | d) Pieces of mRNA code left behind in the nucleus. |
| 5) tRNA | e) Transcription |
| 6) Ribosomes | f) “Read” mRNA strands during translation. |
| 7) Codon | g) Pieces of gene that actually code for a protein and leave the nucleus as mRNA. |

3. Name the 4 **bases of DNA**.

How are the bases paired up in the double helix?

DNA complementary base-pairing practice – Fill in the blanks to create complementary strands of DNA:

Strand 1	A	—	T	G	A	—	—	G	C
Strand 2	—	T	—	—	—	T	C	—	—