Nucleic Acids Worksheet

1. Identify the base and sugar in each of the following nucleotides. Also indicated the number of phosphate groups present.
   a. CMP

   b. dAMP

   c. dGMP

   d. UDP

2. Write the complementary base sequence for the matching strand in the DNA section shown below.

   3’— T T G A C C T —5’

3. Write the complementary base sequence for the following segment of a strand of DNA:

   5'—A C G A T C T—3'

4. What mRNA sequence is synthesized from a section of DNA that is 3’— T T G A C C T —5’?

5. The sequence of bases in a part of the DNA template strand is 3'—C G A T C A—5'. What corresponding mRNA is produced?

Answers

1.
   a. base – cytosine; sugar – ribose; one phosphate group
   b. base – adenine; sugar – deoxyribose; one phosphate group
   c. base – guanine; sugar – deoxyribose; one phosphate group
   d. base – uracil; sugar – ribose; two phosphate groups

2. 5’— A A C T G G A —3’

3. 3’— T G C T A G A —5’

4. 5’— A A C U G G A —3’

5. 5’— G C U A G U —3’