NUCLEIC ACID STRUCTURE

A. EXAMPLES OF NUCLEIC ACIDS (precisely where in the cell is each found?):
   1. RNA (Ribonucleic acid):
   2. DNA (Deoxyribonucleic acid):

B. NUCLEOTIDES: The main structural units or "building blocks" of the nucleic acids.
   1. SUB-STRUCTURE OF NUCLEOTIDES (SUB-UNITS): Each nucleotide is composed of 3 sub-units: a phosphate group, one of two pentose sugars, and one of 5 bases, all shown here in simplified diagrams:
      a. Phosphate Group (or Phosphoric Acid):
      b. Pentose Sugars:
         1) Ribose (in RNA):
         2) Deoxyribose (in DNA):
      c. Bases ("Nitrogenous Bases"):
         1) Pyrimidines:
            a) Cytosine:
            b) Thymine:
            c) Uracil:
         2) Purines:
            a) Adenine:
            b) Guanine:

2. EXAMPLES OF NUCLEOTIDES (each one shown composed of its 3 sub-units):
   a. Ribonucleotides (as in RNA)
      1) Adenine ribonucleotide:
      2) Guanine ribonucleotide:
      3) Cytosine ribonucleotide:
      4) Uracil ribonucleotide:
   b. Deoxyribonucleotides (as in DNA)
      1) Adenine deoxyribonucleotide:
      2) Guanine deoxyribonucleotide:
      3) Cytosine deoxyribonucleotide:
      4) Thymine deoxyribonucleotide:

5) Adenosine triphosphate (ATP - remember this? Notice it's basically a nucleotide!)