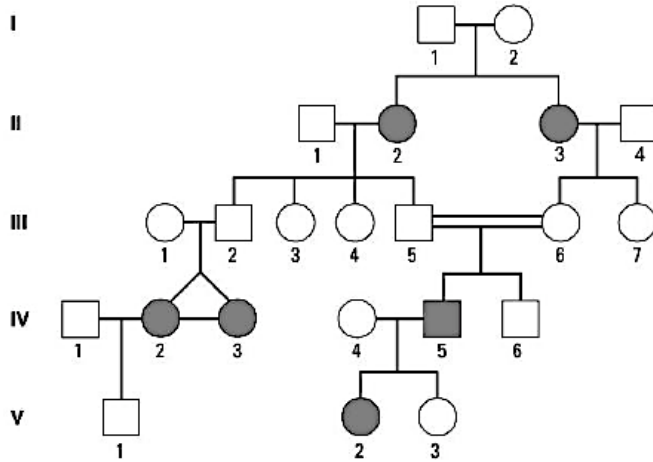


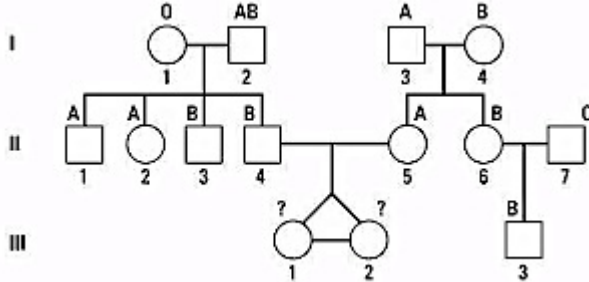
**Warm-Up: Pedigree Analysis**

1. Examine the pedigree below showing the inheritance of straight hair in a four-generation family.



- Is straight hair a dominant or recessive trait? Explain.
- Write the genotype of each individual in the pedigree. Whose genotype can you NOT be certain of?
- If individual V-3 marries a man who is heterozygous, what is the probability that they will have a girl with straight hair? Explain using a Punnett square.

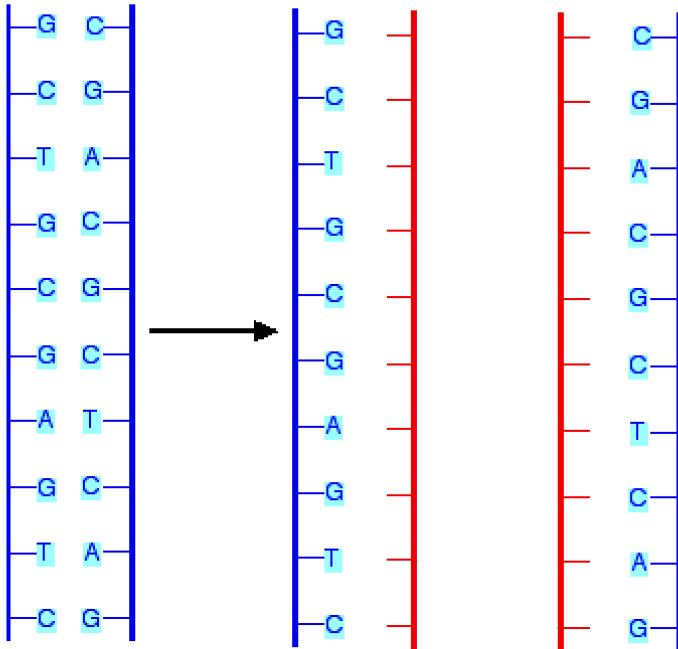
2. In the pedigree below, different blood types are identified by the letters A, B, AB, and O.



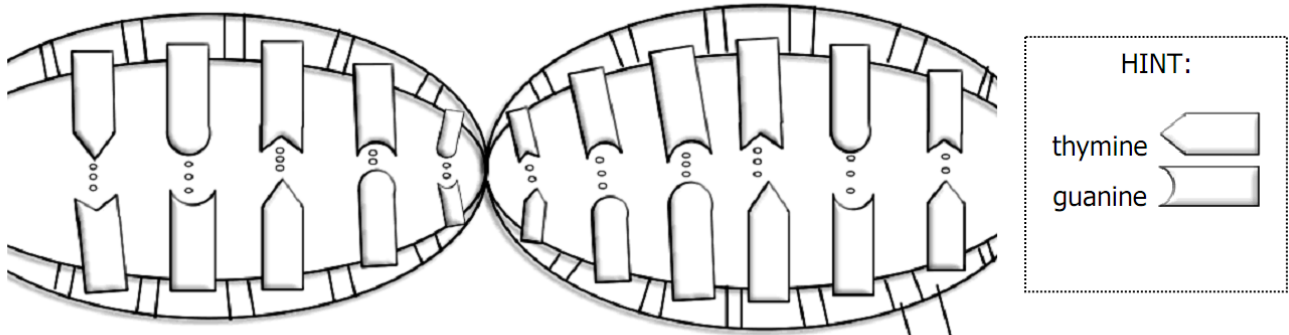
- Individuals II-4 and II-5 have just had identical twin girls. List the possible blood types these infants may have based on the information provided in the pedigree.
- Individuals II-6 and II-7 have a second child with blood type O. What does this tell you about II-6's genotype?
- Could I-1 and I-2 have a child with the AB blood type? Explain why or why not.

**Warm-Up: DNA Strands**

1. Write the complementary base pair on the opposite DNA strand:



2. Label the diagram below. Be sure to label the **bases (T-G-A-C)**, the **sugars (D)** and the **phosphates (P)**.



3. Look at the strand of DNA. If replication were occurring, determine the bases that will hook up to the exposed bases listed below. Write your answer below the letters.

**T A A C T T G C G G T A C C T A G G C T A G T**

4. Suppose one side of a piece of DNA contains the following series of nitrogen bases: **A-C-G-C-T-T**. What is the series of nitrogen bases on the other side of that piece of DNA? Explain how you arrived at your answer.