Instructions for DNA Model

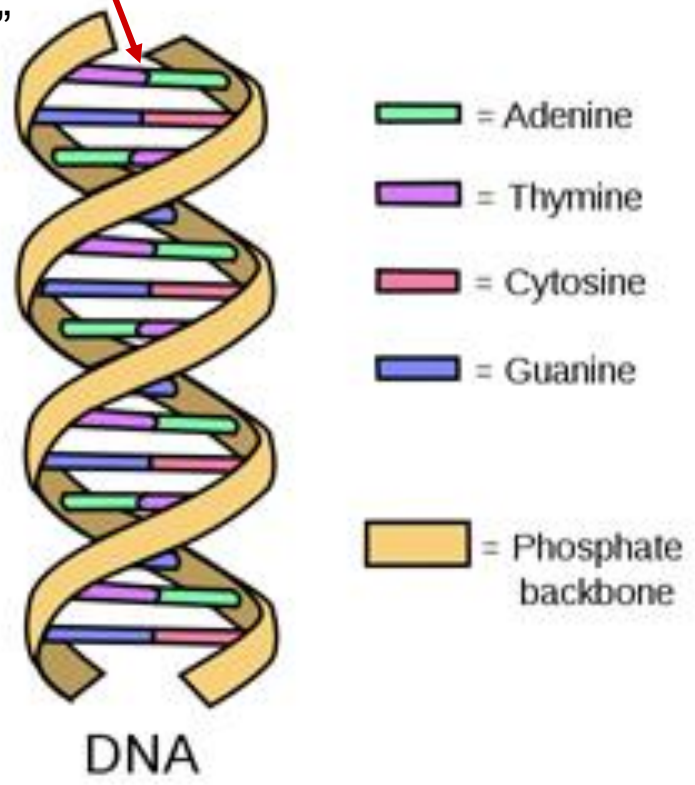
- Model must include two complementary strands of DNA shaped into a double helix
- Each strand must be at least 10 nucleotides/base pairs long and show correct base pairing between the strands
- **Honors**: Each nucleotide must clearly show the sugar, phosphate, and nitrogenous base that makes it up

  CP: Each nucleotide must be clearly identified by its nitrogenous base

Model must include two complementary strands of DNA shaped into a double helix

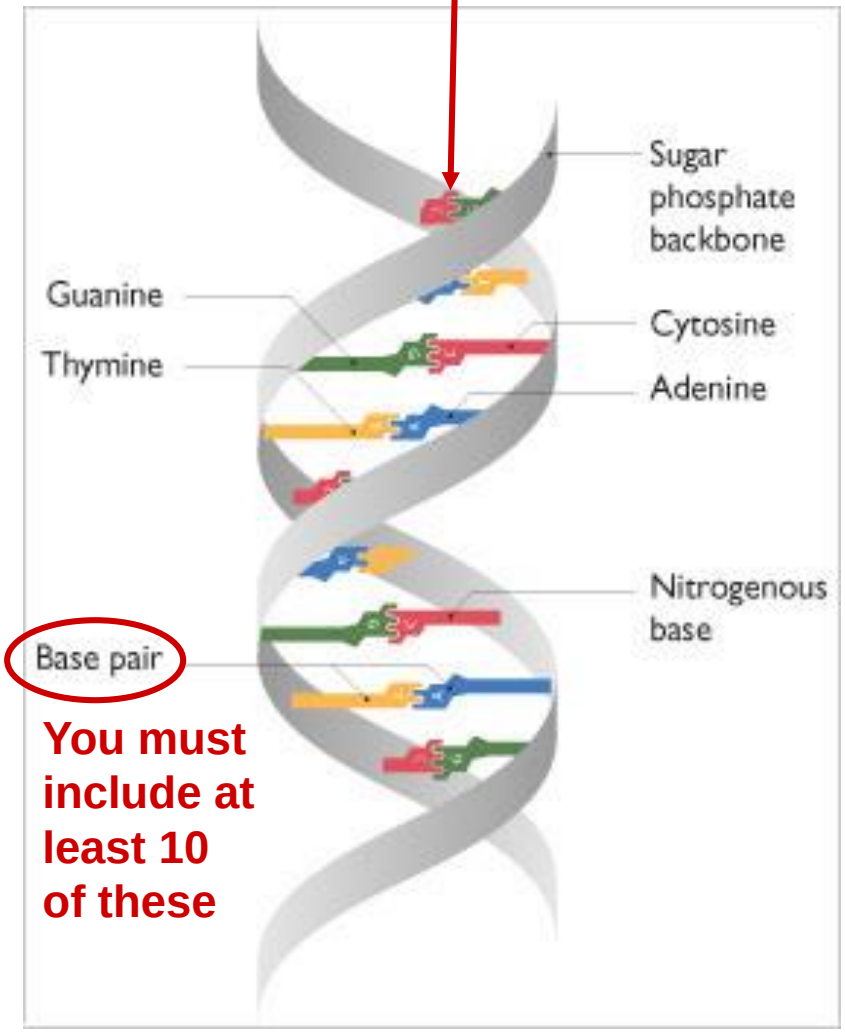
Be sure to show the hydrogen bonds that hold these together

This “spiral staircase” shape is a double helix.



Complementary strands means one side “complements” the other. This means they are not identical to each other but rather they match up with each other like a puzzle. The sequence of A, G, C, T on one strand complements the sequence of A, G, C, T on the other so that the order of the bases is such that all A on one strand match with all T on the other, and all G on one strand match with all C on the other.

Each strand must be at least 10 nucleotides/base pairs long and show correct base pairing between the strands



You must include at least 10 of these

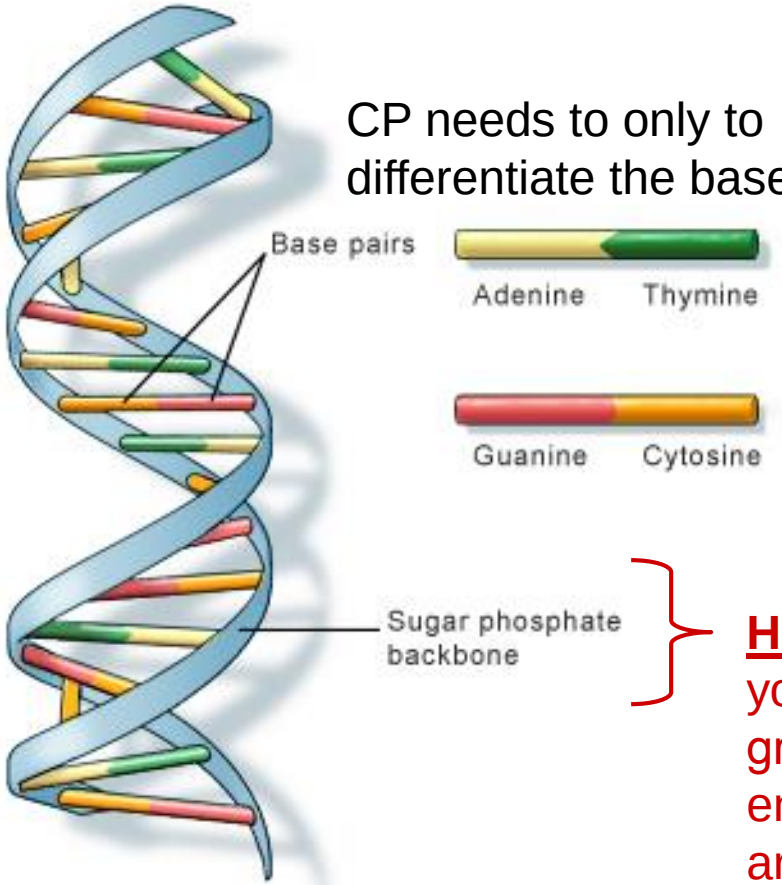
Be sure to use the correct base pairing between the two complementary strands.

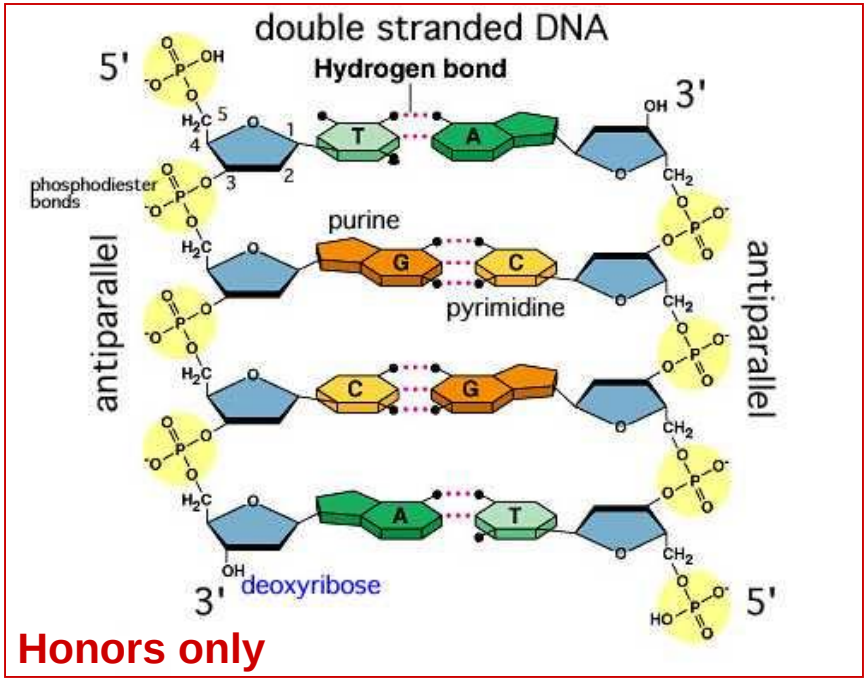
Be sure to include a KEY so that I know which base each is in your model!

There must be 10 base pairs for a total of 20 bases (10 on each strand)

Honors: Each nucleotide must clearly show the sugar, phosphate, and nitrogenous base that makes it up

CP: Each nucleotide must be clearly identified by its nitrogenous base





Honors must build the backbone so that you can see the sugars and phosphate groups. Be sure that you have a 3' and 5' end for each strand and that the strands are antiparallel to one another.

Write Up with Key

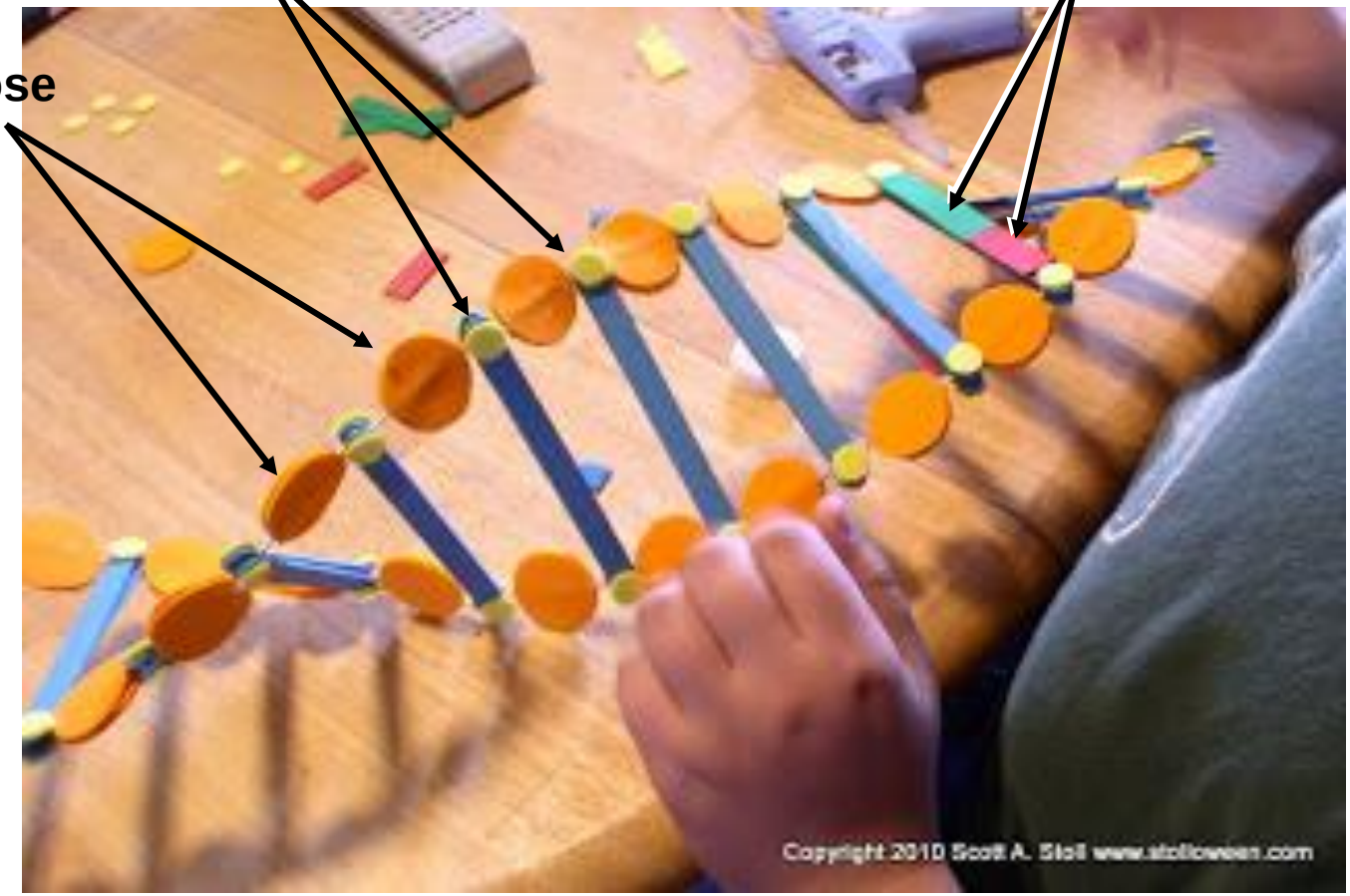
Include a one paragraph description of your model with a key to help your audience understand your design. It is especially important to indicate the four different nitrogenous bases and the hydrogen bonds holding together the complementary bases. For honors, it is also important to indicate the phosphate groups and the deoxyribose sugars.

Sample Models

Phosphate Groups

Complementary Nitrogenous Bases

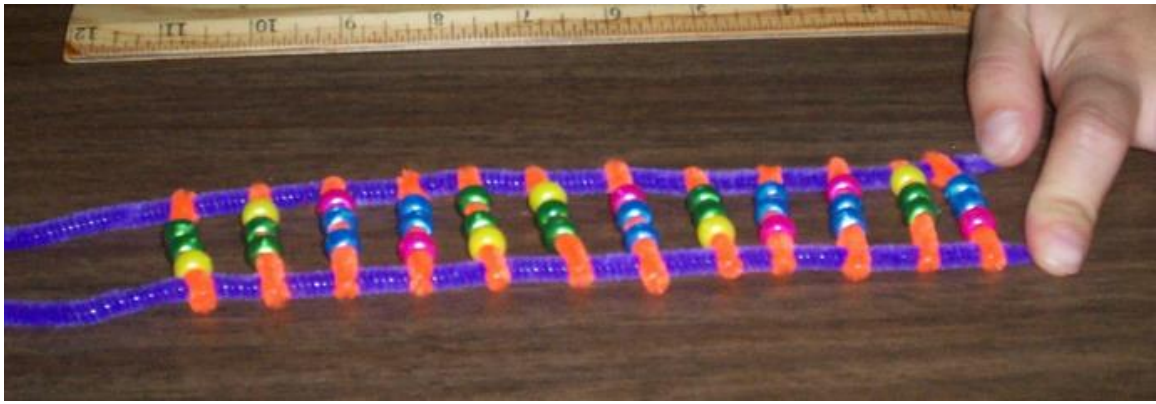
Deoxyribose Sugars



http://stolloween.blogspot.com/2010/03/dna-model-project.html

Sample Models

This would work for a CP model but needs more detail for Honors



Sample Models

http://www.life123.com/hobbies/scale-models-and-model-making/science-models/how-to-make-a-dna-model.shtml

Sample Models