

DNA Model

Objective(s):

- ✓ to create a model of DNA
- ✓ to observe how the individual parts of DNA interact to form the DNA molecule
- ✓ to observe the anti-parallel structure of DNA

Materials:

- | | | |
|---------------------|-----------------|------------|
| ✓ deoxyribose (x16) | ✓ adenine (x4) | ✓ scissors |
| ✓ phosphate (x16) | ✓ guanine (x4) | ✓ tape |
| ✓ thymine (x4) | ✓ cytosine (x4) | ✓ stapler |

Procedure:

1. Cut out each of the model parts listed above. The deoxyribose, thymine, and cytosine model parts each have **notches** that should **NOT** be cut out (see white arrows in Figure 1). Make your cuts as neat and accurate as possible.
2. Match up the appropriate bases and use a **small piece of tape** on the back of the model to hold them together.
 - ✓ Adenine should **go on top** of thymine
 - ✓ Guanine should **go on top** of cytosineYou should also **staple** the parts together on the front for added strength.

3. Line up the circle symbols on the bases with the circle symbols on the deoxyribose sugars.
 - ✓ The bases should **go on top** of the sugar

Use a **small piece of tape** on the back of the model and a **staple** on the front.

4. Line up the star or square symbols on the phosphate with the matching symbol on the sugar.
 - ✓ The phosphate should **go on top** of the sugarUse a **small piece of tape** on the back of the model and a **staple** on the front.

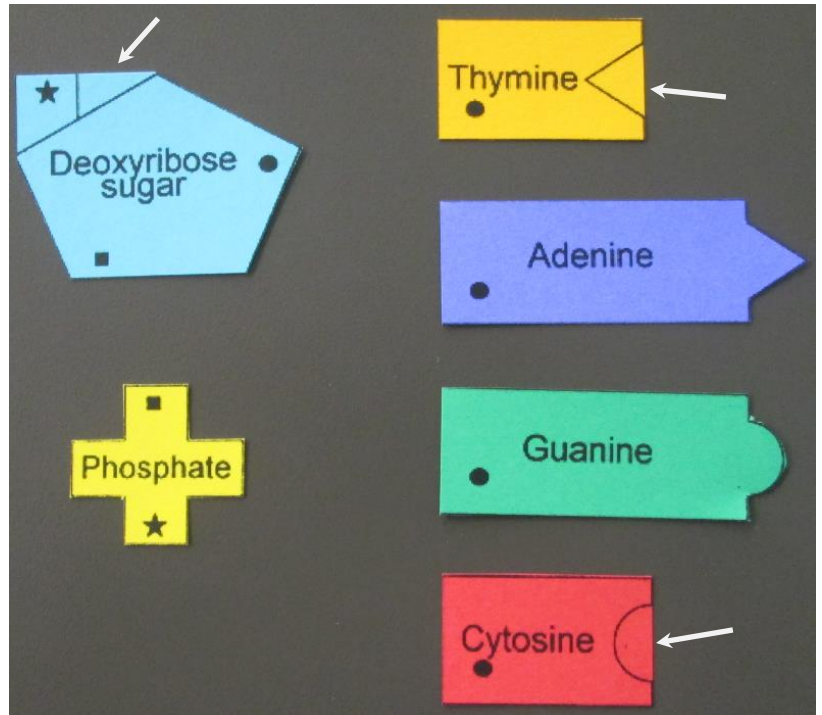


Figure 1 – Cut out your model parts like this. Make sure that you **don't** cut out the notches shown by the arrows.

- Continue assembling the model until you've constructed the number of base-pairs instructed by your teacher.
- Your finished model should look like the one in picture below (see Figure 2). Notice that **the ends that have the square symbols have nothing attached to them** in the completed model.

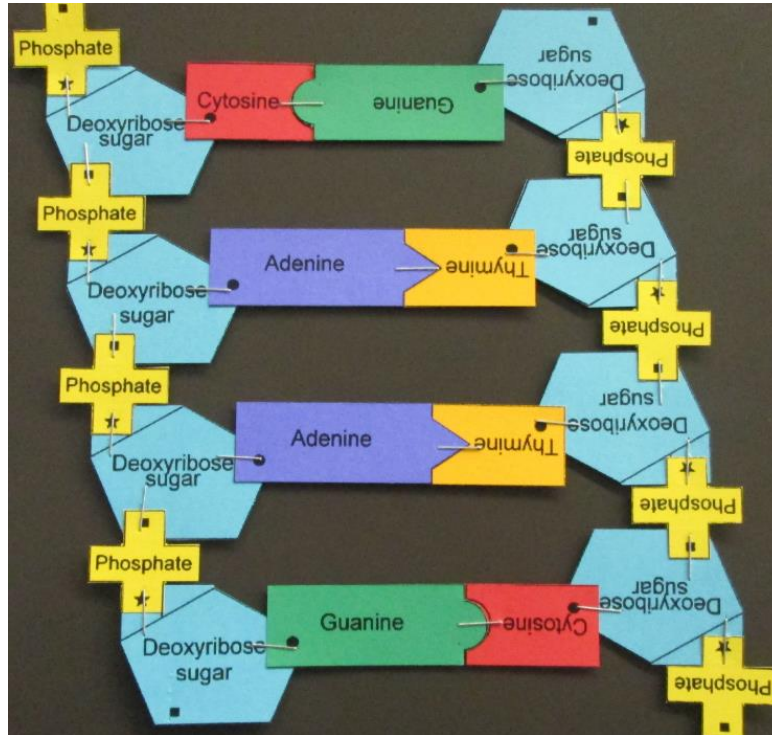


Figure 2 – The order of the bases in your model does not matter, but make sure the square symbols at the ends have nothing attached to them.