

<http://nkscience.weebly.com/unit-4-make-up-work.html>

## Lesson 4.1

Go to each of the web sites and answer the questions that follow each link in complete sentences. If you were absent both days, complete both parts. If you were absent for Part 1 and already turned in Part 2, you'll just need to submit Part 1. If you were absent for Part 2, please do the questions below instead of the questions in your packet and staple them to your 4.1 packet before submitting the lesson.

Part 1: Use the link below to answer the following in complete sentences unless the question asks you to sketch a picture. When you finish, staple your lined paper to the FRONT of the Part 2 sheet you received in class (if you were present for Part 2).

- HowStuffWorks: [DNA Structure](#)
1. What type of macromolecule is DNA?
  2. Where is DNA found?
  3. What does DNA guide the cell in doing?
  4. What happens to DNA from one generation to the next?
  5. Neatly sketch the first image of the two nucleotides, and include all labels.
  6. Copy and complete the following sentence: *Each nucleotide consists of a sugar ( \_\_\_\_\_ ) bound on one side to a \_\_\_\_\_ and bound on the other side to a \_\_\_\_\_.*
  7. What are the two classes of nitrogen bases and how are they different?
  8. What are the 4 bases and which class from #7 is each?
  9. Neatly sketch the 2nd image (Base Nucleotide Pairings) and include all labels.
  10. Copy and complete the following sentences: Watson & Crick discovered DNA had \_\_\_ sides, or \_\_\_\_\_, and they were \_\_\_\_\_ together like a twisted ladder -- a \_\_\_\_\_. The sides (backbone) of the ladder are the \_\_\_\_\_-\_\_\_\_\_ portions of the nucleotides.
  11. What type of bond holds the phosphate of one nucleotide to the sugar of the next?
  12. Describe the electrons in this type of bond.
  13. What type of bond holds the base pairs of two complementary nucleotides together?
  14. What are the complimentary base pairs in DNA (which go together)?
  15. Sketch the 3rd image of the DNA double helix. Use color to show the complimentary base pairs and include a color key of the base pairs.

Part 2: If you were present for Part 1, please staple your lined paper with the following assignment to your 4.1 Packet. You'll complete the items below instead of finishing the rest of the packet. If you were not present for Part 1 and completed the above questions instead, you may continue Part 2 on the same paper or on a separate sheet stapled to your Part 1 paper.

- Go to the following web site. Watch the video and take at least 5 pieces of notes on the information it discusses. Include at least one image/sketch from the video. <http://learn.genetics.utah.edu/content/basics/dna>
- Sketch and label the image that appears at <https://media1.britannica.com/eb-media/20/6520-004-95403A93.jpg> (include the key as well)
- Write a sentence about and sketch a picture from the video: You Tube: [How a DNA Double Helix is Formed](#) (1 minute)
- Write a sentence about and sketch a picture from the video: You Tube: [DNA Structure](#) (1 minute)
- Write a sentence about and sketch a picture from the video: You Tube: [DNA Structure](#) (3 minutes)
- Pick 5 facts from the following article and write them into your assignment. [100 Facts about DNA](#)