# Assignment Summary

How do we know about the structure of deoxyribonucleic acid (DNA)? Who laid the groundwork for the discovery of the structure of this essential molecule? By researching the history of this fascinating subject, you will be looking into an amazing story of not only discovery, but intrigue, competition, and deception. Using reference materials and reputable Internet sites, you will collect information about the discovery of the structure of DNA and the scientists who made contributions to this discovery. Suggested references are listed at the end of this document. You will then present your findings in a multimedia slide show, which should include twelve slides:

1. Note that this presentation must be your own A title slide that includes presentation details such as your name, your teacher’s name, and the title of your presentation
2. A slide listing each of the discoveries by date
3. A slide about Walther Flemming and his discoveries relating to chromosomes
4. A slide about Thomas Hunt Morgan and his discoveries relating to DNA
5. A slide about Oswald Avery and his discoveries about transformation
6. A slide about Alfred Hershey and Martha Chase and their discoveries relating to DNA
7. A slide about Erwin Chargaff and his rules about base pairing in DNA
8. A slide about Rosalind Franklin and her X-ray crystallography pictures of DNA

Three slides about the three scientists who received the Nobel Prize in 1962 for the actual discovery of the structure of DNA; one slide for each scientist

1. A final slide with works cited

Note that this presentation must be your own original work.

# Assignment Instructions

**Step 1: Gather materials and necessary information.**

1. You will collect information about the investigations that led to the discovery of the structure of DNA. You will also include information about the scientists who conducted those studies.

* Include the scientists listed above (Walther Flemming, Thomas Hunt Morgan, Oswald Avery, Alfred Hershey and Martha Chase, Erwin Chargaff, and Rosalind Franklin).
* Describe the contributions of each of these scientists to the discovery of the structure of DNA. These contributions will be the focus of this project. Note that Hershey and Chase worked together.
* Find the year in which the scientists conducted their experiments.
* Also, research who won the Nobel Prize for Physiology or Medicine in 1962 for the discovery of the structure of DNA and **add** those three scientists to your list.

1. Make sure you keep track of your references so you can cite them later.
2. Ask your teacher where you should save your presentation as you work on it. Your teacher may also have specific guidelines about the file name you should use.

**Step 2: Create your title slide.**

1. Begin your slide show by creating the title slide. On this slide, include your presentation’s title in large font, a picture of a DNA molecule, your name, your teacher’s name, your class period (if applicable), and the due date of the presentation.
2. Remember to save your work as you go. You should also back up your presentation to an external drive or cloud storage.

**Step 3: Create a timeline slide. List the discoveries that led to the finding of the structure of DNA.**

1. Title this slide **The Discoveries.** This slide will list the background experiments leading to the discovery of the structure of DNA. Note that this slide should summarize the work of each of the ten scientists that you will expand upon in upcoming slides (Flemming, Chagraff, Franklin, etc.) rather than introduce additional discoveries and scientists.
2. On the slide, add this information:
   * List the discoveries and their dates in order from the oldest at the top to the discovery of DNA at the bottom.
   * Include the names of the scientists who contributed to each discovery next to the dates and descriptions.
3. Place text in the notes section below the slide explaining the information presented on the slide. This text will act as the script for your presentation.
4. Remember to save your work as you go. You should also back up your presentation to an external drive or cloud storage.

**Step 4: Describe each discovery. Outline the contributions of the scientists who received credit for it.**

1. On the slide, add this information:
   * A title that is a short phrase that describes the discovery (such as **The Structure Of Chromosomes**)
   * The date of the discovery
   * The names of the scientists who contributed to the discovery
   * An image of the scientists
   * An image representing the discovery, if you are able to find one that is accurate
2. Place text in the notes section below the slide explaining in more detail the information presented on the slide. Include how this discovery contributed to the eventual discovery of the structure of the DNA molecule. This text will act as the script for your presentation.
3. Remember to save your work as you go. You should also back up your presentation to an external drive or cloud storage.
4. ***Repeat this step for the next five discoveries on your list.***

**Step 5: Describe the actual discovery of the structure of DNA.**

1. Create three slides, each titled **The Discovery of the Structure of DNA**. These will be your 9th, 10th, and 11th slides.
2. On these slides you must include the following information about the discovery, but you may choose how to best organize and structure the slides:
   * The date of the discovery
   * The names of the three scientists who won the Nobel Prize for this discovery
   * Images of the scientists
   * An image representing the model of DNA that was built
3. Place text in the notes section below the slide explaining in more detail the information presented on the slide. This text will act as the script for your presentation.
4. Remember to save your work as you go. You should also back up your presentation to an external drive or cloud storage.

**Step 6: Cite your sources.**

1. Create a slide titled **Works Cited** (this will be your last, or 12th, slide)
2. On this slide, create a list of the sources you used to complete your research. A simple list of website titles and addresses (URLs) is acceptable. If you used print (or hardcopy) sources, list the title, author, publisher, city, and date published.
3. Remember to save your work as you go. You should also back up your presentation to an external drive or cloud storage.

**Step 7: Evaluate your presentation using this checklist.**

If you can check each criterion below, you are ready to submit your presentation.

* Does your presentation include a title slide with your presentation’s title in large font, a picture of a DNA molecule, your name, your teacher’s name, your period (if applicable), and the due date of the presentation?
* Does your presentation include a slide with a list of the discoveries that contributed to the discovery of the structure of DNA? Does this slide include the dates of the discoveries in chronological order with the oldest at the top and the discovery of DNA at the bottom? Does this slide also include the names of the scientists who contributed to each discovery next to the dates and descriptions?
* Does your presentation include a slide with the discovery by Walther Flemming? Does it have a short phrase describing the discovery as the title, the date of the discovery, his name, and an image of Dr. Flemming?
* Does your presentation include a slide with the discovery by Thomas Hunt Morgan? Does it have a short phrase describing the discovery as the title, the date of the discovery, his name, and an image of Dr. Morgan?
* Does your presentation include a slide with the discovery by Oswald Avery? Does it have a short phrase describing the discovery as the title, the date of the discovery, his name, and an image of Dr. Avery?
* Does your presentation include a slide with the discovery by Alfred Hershey and Martha Chase? Does it have a short phrase describing the discovery as the title, the date of the discovery, their names, and images of Drs. Hershey and Chase?
* Does your presentation include a slide with the discovery by Erwin Chargaff? Does it have a short phrase describing the discovery as the title, the date of the discovery, his name, and an image of Dr. Chargaff?
* Does your presentation include a slide with the discovery by Rosalind Franklin? Does it have a short phrase describing the discovery as the title, the date of the discovery, her name, and an image of Dr. Franklin?
* Does your presentation include three slides on the discovery of the actual structure of DNA? Do these slides have **The Discovery of the Structure of DNA** as the titles, include the date of the discovery, the names and images of the three scientists who won the Nobel Prize for Medicine in 1962, and an image of the model of DNA?
* Does your presentation include a works cited slide, including citations for all the sources you used?
* Was the entire presentation your own original work, with citations for your quotes?

**Step 8: Revise and submit your presentation.**

1. If you were unable to check off all the requirements on the checklist, revise your presentation and save it before submitting.
2. Remember to save your work as you go. You should also back up your presentation to an external drive or cloud storage.
3. When you have completed your presentation, return to the virtual classroom and use the “Browse for file” option to locate and submit your assignment. Congratulations! You have created a multimedia presentation.
4. Ask your teacher for further instructions about presenting your project to an audience of your peers.

Resources

http://www.pbs.org/wnet/dna/index.html

http://www.dnai.org/index.htm

http://www.dnaftb.org/scientists.html

http://www.learner.org/interactives/dna/history.html

http://www.genomenewsnetwork.org/resources/timeline/index.php