



DNAi Timeline: a scavenger hunt

Description of Activity

DNAi Timeline provides students with the opportunity to learn about scientists whose work has contributed to the understanding of DNA. Clues guide students to key facts and figures in *Timeline*. This activity will also give students a preview of the *DNAi* web site.

Learning Outcomes

Students will:

1. use clues to navigate through the *DNAi Timeline*.
2. learn about scientists whose work was key to understanding DNA.
3. appreciate the contributions scientists have made to the understanding of DNA.
4. work together to solve problems (just as scientists do).
5. view the contributions that scientists made regarding DNA from a historical perspective.

Assumptions of Prior Knowledge

Science experiences in the middle school should have provided students with some knowledge of heredity, the transmission of traits, and DNA.

Misconceptions

Students may have various misconceptions about the role that each scientist played in advancing the knowledge of DNA. They may also believe that scientists work alone and do not understand the importance of collaboration.

Implementing the Lesson

Become familiar with the *DNA Interactive (DNAi)* web site (www.dnai.org) and how to navigate through it.

Before class:

Photocopy the *DNAi Timeline* worksheet. You will need one copy for every student pair.

During class:

Have students go to www.dnai.org > **Timeline**.

Discuss with students the information provided in the timeline and how to access different types of media or information. For example, clicking on a person's image will open their biography; film icons indicate a video clip from the person; colorful moving icons represent experiments; each Nobel Laureate has a gold coin icon to represent their prize; and key historical events run along the top of the screen.

Provide each team of students with a copy of *DNAi Timeline* clues. Ask students to find the answers to the clues.

Further Explorations

Game

Create "answers" for a "Jeopardy" game show category entitled "Nobel Prize Winners," and "DNA Discovery." The answers should provide enough information for the students to ask the appropriate question. For example: "This scientist earned a Nobel Prize for his contribution to the discovery of the double helix. It wasn't elementary." The answer would be: "Who was James Watson?"

Have the students compete in a game of Jeopardy using the questions and answers they developed.



Posters

Invite students to develop a poster series featuring the scientists or the work of scientists highlighted on the timeline. Either provide a theme to focus the poster presentations, or make the assignment very open-ended.

Activity Pages Include:

Student worksheets.

Answer sheets.

Correlation with U.S. National Science Education Standards.

Resources

Books

Maddox, Brenda (2002). *Rosalind Franklin: The Dark Lady of DNA* HarperCollins, New York.

Sturtevant, A.H. (1965). *A History of Genetics*, Harpercollins College Div, New York. Online version now available at www.esp.org/books/sturt/history/readbook.html

Watson, James D. (1968). *The Double Helix*, W.W. Norton & Company, New York.

Watson, James D. (2000). *A Passion for DNA*, Cold Spring Harbor Press, New York.

DVD

DNA Interactive (2003). NTSC version produced by Cold Spring Harbor Laboratory and Red Green & Blue Company; funded by Howard Hughes Medical Institute. Available at www.dnai.org

Web

Access Excellence @The National Health Museum (1994-2003). *ae@nhm: the Site for Health & Bioscience Teachers and Learners*, www.accessexcellence.com

Cold Spring Harbor Laboratory (2002). *DNA From the Beginning: an animated primer on the basics of DNA, genes, and heredity*, www.dnaftb.org