

History of DNA WebQuest

1. Friedrich (Fritz) Miescher

<http://www.dnai.org/timeline/index.html>

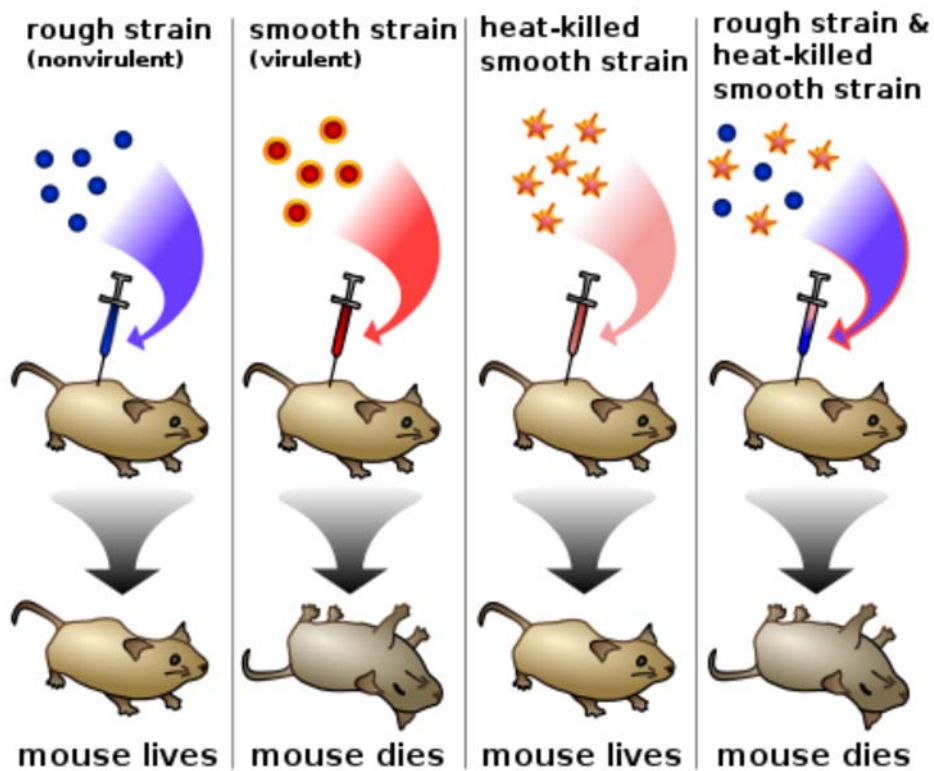
Find Miescher on the timeline and click on the bucket with the Red Cross to watch the animation. In 1869, he extracted a substance from white blood cells that he called nuclein. What do you think he was actually extracting?

2. Frederick Griffith

<http://biology.clc.uc.edu/courses/Bio104/dna.htm>

Frederick Griffith's famous experiment was conducted in 1928. In his experiment, _____ smooth virulent bacteria plus live rough _____ bacteria killed mice. His experiment demonstrated that DNA was the _____ material.

Griffith's Famous Experiment: Transformation



3. Oswald Avery

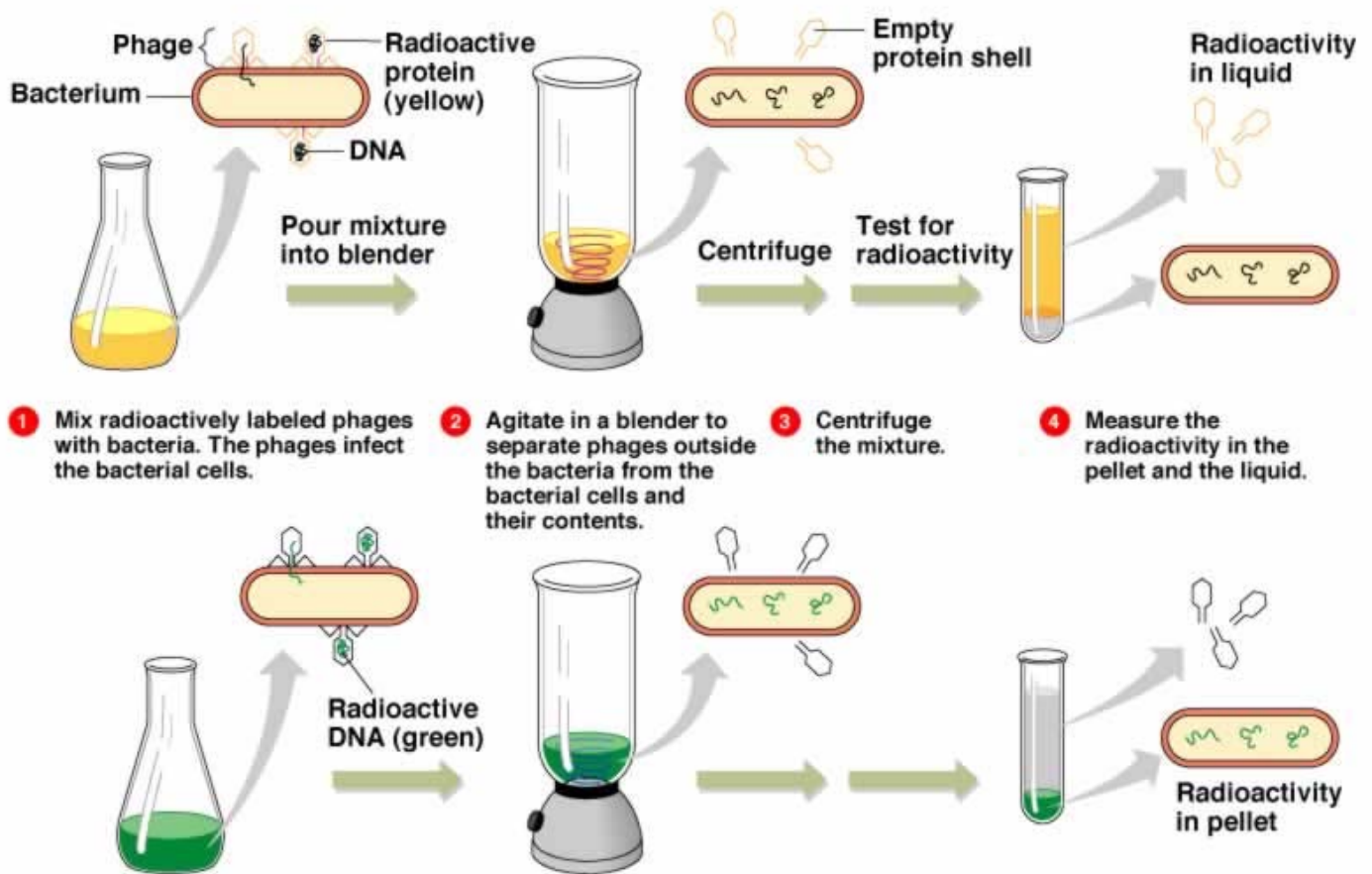
<http://library.thinkquest.org/20465/avery.html>

In 1944, what did he discover that DNA is responsible for?

4. Alfred Hershey and Martha Chase

http://users.rcn.com/jkimball.ma.ultranet/BiologyPages/H/Hershey_Chase.html

a. In 1952, their experiments showed that _____ is the genetic material instead of _____.



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5. Erwin Chargaff

<http://www.dnai.org/timeline/index.html>

Watch "Chargaff's Ratios." Chargaff used relative proportions of bases in DNA to come up with his rules for base pairing. What are four sources of DNA that he used?

<http://fig.cox.miami.edu/~cmallery/150/gene/chargaff.htm>

Adenine (A) pairs with _____

Guanine (G) pairs with _____

The bases that are purines include _____ & _____.

The bases that are pyrimidines include _____ & _____.

6. Rosalind Franklin.

http://www.accessexcellence.org/RC/AB/BC/Rosalind_Franklin.php

<http://www.dnai.org/timeline/index.html> - Watch Franklin's X-ray diffraction pattern

What is X-ray crystallography (a.k.a. X-ray diffraction)?

What did she discover about the shape of DNA?

7. Linus Pauling

<http://www.dnai.org/timeline/index.html> - Watch the animation.

Linus Pauling proposed a structure for DNA that was incorrect. Describe or draw it below:

8. Maurice Wilkins

<http://www.nzedge.com/heroes/wilkins.html>

His research, with the help from _____, led to the discovery of the DNA molecule structure. This discovery was made by American biologist, _____, and British physicist, _____.

9. James Watson and Francis Crick.

<http://www.dnai.org/timeline/index.html>

a. What did they receive the Nobel Prize for in 1962?

b. What is the difference between Pauling's structure and the actual structure of DNA?

10. DNA Game

http://nobelprize.org/educational_games/medicine/dna_double_helix/

Play the game and record what three organisms you had:

- 1.**
- 2.**
- 3.**