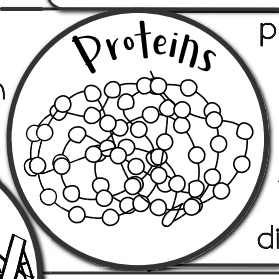
Name: _____

What is the genetic information molecule?

Early in the 20th century, what substance within cells that was carrying information from generation to generation was unknown. They suspected it was either proteins or DNA.

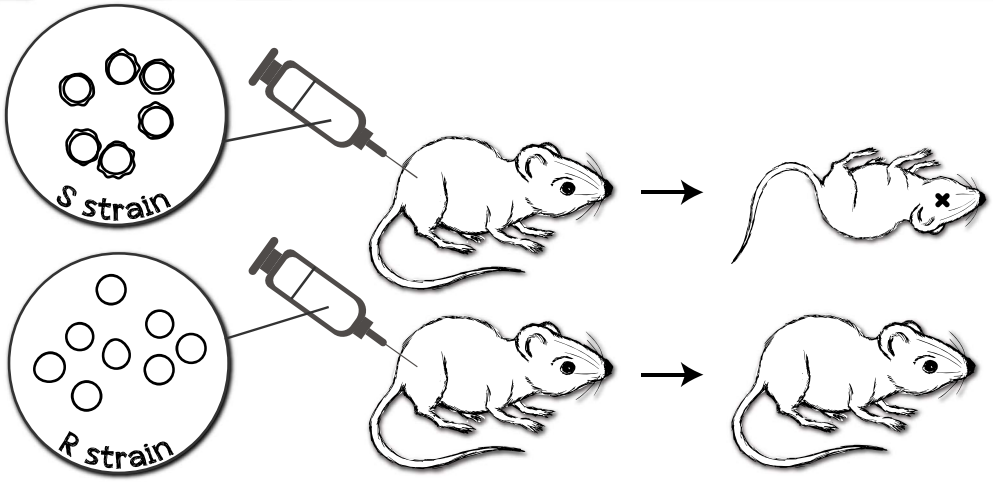


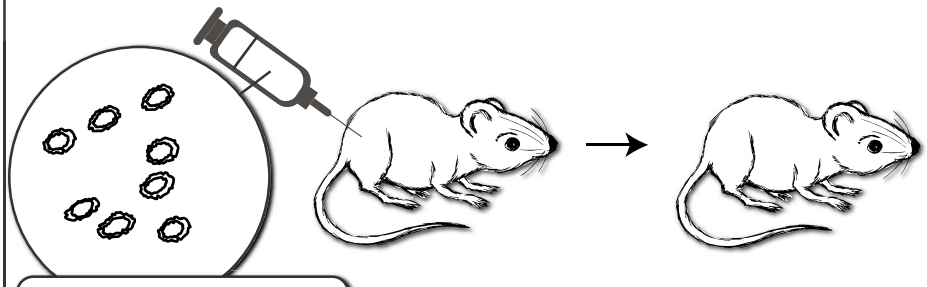
Proteins seemed like the best place for genetic information to be stored, because of all the possibilities with 20 different subunits (amino acids).

DNA seemed less likely because it is made up of only 4 different subunits (nucleotides).

Frederick Griffith, 1928

- Griffith studied R (not deadly) and S (super deadly) pneumonococcal cell strains that were causing disease.
- When mice are injected with S cells, they die soon after.

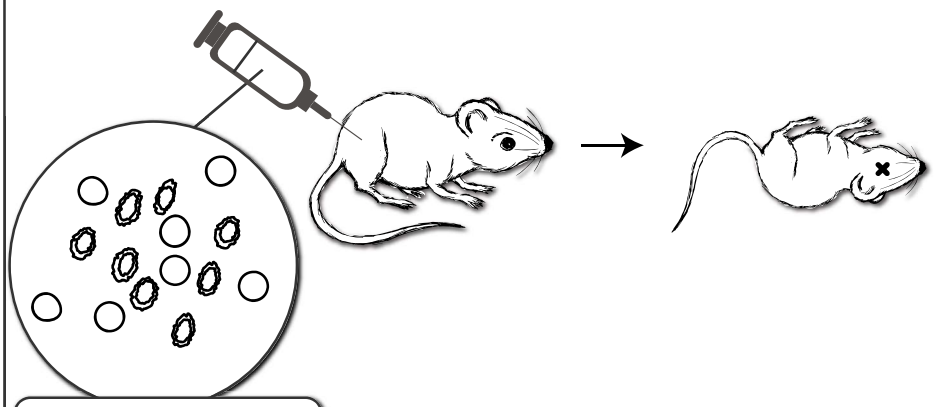




Heat killed S strain

- He found that if he heated the S strain cells, they no longer caused disease.

- He also found that when he mixed heated S strain cells and living R strain cells, the mixture caused disease.
- He concluded that something in the heat-killed S cells "transformed" the R cells, allowing them to become deadly. He called that "something" the "transforming principle".



Heat killed S strain and live R strain

Transforming Principle?