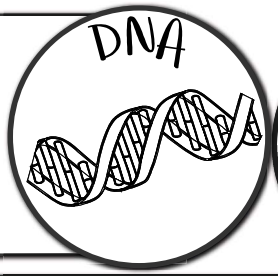
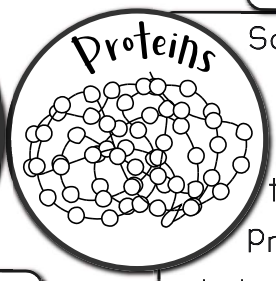
Name: _____

After Griffith's Experment

Scientists didn't know really what happened to DNA when you heat it.



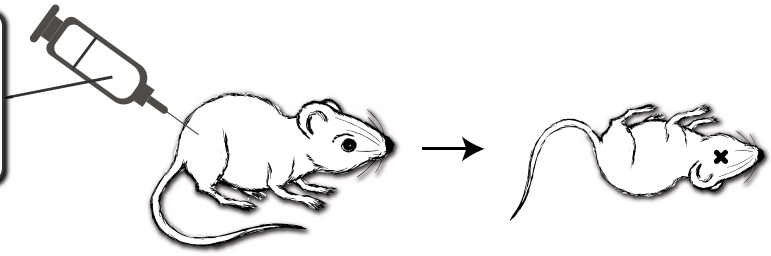


Scientists knew that heating proteins almost always denatured them and made them unable to function. Proteins are looking less likely to be the transforming principle.

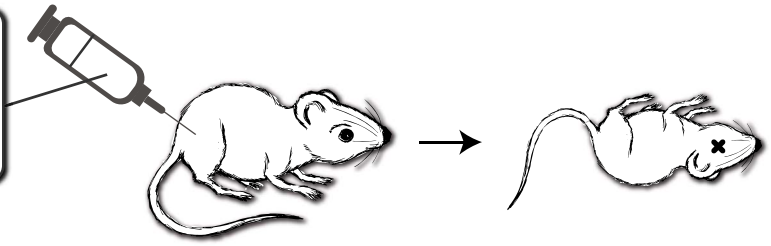
Oswald Avery and colleagues, 1944

- Avery read about Griffith's work and decided to use his lab to test out whether the "transforming principle" was DNA or protein.
- Avery took the heat-killed S strain cells and treated some with Protease (an enzyme that breaks down proteins), some with RNAse (an enzyme that breaks down RNA), and some with DNAse (an enzyme that breaks down DNA).
- He mixed each sample with R cells and looked to see which would be "transformed".

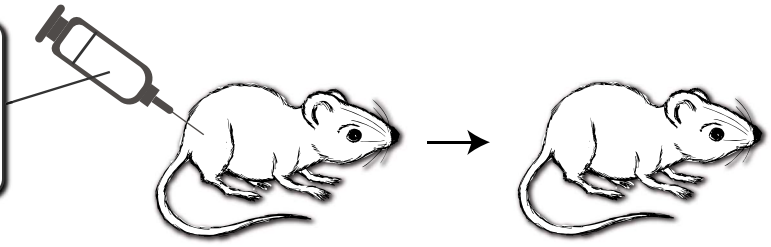
Heat killed S strain treated with protease (proteins destroyed) and mixed with R cells.



Heat killed S strain treated with RNAse (RNA destroyed) and mixed with R cells.



Heat killed S strain treated with DNAse (DNA destroyed) and mixed with R cells.



The sample treated with DNAse did not transform! This showed that it was very likely that DNA was the transforming principle.

DNA is the Genetic Information