



Pre-Lab (High School):

Please watch this brief animation on the Transforming Principle:

<https://dnalc.cshl.edu/view/16375-Animation-17-A-gene-is-made-of-DNA-.htm>

1. What is the name of the scientist who published a study in 1928 on 2 different strains of *Pneumococcus* bacteria?
2. In the animation there are images of smooth (S) bacteria and rough (R) bacteria. These different types of bacteria are named after their different physical traits. Explain how differences in DNA can result in different traits.
3. Why are the S bacteria able to survive in the mouse but the R bacteria are not?
4. Griffith combined heat killed S bacteria with living R bacteria. What molecule from the S cells has been released, taken up by the living R cells, and resulted in a transformation of the R cells?
5. How did Oswald Avery build upon Griffith's work?



Post-Lab (High School and Middle School):

1. As you watch or perform the experiment, keep track of what is in each tube. (Remember to add volumes.)

+ Tube	- Tube
TOTAL VOLUME =	TOTAL VOLUME =

2. What is the purpose of the – tube in the experiment?

3. Explain what a bacterial colony is.

4. In the empty Petri dishes below, draw your expected results.



