4.1.2 Paragraph Meghan Mumpower

The *Aequorea Victoria,* more commonly known as a jellyfish, has a special protein that makes it glow. This protein, pGLO, codes into the genes as the glowing component (when exposed to UV light) of this specific type of jellyfish. When isolated, the plasmid that holds these genes can have the section coding for pGLO and gives you the green fluorescent protein. To isolate this plasmid, the membrane of a cell undergoes a “heat shock” by outside factors and the change in temperature allows the DNA to pass through. This pGLO will be added to ampicillin to see what the antibiotic will cause; it will cause growth, but not glowing. The plate with ampicillin and arabinose will cause growth and no glowing as well; however, when this arabinose is exposed to E Coli, it will because it’s required for the glowing protein to function. This is done to establish a resistance to ampicillin so that when these are put into an E Coli, a bacteria that can accept foreign DNA well, it can stay alive and glow at the same time when exposed to ampicillin and arabinose. When this last step is done, the E Coli that has received this new DNA will be exposed to a UV light to see if the bacteria can glow and if it has experienced the chemical transformation.