pGLO – Genetic Transformation

1. A gene is a piece of DNA which provides the instructions for making a?protein
2. Transformation = insertion of a gene into an organism to change its traits
3. What type of organism would be best for performing a genetic transformation? bacteria
4. pGLO plasmid encores for resistance to \_amp\_\_ and expression of \_\_GFP\_\_\_.
5. GFP expression is turned on by the presence of? arabinose
6. List 3 factors for choosing an organism for genetic transformation: 1) unicellular 2) nontoxic 3) develops and reproduces quickly
7. From what organism is the pGLO plasmid derived from? jellyfish
8. Name the antibiotic used during the pGLO transformation. ampicillin
9. What are the four nucleotides that make up DNA and which nucleotides pair up?ATCG—see #52
10. Define genetic engineering. the deliberate modification of the characteristics of an organism by manipulating its genetic material.
11. What sugar is crucial for pGLO transformation of E.coli? arabinose
12. State the Central Dogma of Biology. DNA → RNA → Proteins
13. Define plasmid. tiny, circular piece of DNA, usually of bacterial origin; often used in recombinant DNA technologies
14. Trace the process/procedure of transformation from beginning to end. Sketch out a flowchart or write and outline of the basic steps of a bacterial transformation beginning with a starter plate and ending with plated transformed cells. Sketch/study the contents of the four Petri plates used during transformation lab using the notes given last week