

BIO.9 The student will investigate and understand the techniques utilized in synthetic biology and evaluate the ethical implications of genetic engineering. Key ideas include

- a) Directed evolution has been used for thousands of years to alter organisms;
- b) Plasmids are small circular pieces of DNA;
- c) Synthetic biology techniques utilize existing cellular mechanisms;
- d) Transformations allows for the uptake and incorporation of external genetic material;
- e) CRISPR/Cas systems can be used to target and alter DNA;
- f) Synthetic biology advancements have ethical implications.