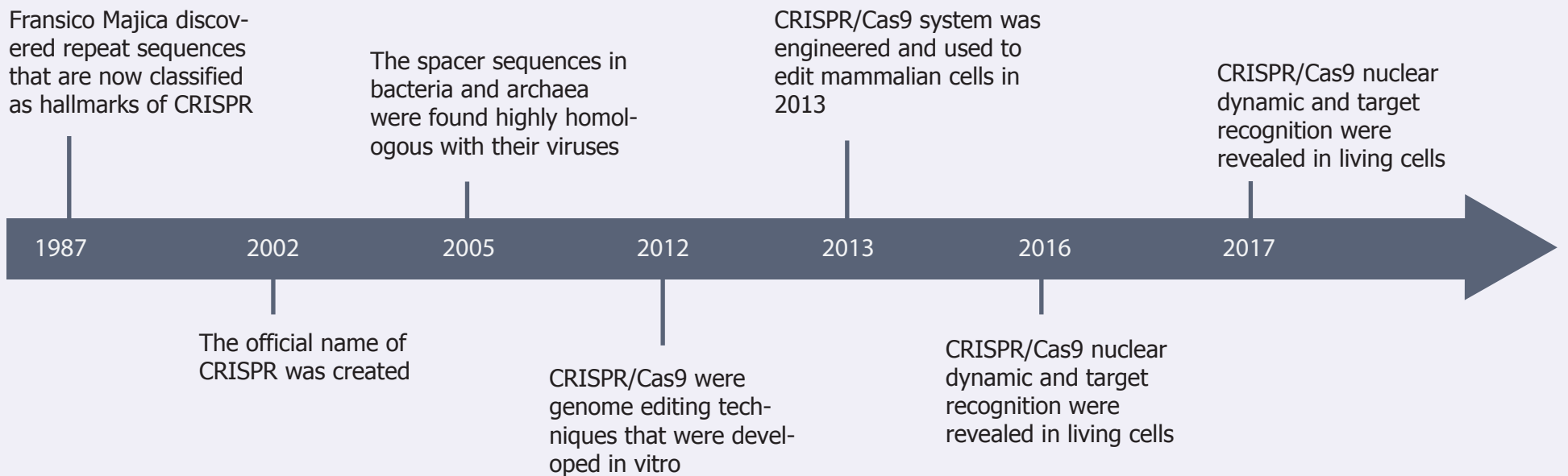


# Gene Editing

Genome editing is a method that lets scientists change the DNA of many organisms, including plants, bacteria, and animals. Editing DNA can lead to changes in physical traits, like eye color, and disease risk. This technology has some arguing its ethical properties versus it being unethical.



## Advantage



Aid in tackling and fighting diseases like inherent diseases and cancer cells

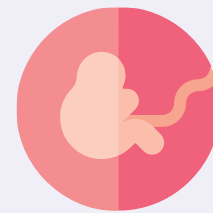


Extend the human lifespan by reversing disease that can kill off human more earlier than expected



Design sturdy agriculture that withstands harsh weather, temperature, insecticides, and pesticides

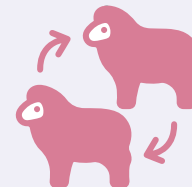
## Disadvantage



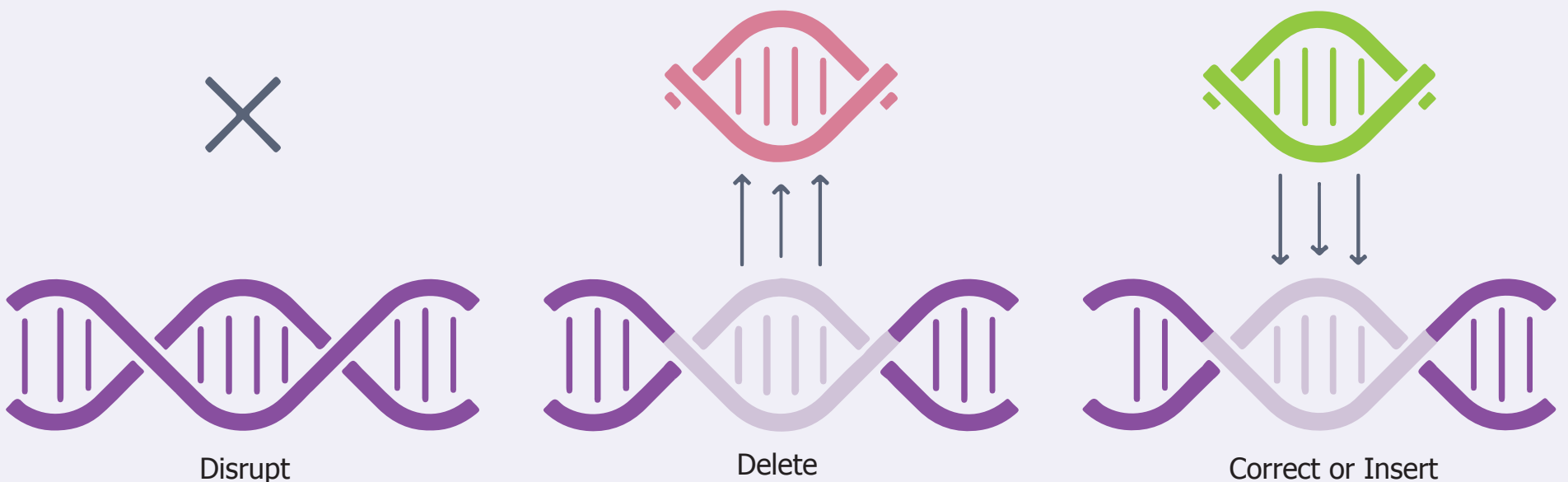
Can create complications when conducting changes in the womb



Removing disease is natural and some fear of an overpopulate Earth if it is removed



Would have a detrimental effect on genetic diversity like cloning would



During the process of non-homologous end joining, if a single cut is made, this can result in the addition or deletion of base pairs. This disrupts the original DNA sequence and cause gene inactivation

By using two guide RNAs that target separate sites, larger DNA fragments can be deleted. After cleavage at each site, non-homologous end joining unites the separate ends, deleting the intervening sequence

A DNA template is added alongside the CRISPR/Cas9 machine to allow the cell to correct or insert a new gene. This uses the process named homology directed repair