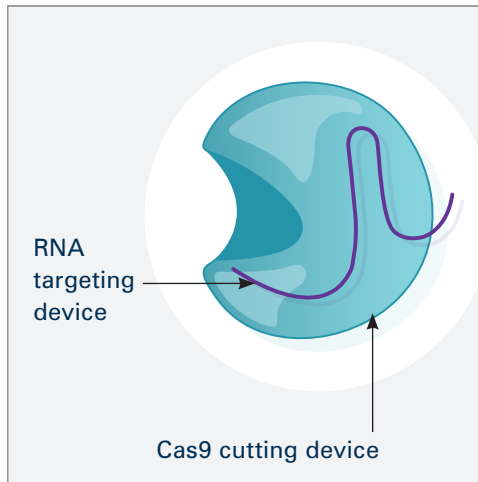
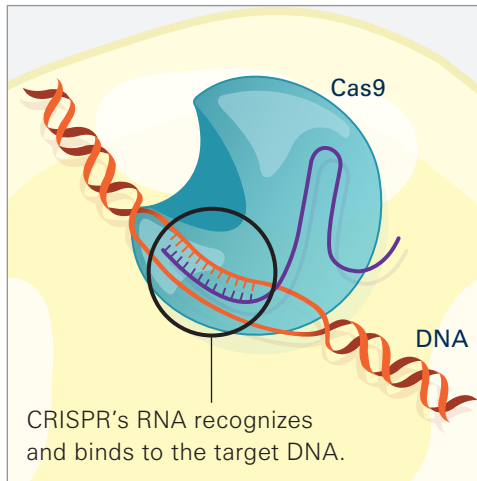


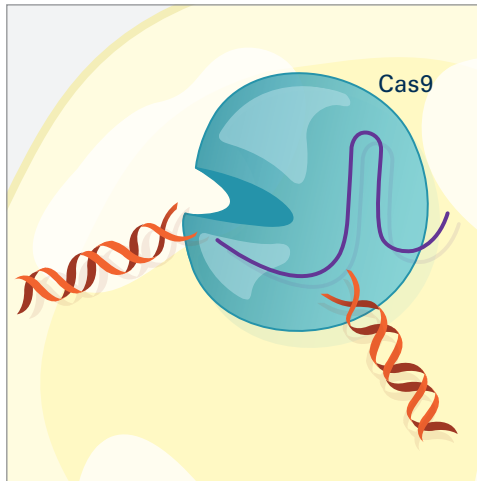
The CRISPR system has two components joined together: a finely tuned targeting device (a small strand of RNA programmed to look for a specific DNA sequence) and a strong cutting device (an enzyme called Cas9 that can cut through a double strand of DNA).



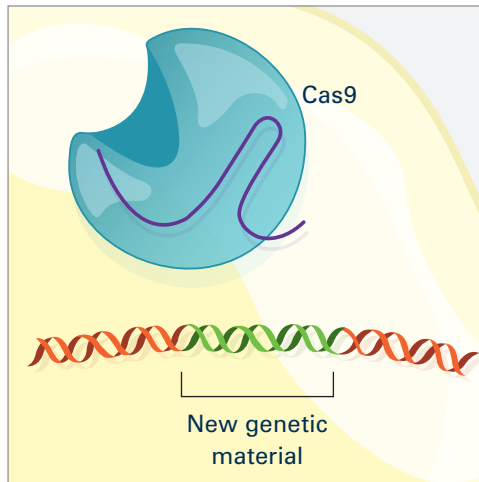
Once inserted into a cell, the CRISPR machine locates the target DNA sequence.



The Cas9 enzyme cuts both strands of the DNA.



Researchers can introduce new genetic material, which the cell automatically incorporates into the gap when it repairs the broken DNA.



Among Its Many Possible Applications, the CRISPR System Could Be Used to:

Add a new gene that enables the organism to produce a pharmaceutical product (a biotechnology technique).

Help treat genetic diseases.



Create tailor-made model organisms to study human diseases.

Help produce replacements for damaged or diseased tissues and organs.