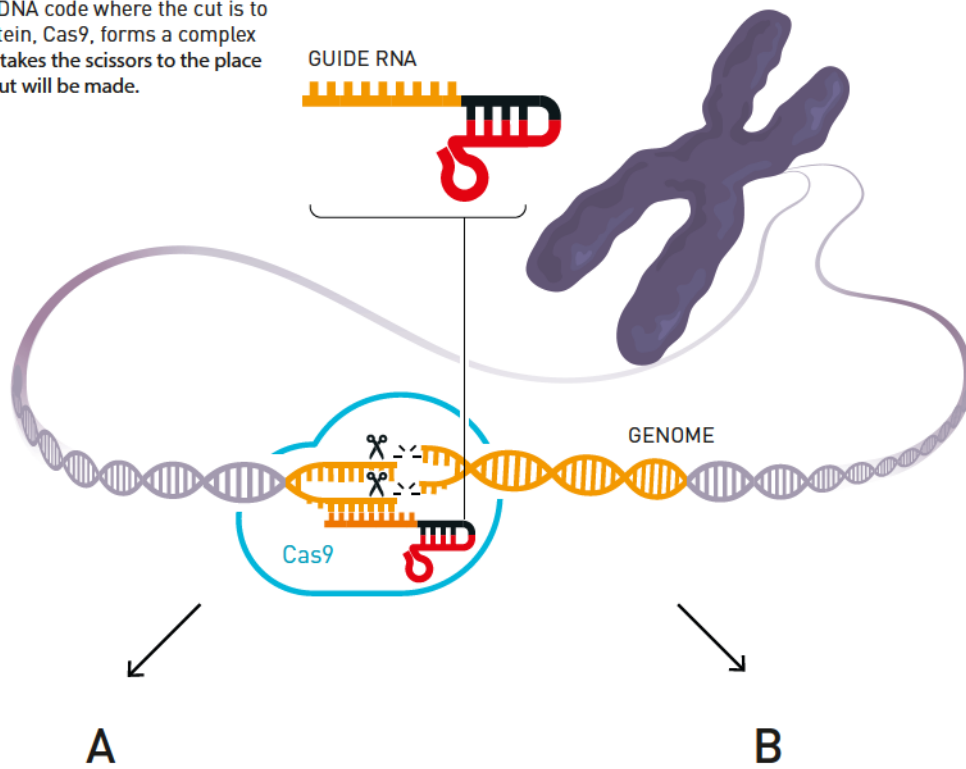
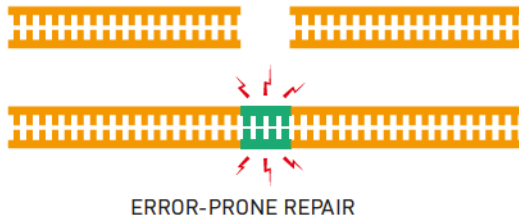


The CRISPR/Cas9 genetic scissors

When researchers are going to edit a genome using the genetic scissors, they artificially construct a guide RNA, which matches the DNA code where the cut is to be made. The scissor protein, Cas9, forms a complex with the guide RNA, which takes the scissors to the place in the genome where the cut will be made.



A
Researchers can allow the cell itself to repair the cut in the DNA. In most cases, this leads to the gene's function being turned off.



B
If the researchers want to insert, repair or edit a gene, they can specially design a small DNA template for this. The cell will use the template when it repairs the cut in the genome, so the code in the genome is changed.

