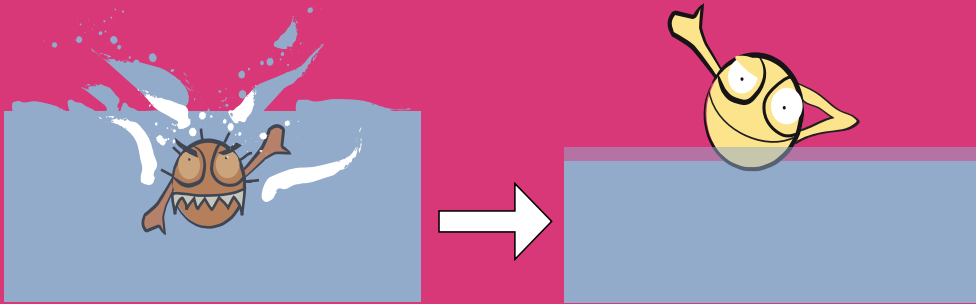


WEAKEN THE VIRUS



Viruses are weakened so they reproduce poorly inside the body.

INACTIVATE THE VIRUS



Viruses are completely inactivated (killed) with a chemical.

TYPES OF VACCINES

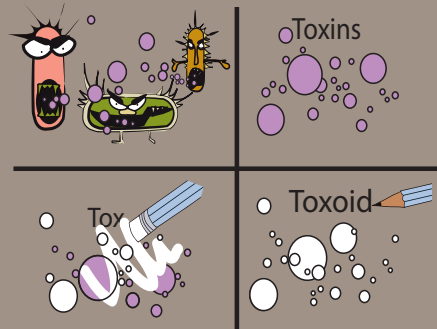
USE PART OF THE PATHOGEN

USE PART OF THE PATHOGEN



Part of the virus or bacteria is used as the vaccine.

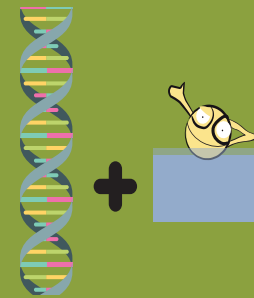
INACTIVATE THE TOXIN



A harmful protein made by the bacteria (toxin) is inactivated (killed) with a chemical. The inactivated toxin is called a toxoid.

USE PART OF THE GENETIC CODE

VECTOR VIRUS



The gene from the pathogen is put into a virus that can't reproduce itself but can still enter cells and deliver the gene.

mRNA



mRNA that is the blueprint for a protein from the pathogen is used as the vaccine.

DNA



DNA, the genetic code from which mRNA is made, is used as the vaccine.