**Bacteria were first viewed with microscopes in the 1600s. but viruses have been directly observed with microscopes only since the 1930s. Still, microbiologists have known of the existence of viruses since the late 1800s. How did microbiologists know that viruses existed before the 1930s? (You will probably have to do a little research to answer this question.)**

Step 1:

A virus is an infectious sub microscopic organism that only reproduces inside of live cells. All living things, including plants, animals, and microbes like bacteria and archaea, are susceptible to virus infection.

Although viruses are far smaller than bacteria and can only be seen under sophisticated microscopes, their presence was recognised even before these instruments were created.

Step 2:

To eliminate bacteria from afflicted tissues, researchers employed specialised filters. The filtered tissues should no longer be able to infect other species if bacteria were the source of the infection. The filtered tissues were still infectious, though. This indicated that the infection was being caused by something smaller than bacteria.

Viruses were not truly observed by scientists until the 1930s. The electron microscope was created at that time. The viruses that attack bacteria were first identified as bacteriophages by English bacteriologist Frederick Twort in 1915. Within bacterial colonies, he spotted minute clear spots and surmised that something was destroying the bacteria.

Since the late 19th century, organisms smaller than bacteria have been known to exist (11), but it wasn't until the invention of the electron microscope that a virus was first observed under one of these instruments.

Experiments using filters having pores small enough to hold bacteria provided the first proof that viruses existed. Using one of these filters, Dmitri Ivanovsky demonstrated in 1892 that, despite being filtered, the sap from a diseased tobacco plant continued to be contagious to healthy tobacco plants.

Viruses were not truly observed by scientists until the 1930s. The electron microscope was created at that time. The first one discovered was the tobacco mosaic virus, which is seen in the figure below. The viruses that attack bacteria were first identified as bacteriophages by English bacteriologist Frederick Twort in 1915.

After the creation of a porcelain filter known as the Chamberland-Pasteur filter, which could eliminate any bacterium that could be seen under a microscope from any liquid sample, viruses were first identified.

Sometimes mosaic-like patterns on the leaves of tobacco plants cause damage to the plants. The tobacco mosaic virus, which was initially identified as a virus at the end of the 19th century, is what causes these patterns.