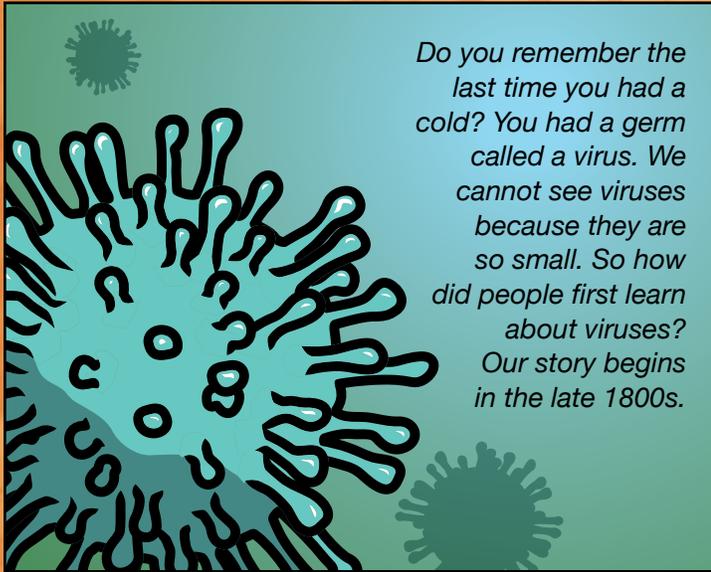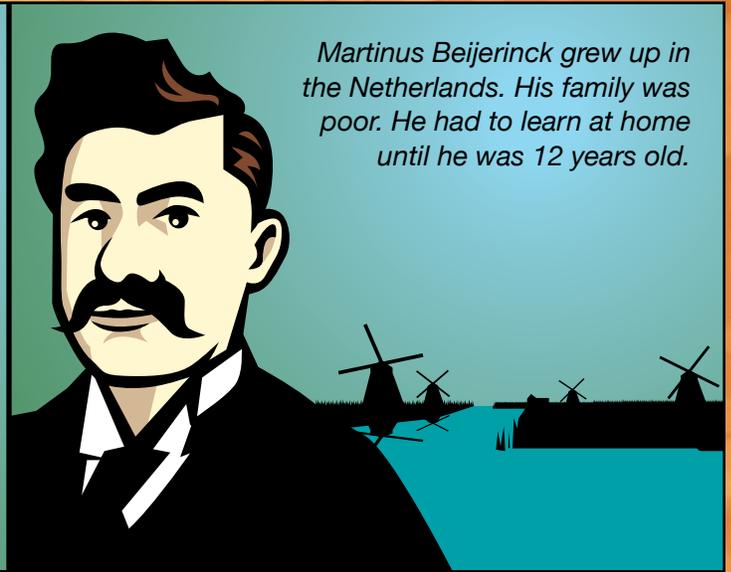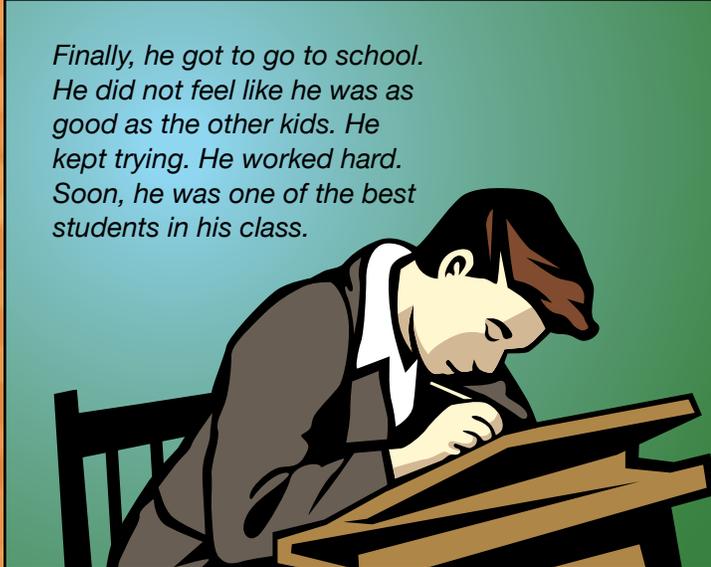# Martinus Beijerinck
From struggling student to hero scientist

Do you remember the last time you had a cold? You had a germ called a virus. We cannot see viruses because they are so small. So how did people first learn about viruses? Our story begins in the late 1800s.
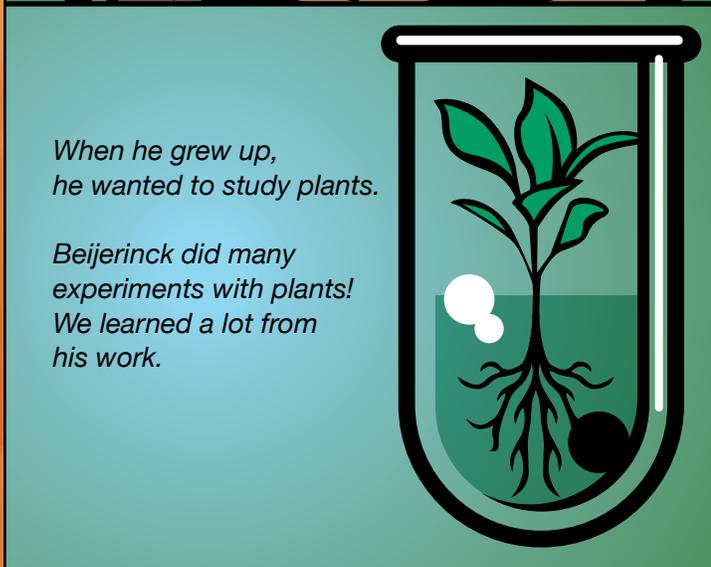
Martinus Beijerinck grew up in the Netherlands. His family was poor. He had to learn at home until he was 12 years old.

Finally, he got to go to school. He did not feel like he was as good as the other kids. He kept trying. He worked hard. Soon, he was one of the best students in his class.
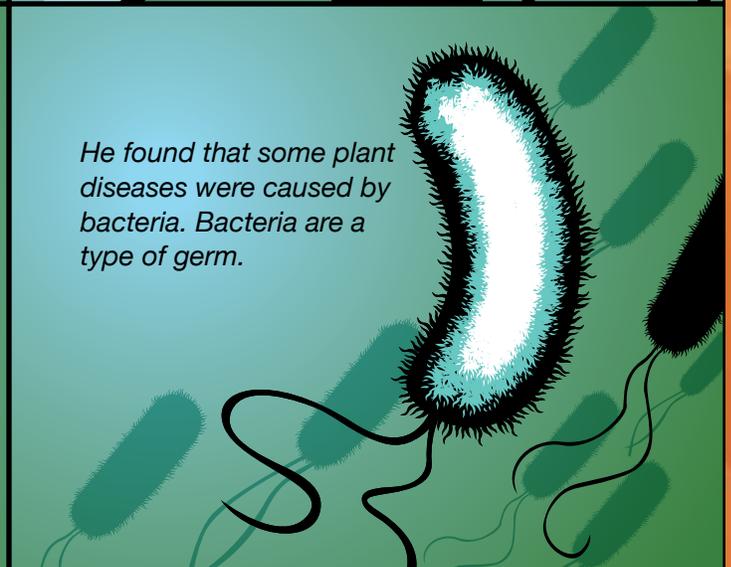
Beijerinck really liked science. His favorite part of science was doing experiments. He liked to figure out new things.

When he grew up, he wanted to study plants.

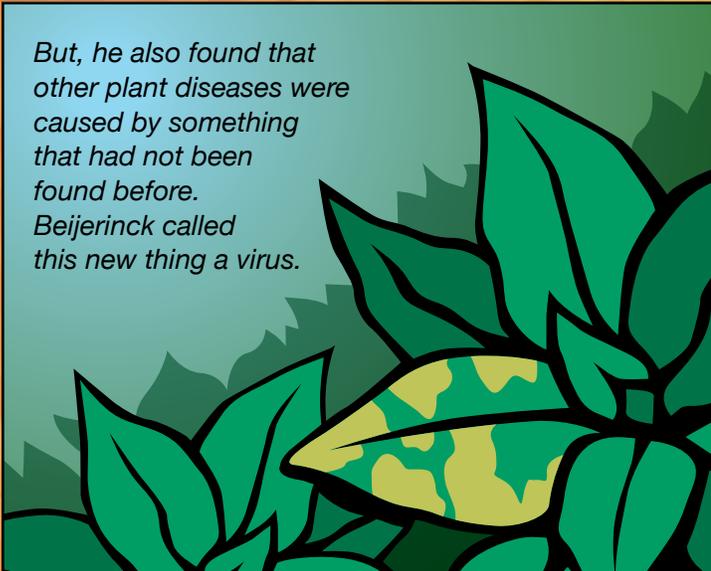*Beijerinck did many experiments with plants! We learned a lot from his work.*

He found that some plant diseases were caused by bacteria. Bacteria are a type of germ.
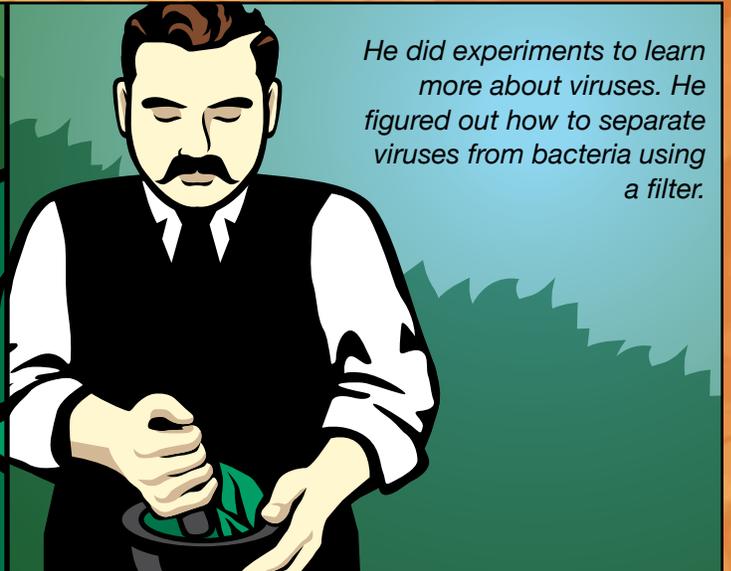
Material adapted from the Vax Pack Hero project produced by the Vaccine Education Center at Children's Hospital of Philadelphia. For more resources, including an online game, visit *VaxPackHero.org*.

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Martinus Beijerinck
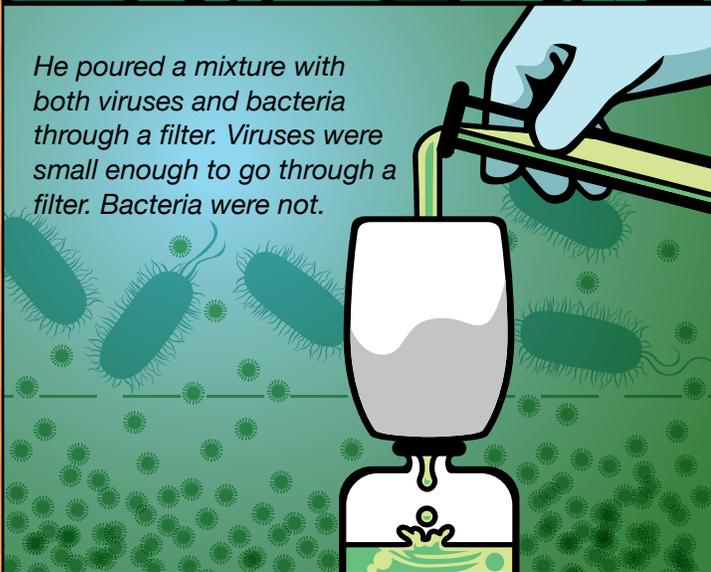
From struggling student to hero scientist

But, he also found that other plant diseases were caused by something that had not been found before. Beijerinck called this new thing a virus.
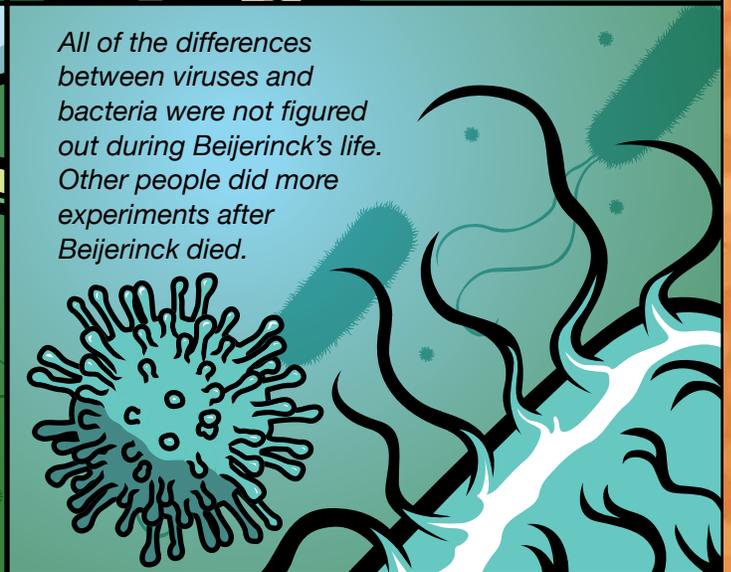
He did experiments to learn more about viruses. He figured out how to separate viruses from bacteria using a filter.

He poured a mixture with both viruses and bacteria through a filter. Viruses were small enough to go through a filter. Bacteria were not.

All of the differences between viruses and bacteria were not figured out during Beijerinck's life. Other people did more experiments after Beijerinck died.

Today, we know that viruses and bacteria reproduce differently. They both cause many kinds of diseases in plants, animals and people.

Because of Beijerinck's work, we know that your cold was caused by a virus.

Material adapted from the Vax Pack Hero project produced by the Vaccine Education Center at Children's Hospital of Philadelphia. For more resources, including an online game, visit *VaxPackHero.org.*

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