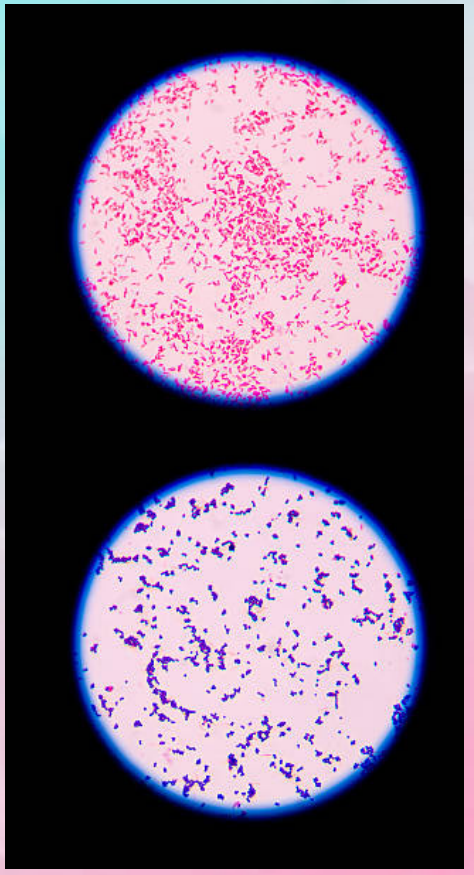

Bacterial Staining

It is widely known that bacteria are very minute and colourless. If bacteria infects a wound, it could lead to health problems even to the extent of taking the person's life. German pioneering microbiologist Robert Koch (1843 – 1910) was well aware of the problems and had put in a lot of effort to find the solution to the issue.

Given that the medical equipment in that era was rather advanced, the use of even the most sophisticated microscope then could not help in observing bacteria clearly. To Koch, it was a big issue since he had difficulty in properly observing or analyzing the bacteria's nature and characteristics through the microscope.

On a sultry day just before a thunderstorm, Koch went outside his house for a breather. All of a sudden, a bolt of lightning hit the sky, followed by a loud thunder. When Koch lifted his head to watch the phenomenon, he inadvertently noticed that that bolt of lightning was really eye-catching and dazzling. He was immediately struck with an inspiration.

At that very moment, Koch realized that lightning appearing on a dark clouded sky tends to be notably brighter and dazzling. This is the effect created by the contrast of light and colour.

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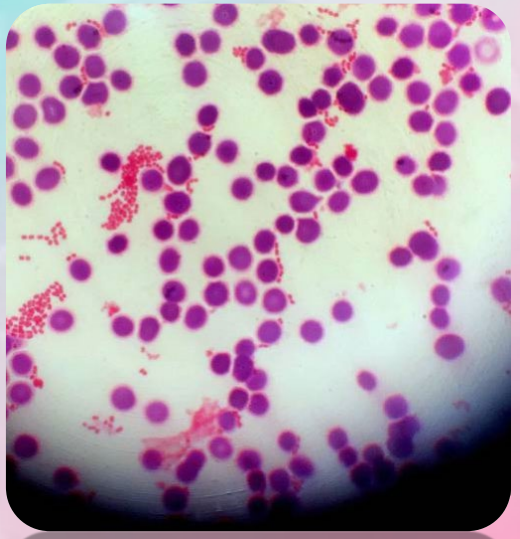
Bacterial Staining



Scientists were always bold in making assumptions about their research. So was Koch. He made a bold speculation that if he placed bacteria into any dark-coloured staining fluid, the bacteria would appear much more noticeable.

In an attempt to stain bacteria with colours, Koch started his experiment by coating glasses with different staining fluids. However, it was to no avail. The bacteria and stain were not just difficult to blend together, but they were also hard to solidify on the piece of glass. Despite his countless failures, Koch did not give up. He pledged to find a new staining fluid for his experiment.

Koch was unhesitant when it came to seeking advice. He later was told by a chemical technician that Aniline, a blue staining material which could easily solidify on glass, could solve the difficulty that he was facing. Koch heeded the advice and placed bacteria on a glass stained with Aniline. True enough, the bacteria was clearly and completely seen under the microscope.

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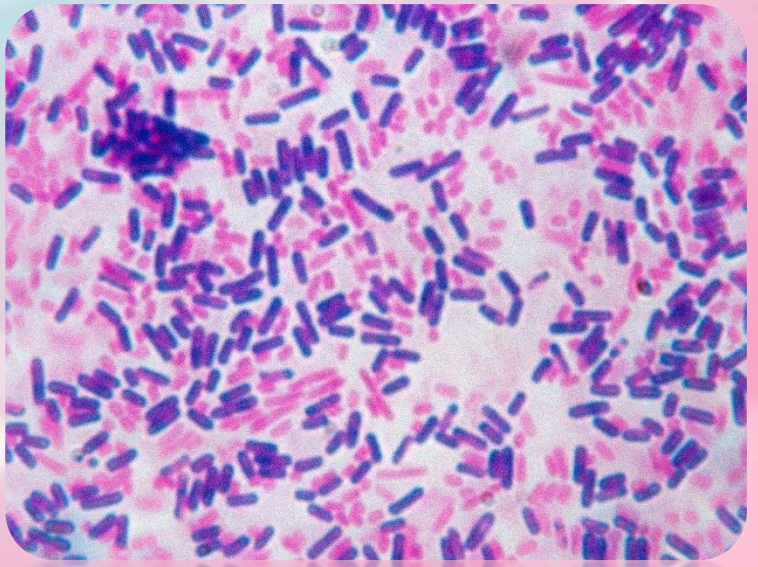
Bacterial Staining



The new invention of bacterial staining not only gave more opportunities for scientists all over the world to study bacteria thoroughly, but it also enabled mankind to discover more secrets about the bacteria. The research in bacterial pathology had achieved a new milestone.

Food for Thought:

- In solving problems, we must persevere in order to achieve fruitful results. New innovative and inventive concepts are born in the process of problem-solving.
- Koch invented the bacterial staining method upon seeking professional advice from chemical technicians. It proves that technical help and input are required to achieve outcomes in innovation and invention.

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