



Growing Up

Max Planck was the sixth child born to Johann and Emma Planck. They gave him every opportunity to study and learn. And Planck loved to learn.

Planck came from a family of very smart, hardworking people. Some of them were professors, lawyers, and judges. They taught him to think for himself. They taught him to work hard. That's just what Planck spent his life doing.



← Planck read a great deal to learn from the work of other scientists.

↓ Munich around the time Planck lived there with his family

Learning was a bright light in Planck's life. When he was nine years old, his family moved to Munich (MYOO-nik), Germany. One teacher took Planck under his wing. He taught the boy math as well as mechanics and astronomy. Planck first learned about energy from this teacher. Planck studied so hard that he graduated early from school. He was just 16 years old.

But there was a cloud over Planck's childhood. One of his earliest memories was of war. Troops marched through his hometown during the German-Danish war. War was a part of Planck's childhood. It would become a tragic part of his adulthood, too.

Music or Science?

Planck studied music, too. He was a talented singer. He also played the piano, organ, and cello. He wrote songs and operas. He thought about having a career in music. But science won out. He gave up his study of music to focus on science instead.





New Ideas

Planck studied at the University of Munich. A physics teacher there told him not to study physics! The teacher said, “In this field, almost everything is already discovered All that remains is to fill a few holes.” Planck didn’t want to discover new things. He wanted to learn about what was known. So, he studied and led experiments about what others had figured out.

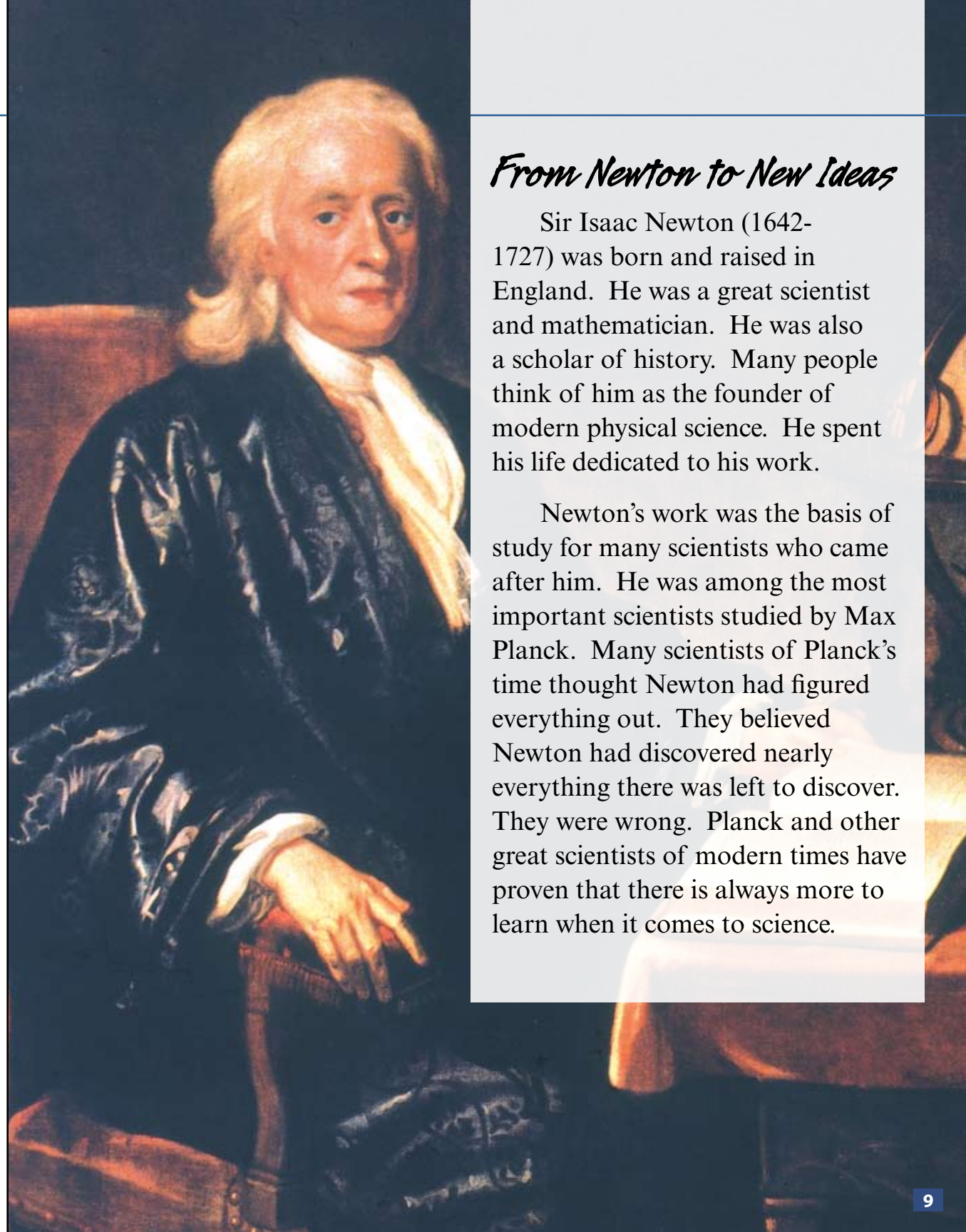
The more he learned, the more he thought about things. He went to Berlin to study with the famous scientists there. He began to study **theories** of physics. Theories are explanations. They are ways of thinking about and analyzing something to understand what you cannot see.

Planck found he didn’t want to do experiments anymore. He wanted to explain why things are as they are. He took what was known and used it to help understand what wasn’t known. He proved there was a whole lot left to learn in science.

Planck studied matter and its properties. This led him to learn what happens to matter in different conditions. Matter and heat really interested him. All of Planck’s studies led him to choose heat theory as his field. He would go on to make big discoveries about matter and heat.



↑ Physics Hall at the University of Munich



From Newton to New Ideas

Sir Isaac Newton (1642-1727) was born and raised in England. He was a great scientist and mathematician. He was also a scholar of history. Many people think of him as the founder of modern physical science. He spent his life dedicated to his work.

Newton’s work was the basis of study for many scientists who came after him. He was among the most important scientists studied by Max Planck. Many scientists of Planck’s time thought Newton had figured everything out. They believed Newton had discovered nearly everything there was left to discover. They were wrong. Planck and other great scientists of modern times have proven that there is always more to learn when it comes to science.