

## **The Life and Accomplishments of Johannes Kepler**

While many of the world's founding scientists are often forgotten in today's culture, Johannes Kepler's contributions to science are still remembered. NASA is exploring the possibilities of a special purpose mission to detect and characterize Earth type planets (Koch). This mission will be called the "Kepler Mission," appropriately named after this great astronomer. The innovative discoveries Kepler made in the field of astronomy helped to transform the scientific community into a world structured by facts and research instead of a world constrained by archaic beliefs. His work in science provided the foundation on which many other notable scientists based their work. Kepler's significant achievements were not limited to the science of astronomy; he also made valuable contributions to the fields of optometry, meteorology, mathematics, and photography. Johannes Kepler, compelled to seek answers to the questions of the mysterious universe, was truly one of history's great discoverers.

Johannes Kepler's early life foreshadowed his later personal conflicts. Born December 27, 1571, in Weil der Stadt, Germany, a free city under the Holy Roman Empire, Johannes Kepler was the first-born child of Heinrich and Katharine Kepler. Premature at birth, Kepler was plagued with health problems that persisted throughout his entire life (Knight 5, 8).

Kepler's mother and father were extremely poor, and his youth was very unhappy. His parents squabbled constantly and his father, a mercenary soldier, was frequently away from the family. In the late 1580's, his father left for a naval campaign in Italy and never returned. In later years, his mother was accused of witchcraft because of her belief in evil spirits and herbal cures (Knight 7).

Despite his gloomy childhood, there were two incidents during this time that deeply moved the young Johannes. On one occasion he observed a large comet in the evening sky, and

on another, he observed a lunar eclipse. Fascinated by these events, he recalled them often throughout his adult life. Many speculate that these astronomical phenomena may have influenced Kepler in his later work (Knight 9).

Troubled with poor health during his childhood, it was clear that Kepler would not be able to enter the craftsman's class. His parents encouraged him in his studies where he excelled. He entered the customary German schools, but because of his outstanding performance and his love for his Lutheran religion, he soon attended a more advanced Latin school. Founded by the dukes of Württemberg, the Latin schools provided organized education and trained young men for service in the clergy (Knight 8). Theology was Johannes' **[Use last name, not first]** first love, and he had planned to become a minister in the Lutheran Church (Boorstin 309). Although he had doubts about some of the doctrines of the popular religions, he remained a Lutheran throughout his life despite attempts to convert him to Catholicism or Calvinism (Knight 18).

After completing the courses at the Latin school, he **[when starting a new paragraph, introduce the name again rather than using the pronoun "he"]** attended the convent school at Adelberg. His progress at Adelberg was so rapid that only two years later he was elevated to a higher convent school in Maulbronn. In September of 1589, Johannes **[Use last name, not first]** passed the entrance exams to the University of Tübingen and studied mathematics, physics, and astronomy. It was during his years at Tübingen that Kepler met Michael Maestlin, the university's professor of mathematics and astronomy. Maestlin introduced Kepler to the new Copernican Theory of the Sun as the center of the solar system. The Church strictly opposed this theory, viewing the Ptolemaic System--the idea that Earth was the center of the universe--as the

**[Paper continues . . . ]**