

Scientific Celebrities: Albert Einstein



DIRECTIONS: Read. Answer the questions.

Albert Einstein is probably the most famous scientist that ever lived. His work changed our understanding how things in nature – like light, gravity and time – behave. Einstein was the first scientist to provide compelling evidence that atoms and molecules exist. He showed that light can behave as both a wave and a particle (called the photoelectric effect). He proved that for people travelling at extremely high speeds, time passes more slowly than for people moving slowly. He discovered the now famous equation $E = mc^2$, which means that energy and matter can be converted into one another. And he rewrote the laws of gravity, which had been unchallenged by scientists for hundreds of years.

Einstein was born in Germany. He was a quiet boy who was interested in nature, and who showed an early inclination towards math and physics. He valued creativity, and didn't really like the rigidity of school, though he graduated from both high school and college. He was not thought to be a good student and was not recommended for any jobs by his teachers. Nonetheless he got a job at the patent office in 1902, and in 1903 he got married. He had two sons by this marriage but later divorced, and many years later married someone else.

Most of Einstein's famous scientific discoveries were made while he was working at the patent office. 1905 was a very big year for him. He was awarded a PhD by the University of Zurich. He also published four very important scientific papers on: his work with Brownian motion (that atoms and molecules really do exist), the equivalence of mass and energy, the photoelectric effect, and his theory of special relativity. Einstein was only 26 years old.

His papers were widely read in the scientific community and his ideas were gradually accepted. Einstein began to get the reputation of being a genius. He began to lecture at the University of Bern and was able to resign from the Patent Office. He became a professor of physics at Karl-Ferdinand University in Prague, and then took a professorship in Zurich. His paper on the general theory of relativity was published in 1915, and described, among other things, how gravity distorts space and time. In 1919 a newspaper headline in London read: *Revolution in science – New theory of the Universe – Newtonian ideas overthrown.*

Name _____ **Drawing Inferences**

Einstein received the Nobel Prize in Physics in 1921 for his overall contribution to theoretical physics and for the discovery of the photoelectric effect in 1905. He was also awarded several other medals for scientific achievement and universities worldwide competed to award him honorary doctorate degrees. Einstein had become a celebrity.

Einstein was living in America when Hitler rose to power in Germany. Because he had been born Jewish, returning to Germany was out of the question, and Einstein renounced his German citizenship. He became increasingly interested in politics and the state of the world in later life.

1. True or False: There is a relationship between science and creativity. _____

2. True or False: If you don't do well in school then you won't do well in life. _____

3. True or False: The things people are interested in when they are kids are seldom the same things they will remain interested in as adults. _____

4. True or False: The world eventually recognizes good ideas. _____

5. True or False: In order for new ideas to take hold, compelling evidence must be presented. _____