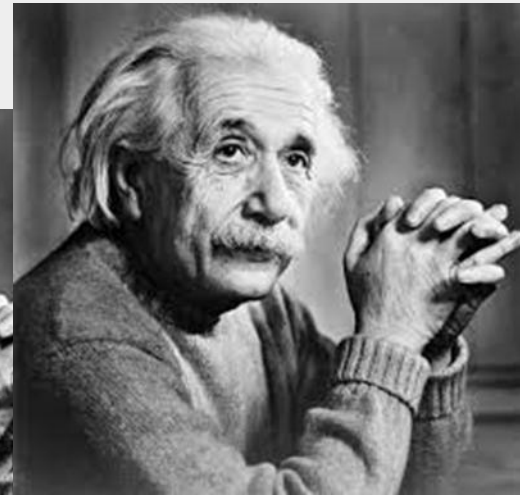
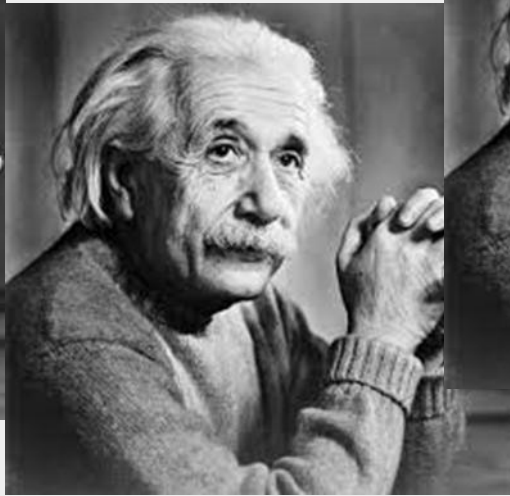
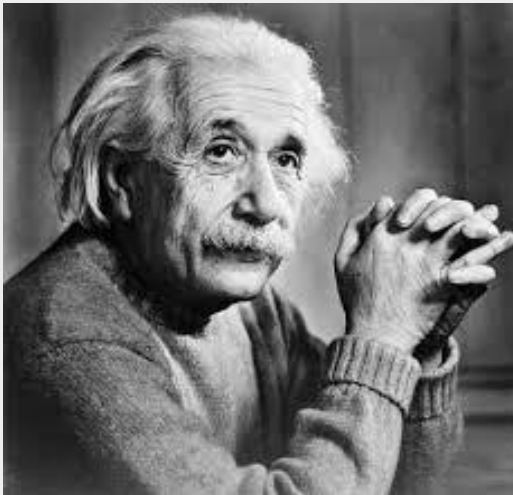


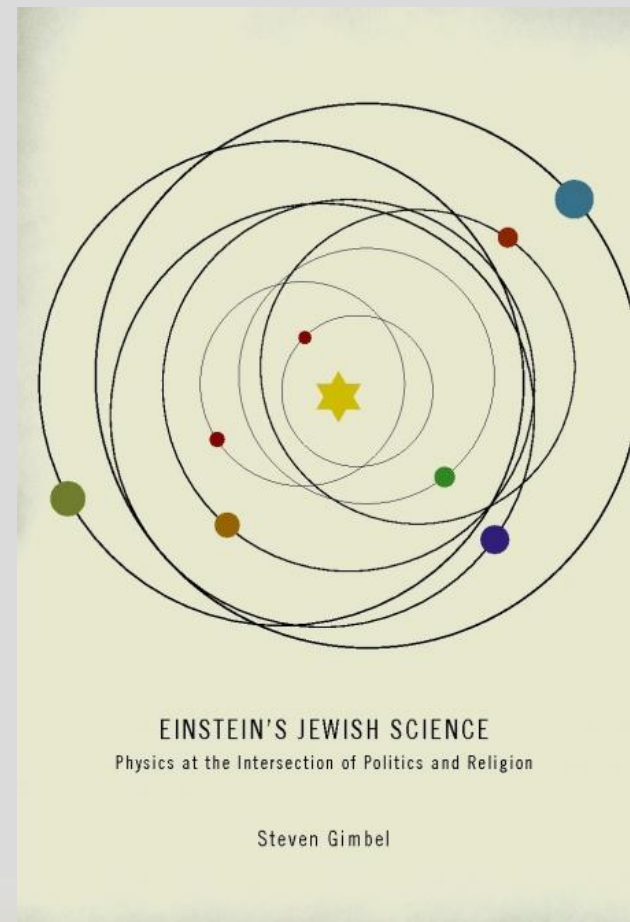
Albert Einstein's curiosities, studies and passions



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Education



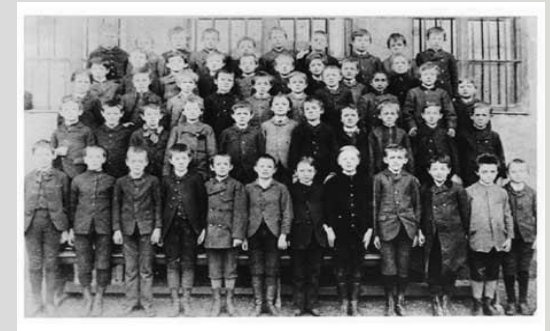
- He felt alienated and struggled with the rigid Prussian education.
- He also experienced a speech difficulty, a slow cadence in his speaking where he'd pause to consider what to say next.
- 1884 he received private education in order to get prepared for school.
- In 1885 he started learning to play the violin.
- In 1889, the Einstein family invited a poor medical Polish medical student, Max Talmud to come to their house for Thursday evening meals.
- Talmud became an informal tutor to young Albert, introducing him to higher mathematics and philosophy.



Life at school



- A. Einstein was born at Ulm, in Württemberg in 1879
- Six weeks later the family moved to Munich,
- He began elementary school at the Luitpold Gymnasium, where he excelled in his studies.
- While the family moved to Italy Albert continued his education at Aarau, Switzerland
- In 1896 he entered the Swiss Federal Polytechnic School in Zurich to be trained as a teacher in physics and mathematics.
- In 1911, he got a job as a Professor of Physics at the German University.
- In December, 1932, Einstein decided to leave Germany forever.
- He took a position at the newly formed Institute for Advanced Study at Princeton, New Jersey, which soon became a Mecca for physicists from around the world.



The student



- Einstein always appeared to have **a clear view of the problems of physics and the determination to solve them.**
- He had a strategy of his own and **was able to visualize the main stages on the way to his goal.**
- Einstein laughed. "***I never failed in mathematics,***" he replied, correctly.
 - "***Before I was fifteen I had mastered differential and integral calculus.***"
- In primary school, he was at the top of his class and "***far above the school requirements***" in Maths.
- By age 12, his sister recalled,
 - "***he already had a predilection for solving complicated problems in applied arithmetic,***"
- he decided **to see if he could jump ahead by learning geometry and algebra on his own.**
- His parents bought him the textbooks in advance so that he could master them over summer vacation.

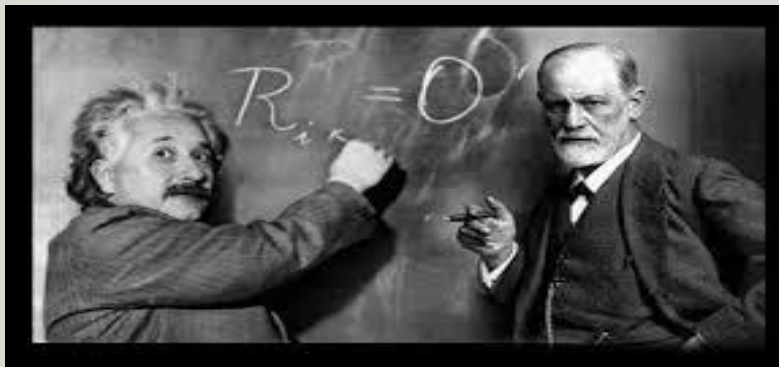
Relationships



We know from daily life that we exist for other people first of all, for whose smiles and well-being our own happiness depends.

Albert Einstein

meetville.com



- At college he met many **students who would become loyal friends**, such as **Marcel Grossmann**, a **mathematician**, and **Michele Besso**, with whom he enjoyed lengthy **conversations about space and time**.
- His affiliation with **the Jewish people was the strongest bond in his life**, even though he did not adhere to the rituals of the religion
- Interesting his correspondence with S. Freud

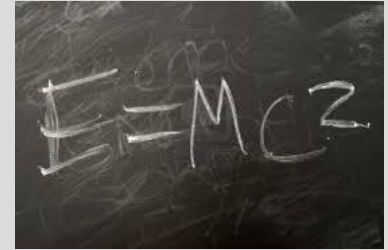


Marriages



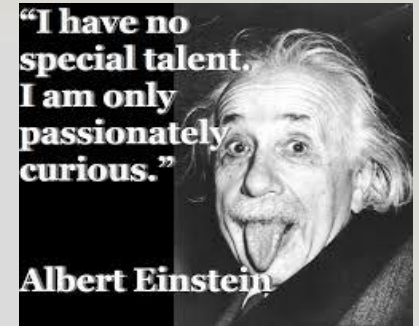
- Serbian, Mileva Mari had been **the only woman in his physics class at college**. They fell passionately in love and had an illegitimate daughter. He allowed the baby to be given up for adoption before he ever saw her.
- **He got married in 1903 and had two boys.**
- Their relationship disintegrated, and Einstein sought a divorce in 1936.
- He offered her a deal: One of those 1905 papers, he presumed, would eventually win the Nobel Prize, and if she gave him a divorce he would give her the prize money. She thought for a week and accepted.
- The same year **he married his cousin, Elsa Löwenthal**, who died in 1936

Free time



- In his spare time, he produced **much of his remarkable work**.
- Einstein's gifts inevitably resulted in his dwelling much in intellectual solitude and, for relaxation, **music played an important part in his life**.
- During his spare time, he **produced four papers that upended physics**: .
- The first showed that **light could be conceived as particles as well as waves**.
- The second **proved the existence of atoms and molecules**.
- The third, **the special theory of relativity**, said that **there was no such thing as absolute time or space**.
- The fourth **noted an equivalence between energy and mass** described by the most famous equation in all of physics, $E=mc^2$.

Albert's curiosity



- **Einstein began to wonder what a light beam would look like if you could run alongside it at the same speed.** If light were a wave, then the light beam should appear stationary, like a frozen wave. Yet, in reality, the light beam is moving
- He wrote his first "scientific paper" at age 16, "The Investigation of the State of Aether in Magnetic Fields." **This question of the relative speed to the stationary observer and the observer moving with the light was a question that would dominate his thinking for the next 10 years.**
- He pictured lightning striking at both ends of a moving train. **A person on the embankment might see the strikes as simultaneous, but to someone on the speeding train they would appear to have happened at different moments.**
- Because the train is speeding forward, the light from the strike at the front of the train would reach him a moment before the light from the strike at the back of the train.
- From that he realized that **simultaneity is relative to your state of motion**, and from that he came up with the idea that **there is no such thing as absolute time.**



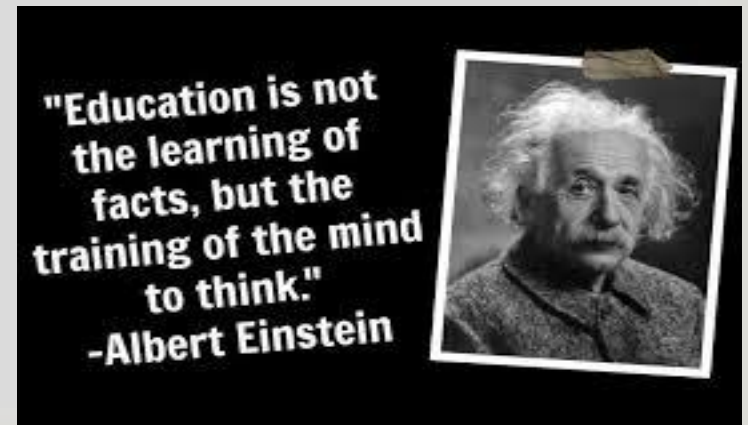
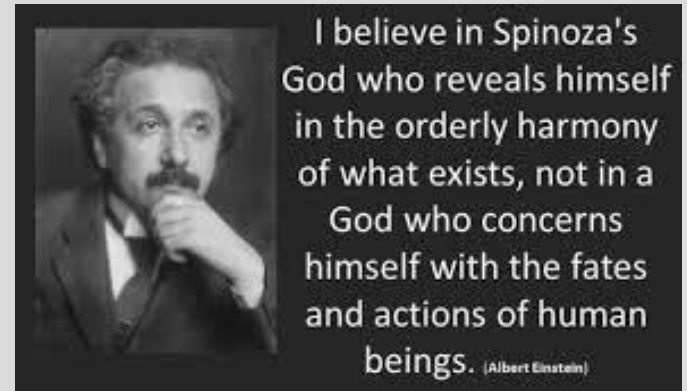
Time is relative. Hence the special theory of relativity.

God



- Deeply believed that **God's handiwork was reflected in the harmony of nature's laws and the beauty of all that exists.**
- Einstein's belief in **something larger than himself** produced in him a **wondrous mixture of confidence and humility.**
- He explained:

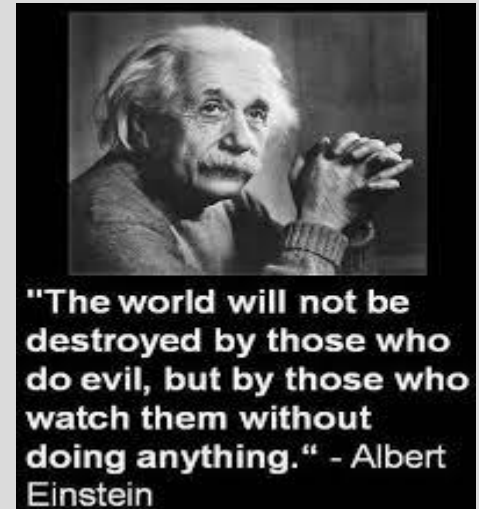
"We are in the position of a little child entering a huge library filled with books in many languages. The child knows someone must have written those books. It does not know how. It does not understand the languages in which they are written. The child dimly suspects a mysterious order in the arrangement of the books but doesn't know what it is. That, it seems to me, is the attitude of even the most intelligent human being toward God. We see the universe marvelously arranged and obeying certain laws but only dimly understand these laws."



Einstein and politics



- He was a pacifist until Hitler came to power
- He had to revise his geopolitical equations after that
- He urged the building of the atom bomb, but then became a leader in the movement to find ways to control it.
- He sought a unified theory in science and a world federalism that would impose order on competing nations.
- He believed in the value of free thought and speech,
- He wanted to defy authority which caused him to be an adamant opponent of McCarthyism.



***"Imagination is more important
than knowledge"***

Albert Einstein



Credits

- De Luca Alessandro
- Del Stabile Sofia
- Paolini Leonardo

Webquest Resources



- [Childhood -20 Things You Need to Know About Einstein-TIME](#)
- [Albert Einstein-Biographical -Nobelprize.org](#)
- [Einstein Biography-Albert Einstein](#)
- einstein.biz/biography.php
- Teacher'sresources