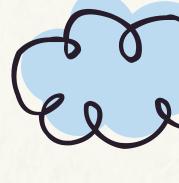


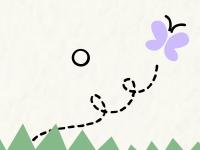




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- Who do you think of, when you hear the word 'genius'? Who is a genius what qualities do you think a genius has?
- We shall now read about a young German civil servant who took the world by storm about a hundred years ago. In the summer of 1905, the 26-year-old published in quick succession four ground-breaking papers: about light, the motion of particles, the electrodynamics of moving bodies, and energy. His work took up only a few pages in scientific journals, but changed forever our understanding of space, time and the entire cosmos and transformed the name 'Einstein' into a synonym for genius.
- Fifty years after his death, Albert Einstein's genius still reigns.



2 d



1. ALBERT Einstein was born on 14 March 1879 in the German city of Ulm, without any indication that he was destined for greatness. On the contrary, his mother thought Albert was a freak. To her, his head seemed much too large.





2. At the age of two-and-a-half, Einstein still wasn't talking. When he finally did learn to speak, he uttered everything twice. Einstein did not know what to do with other children, and his playmates called him "Brother Boring." So the youngster played by himself much of the time. He especially loved mechanical toys. Looking at his newborn sister, Maja, he is said to have said: "Fine, but where are her wheels?"





3. A headmaster once told his father that what Einstein chose as a profession wouldn't matter, because "he'll never make a success at anything." Einstein began learning to play the violin at the age of six, because his mother wanted him to; he later became a gifted amateur violinist, maintaining this skill throughout his life.





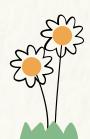


4. But Albert Einstein was not a bad pupil. He went to high school in Munich, where Einstein's family had moved when he was 15 months old, and scored good marks in almost every subject. Einstein hated the school's regimentation, and often clashed with his teachers. At the age of 15, Einstein felt so stifled there that he left the school for good.

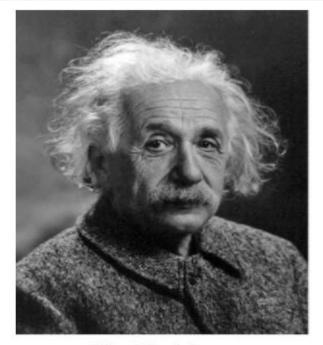




5. The previous year, Albert's parents had moved to Milan, and left their son with relatives. After prolonged discussion, Einstein got his wish to continue his education in German-speaking Switzerland, in a city which was more liberal than Munich.





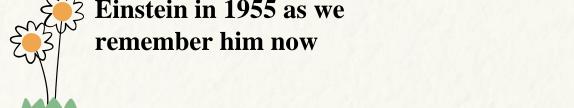


Albert Einstein

Einstein in 1955 as we

6. Einstein was highly gifted in mathematics and interested in physics, and after finishing school, he decided to study at a university in Zurich. But science wasn't the only thing that appealed to the dashing young man with the walrus moustache.









Einstein in 1900 at the age of 21.





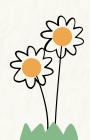


7. He also felt a special interest in a fellow student, Mileva Maric, whom he found to be a "clever creature." This young Serb had come to Switzerland because the University in Zurich was one of the few in Europe where women could get degrees. Einstein saw in her an ally against the "philistines"—those people in his family and at the university with whom he was constantly at odds. The couple fell in love. Letters survive in which they put their affection into words, mixing science with tenderness. Wrote Einstein: "How happy and proud I shall be when we both have brought our work on relativity to a victorious conclusion."





8. In 1900, at the age of 21, Albert Einstein was a university graduate and unemployed. He worked as a teaching assistant, gave private lessons and finally secured a job in 1902 as a technical expert in the patent office in Bern. While he was supposed to be assessing other people's inventions, Einstein was actually developing his own ideas in secret. He is said to have jokingly called his desk drawer at work the "bureau of theoretical physics."





9. One of the famous papers of 1905 was Einstein's Special Theory of Relativity, according to which time and distance are not absolute. Indeed, two perfectly accurate clocks will not continue to show the same time if they come together again after a journey if one of them has been moving very fast relative to the other. From this followed the world's most famous formula which describes the relationship between mass and energy:

 $E = mc^2$ 

(In this mathematical equation, E stands for energy, m for mass and c for the speed of the light in a vacuum (about 300,000 km/s).

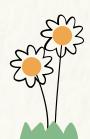


10. While Einstein was solving the most difficult problems in physics, his private life was unravelling. Albert had wanted to marry Mileva right after finishing his studies, but his mother was against it. She thought Mileva, who was three years older than her son, was too old for him. She was also bothered by Mileva's intelligence. "She is a book like you," his mother said. Einstein put the wedding off.





11. The pair finally married in January 1903, and had two sons. But a few years later, the marriage faltered. Mileva, meanwhile, was losing her intellectual ambition and becoming an unhappy housewife. After years of constant fighting, the couple finally divorced in 1919. Einstein married his cousin Elsa the same year.





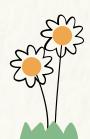
12.Einstein's new personal chapter coincided with his rise to world fame. In 1915, he had published his General Theory of Relativity, which provided a new interpretation of gravity. An eclipse of the sun in 1919 brought proof that it was accurate. Einstein had correctly calculated in advance the extent to which the light from fixed stars would be deflected through the sun's gravitational field. The newspapers proclaimed his work as "a scientific revolution."





13. Einstein received the Nobel Prize for Physics in 1921. He was showered with honours and invitations from all over the world, and lauded by the press.







14. When the Nazis came to power in Germany in 1933, Einstein emigrated to the United States. Five years later, the discovery of nuclear fission in Berlin had American physicists in an uproar. Many of them had fled from Fascism, just as Einstein had, and now they were afraid the Nazis could build and use an atomic bomb.



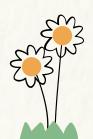


15. At the urging of a colleague, Einstein wrote a letter to the American President, Franklin D. Roosevelt, on 2 August 1939, in which he warned: "A single bomb of this type . . . exploded in a port, might very well destroy the whole port together with some of the surrounding territory." His words did not fail to have an effect. The Americans developed the atomic bomb in a secret project of their own, and dropped it on the Japanese cities of Hiroshima and Nagasaki in August 1945.





16. Einstein was deeply shaken by the extent of the destruction. This time he wrote a public missive to the United Nations. In it he proposed the formation of a world government. Unlike the letter to Roosevelt, this one made no impact. But over the next decade, Einstein got ever more involved in politics — agitating for an end to the arms buildup and using his popularity to campaign for peace and democracy.





17. When Einstein died in 1955 at the age of 76, he was celebrated as a visionary and world citizen as much as a scientific genius.







## Thank You





