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[https://www.100test.com/kao\\_ti2020/255/2021\\_2022\\_\\_E5\\_A4\\_A7\\_E5\\_AD\\_A6\\_E8\\_8B\\_B1\\_E8\\_c67\\_255147.htm](https://www.100test.com/kao_ti2020/255/2021_2022__E5_A4_A7_E5_AD_A6_E8_8B_B1_E8_c67_255147.htm) TEXT A victim of an incurable disease, Stephen Hawking is almost completely paralysed, confined to a wheelchair, and unable to speak. Yet, he has overcome every obstacle and achieved far more than most able-bodied people ever dream of accomplishing and become one of the greatest physicists of our time. Roaming the Cosmos by Le0on Jaroff Darkness has fallen on Cambridge, England, and on a damp and chilly evening Kings Parade is filled with students and faculty. Then, down the crowded thoroughfare comes the University of Cambridges most distinctive vehicle, bearing its most distinguished citizen. In the motorized wheelchair, boyish face dimly illuminated by a glowing computer screen attached to the left armrest, is Stephen William Hawking, 46, one of the worlds greatest theoretical physicists. As he skillfully maneuvers through the crowd, motorists slow down, some honking their horns in greeting. People wave and shout hello. A huge smile lights up Hawkings bespectacled face, but he cannot wave or shout back. Since his early 20s, he has suffered from amyotrophic lateral sclerosis (ALS), a progressive deterioration of the central nervous system that usually causes death within three or four years. Hawkings illness has advanced more slowly, and now seems almost to have stabilized. Still, it has robbed him of virtually all movement. He has no control over most of his muscles, cannot dress or eat by himself and has lost his voice. Now he "speaks" only by using the

slight voluntary movement left in his hands and fingers to operate his wheelchairs built-in computer and voice synthesizer. While ALS has made Hawking a virtual prisoner in his own body, it has left his courage and humor intact, his intellect free to roam. And roam it does, from the infinitesimal to the infinite, from the subatomic realm to the far reaches of the universe. In the course of these mental expeditions, Hawking has conceived startling new theories about black holes and the disorderly events that immediately followed the Big Bang from which the universe sprang. More recently, he has shaken both physicists and theologians by suggesting that the universe has no boundaries, was not created and will not be destroyed. Most of Stephen Hawking's innovative thinking occurs at Cambridge, where he is Lucasian professor of mathematics, a seat once occupied by Isaac Newton. There, in the Department of Mathematics and Theoretical Physics, he benevolently reigns over the relativity group, 15 overachieving graduate students from nine countries. On his office door is a small plaque irreverently reading QUIET, PLEASE. THE BOSS IS ASLEEP. Hardly. From midmorning until he departs for dinner around 7 p. m., Hawking follows a routine that would tax the most able-bodied, working in his book-lined office, amid photographs of his wife Jane and their three children. When he rolled into the department's common room one morning last month, his students were talking shop around low tables. Maneuvering to one of the tables, Hawking clicked his control switch, evoking tiny beeps from his computer and selecting words from lists displayed on his screen. These words, assembled in

sequence at the bottom of the screen, finally issued from the voice synthesizer: "Good morning. Can I have coffee?" Then, for the benefit of a visitor: "I am sorry about my American accent." (The synthesizer is produced by a California company.) When the conversation shifted to creativity and how mathematicians seem to reach a creative peak in their early 20s, Hawking's computer beeped. "I'm over the hill," he said, to a chorus of laughter. Hawking was born on Jan. 8, 1942—300 years to the day, he often notes, after the death of Galileo. As a small boy, he was slow to learn to read but liked to take things apart though he confesses that he was never very good at putting things back together. When he was twelve, he recalls humorously, "one of my friends bet another friend a bag of sweets that I would never come to anything. I don't know if this bet was ever settled and, if so, who won." Fascinated by physics, Stephen concentrated in the subject at Oxford's University College, but did not distinguish himself. He partied, took a great interest in rowing and studied only an hour or so a day. Moving on to Cambridge for graduate work in relativity, he found the going rough, partly because of some puzzling physical problems. He stumbled frequently and seemed to be getting clumsy. Doctors soon gave him the bad news: he had ALS, it would only get worse, and there was no cure. Hawking was overwhelmed. Before long, he needed a cane to walk, was drinking heavily and ignoring his studies. "There didn't seem to be much point in completing my Ph. D.," he says. Then Hawking's luck turned. The progress of the disease slowed, and Einsteinian space-time suddenly seemed less formidable. But what really made

the difference, he says, "was that I got engaged to Jane," who was studying modern languages at Cambridge. "This gave me something to live for." As he explains, "if we were to get married, I had to get a job. And to get a job, I had to finish my Ph. D. I started, working hard for the first time in my life. To my surprise, I found I liked it." What particularly interested Stephen was singularities, strange beasts predicted by general relativity. Einstein's equations indicated that when a star several times larger than the sun exhausts its nuclear fuel and collapses, its matter crushes together at its center with such force that it forms a singularity, an infinitely dense point with no dimensions and irresistible gravity. A voluminous region surrounding the singularity becomes a "black hole," from which -- because of that immense gravity -- nothing, not even light, can escape. Scientists years ago found compelling evidence that black holes exist, but they were uncomfortable with singularities, because all scientific laws break down at these points. Most physicists believed that in the real universe the object at the heart of a black hole would be small (but not dimensionless) and extremely dense (but not infinitely so). Enter Hawking. While still a graduate student, he and Mathematician Roger Penrose developed new techniques proving mathematically that if general relativity is correct, singularities must exist. Hawking went on to demonstrate - again if general relativity is correct - that the entire universe must have sprung from a singularity. As he wrote in his 1966 Ph. D. thesis, "There is a singularity in our past." Stephen later discerned several new characteristics of black holes and demonstrated that the amazing forces of the Big Bang

would have created mini-black holes, each with a mass about that of a terrestrial mountain, but no larger than the subatomic proton. Then, applying the quantum theory (which accurately describes the random, uncertain subatomic world) instead of general relativity (which, it turns out, falters in that tiny realm), Hawking was startled to find that the mini-black holes must emit particles and radiation. Even more remarkable, the little holes would gradually evaporate and, 10 billion years or so after their creation, explode with the energy of millions of H-bombs. Hawking has visited the U. S. 30 times, made seven trips to Moscow, taken a round-the-world journey, and piloted his wheelchair on the Great Wall of China. On the road, the activities occasionally deviate somewhat from physics. One night Stephen accompanied a group to a Chicago discotheque, where he joined in the festivities by wheeling onto the dance floor and spinning his chair in circles. Recently, Hawking, who has no qualms about recanting his own work if he decides he was wrong, may have transcended his famous proof that singularities exist. With Physicist James Hartle. He has derived a quantum wave describing a self-contained universe that, like the earth's surface, has no edge or boundary. If that is the case, says Hawking, Einstein's general theory of relativity would have to be modified, and there would be no singularities. "The universe would not be created, not be destroyed. it would simply be," he concludes, adding challengingly, "What place, then, for a Creator?"

NEW WORDS roam v. go from one place to another without a goal or purpose. wander 漫游 cosmos n. the whole universe considered as an ordered system 宇宙 cosmica. damp.

slightly wet. moistchillya. rather cold. unpleasantly coldchilln.  
faculty n. all the teachers of a school or college thoroughfare n. a busy  
main road 通衢 distinguished a. showing remarkable qualities 杰出的  
boyisha. of or like a boy dimly a. faintly. unclearly 黯淡地 glow v.  
give off a steady light. shine 发光 armrest n. a support for the arm,  
esp. one on the chair or couch 扶手 motorist n. a person who drives  
or rides in an automobile physicist n. a person who studies or works  
in physics honk n. the sound made by a wild goose or an automobile  
horn greeting n. an act or expression of welcome or salutation 欢迎.  
致意 bespectacled a. wearing glasses amyotrophic lateral sclerosis 肌萎  
缩性脊髓侧索硬化 deterioration n. the act or process of  
deteriorating 恶化 deteriorate v. become worse rob vt. take from  
unlawfully, esp. by force 抢劫. 使丧失 voluntary a. controlled by the  
will. made, done, or a given of one's own free will 随意的. 自愿的. 志  
愿的 built-in a. forming a part of sth. that cannot be separated from it  
synthesizer n. an electrical instrument that can produce many  
different sorts of sound 音响合成器 voice synthesizer 语音合成  
器 synthesis n. the combining of separate things, ideas, etc., into a  
complete whole 合成 humor n. the quality of being amusing or  
funny. the ability to see or express what is funny 幽默(感) intellect n.  
the ability to think, reason, and learn. intelligence infinitesimal n. a. 无  
穷小(的) subatomic a. smaller than an atom 亚原子的 expedition n. a  
long trip for exploring or studying sth. 远征. 探险. 考察 disorderly a.  
combining lacking organization or order. untidy theologian n. a  
person who has studied theology 神学家 boundary n. a dividing line  
between one place or thing and another. border innovative a. tending

or liking to introduce new ideas or methods. different from, and esp. better than previous ones 创新的innovationn. benevolently ad. in a kindly manner 仁慈地reignv. rule, esp. as a monarch 统治relativityn. 相对论overachievev. do or perform better than expectedgraduaten. one who has graduated, esp. from a college or university, holding a bachelors degreegraduate student研究生plaque n. a flat decorative metal or stone plate, that is fixed to a wall, statue, etc. 饰板, 匾irreverentlyad. in a disrespectful manner 不敬地midmorning n. the middle of the morning able-bodiedad. strong and healthy. physically fitbook-lined a. lined with booksamidprep. in the middle of. amongcommon rooma room in a school or college for the use of teachers and / or students when they are not teaching or studying 公共休息室clickvt. strike or move with a slight short soundevokevt. produce. call up 产生 ; 唤起beepn. a sharp, short soundchorus n. sth. said or shouted by many people together confessv. say that sth. is true. say that one has committed a crime or done sth. wrong 承认 ; 坦白fascinate vt. attract or interest very strongly 强烈地吸引 ; 迷住partyvt. enjoy oneself, esp. at a party or partiesoverwhelmvt. overcome completely. overpower 征服 , 制服canen. a stick used to help in walking 手杖formidablea. difficult to defeat or deal with. frightening 难对付的 ; 可怕的engageda. having agreed to get married 已订婚的singularityn. a hypothetical point in space at which an object becomes compressed to infinite density and infinitesimal volume 奇点beastn. any (four-footed) animal. a person or thing felt to be hateful or offensivenucleara. of a nucleus, esp. of an atom 核的 , 原子核的crushvt. squeeze together violently so as to

break vi. become crushed indefinitely. without limits of any kind.  
having no end dense. packed closely together. thick dimension n. the  
measurement of the length, width, or height of sth. 尺  
寸 dimensionless a. irresistible a. that cannot be resisted. too great to  
be withstood voluminous a. very large compelling a. strongly  
convincing or persuasive thesis n. a long piece of writing on a  
particular subject, based on original work and written for a higher  
degree 论文 amazing a. causing great surprise or wonder, esp.  
because of quantity or quality amazevt. mini-prefix. very small  
compared with others of its kind terrestrial a. of the planet  
earth proton n. a tiny particle of an atom that has a positive electric  
charge 质子 quantum n. the basic unit of radiant energy. the smallest  
amount of energy capable of existing independently 量子  
子 accurately ad. precisely. exactly accurate a. random a. without plan,  
purpose, or pattern 任意的, 随机的 uncertain a. not certain. likely  
to change falter vi. move or speak in an unsteady way. lose strength or  
effectiveness. fail radiation n. the process of sending out rays of  
energy, such as heat or light. sth. that is radiated 辐射; 放射  
物 radiate v. evaporate v. change from a liquid into a vapor or gas 蒸  
发 explode vi. burst with a loud noise. blow up H-bomb n. a hydrogen  
bomb pilot vt. act as a pilot. guide. lead 驾驶 (飞行器等); 指引  
; 引导 deviate vi. move away from a usual or accepted standard of  
behavior 偏离 accompany vt. go along with discotheque n. (formal for  
disco) a club where people dance to recorded music 迪斯科舞  
厅 festivity n. the act of rejoicing. merriment. gaiety 欢庆 (活动  
) spin v. (cause to) turn quickly about an axis recant vt. say publicly



that one no longer holds (a former belief) self-contained a. complete in itself. independent creator n. a person who creates. (C)  
God PHRASES & EXPRESSIONS  
slight up make or become bright, cheerful, etc. rob of take the property of, esp. using violence. prevent from enjoying reign over rule as the king or queen talk shop (inf.) talk about things in one's work or trade in sequence one following another. in succession over the hill past one's prime, unable to function as one used to put together form by combining parts or members. assemble come to anything end in success / failure something / nothing distinguish oneself behave or perform noticeably well (be) engaged to having agreed to marry to sb's surprise in a way that surprises sb. break down become unusable. fall deviate from move away from PROPER NAMES  
Leon Jaroff 利昂·贾洛夫 Cambridge 剑桥(大学) Kings Parade 国王阅兵场 Stephen William Hawking 斯蒂芬·威廉·霍金 Lucasian 卢卡斯的 Isaac Newton 艾萨克·牛顿 California 加利福尼亚(州) Oxford 牛津(大学) Jane 简 Roger Penrose 罗杰·彭罗斯 Moscow 莫斯科 Chicago 芝加哥 James Hartle 詹姆斯·哈特尔  
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