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https://www.100test.com/kao_ti2020/622/2021_2022_2010_E5_B9_B4_E8_81_8C_c91_622181.htm Black Holes Trigger Stars to Self-Destruct Scientists have long understood that supermassive black holes weighing millions or billions of suns can tear apart stars that come too close. The black holes' gravity pulls harder on the nearest part of the star, an imbalance that pulls the star apart over a period of minutes or hours, once it gets close enough. Scientists say this uneven pulling is not the only hazard facing the star. The strain of these unbalanced forces can also trigger a nuclear explosion powerful enough to destroy the star from within. Matthieu Brassart and Jean-Pierre Luminet of the Observatoire de Paris in Meudon, France¹, carried out computer simulations of the final moments of such an unfortunate star's life, as it veered towards a supermassive black hole. When the star gets close enough, the uneven forces flatten it into a pancake shape. Some previous studies had suggested this flattening would increase the density and temperature inside the star enough to trigger intense nuclear reactions that would tear it apart. But other studies had suggested that the picture would be complicated by shock waves generated during the flattening process and that no nuclear explosion should occur. The new simulations investigated the effects of shock waves in detail, and found that even when their effects are included, the conditions favor a nuclear explosion. "There will be an explosion of the star; it will be completely destroyed," Brassart says. Although the explosion

obliterates the star , it saves some of the star ' s matter from being devoured by the black hole. The explosion is powerful enough to hurl much of the star ' s matter out of the black hole ' s reach , he says. The devouring of stars by black holes may already have been observed , although at a much later stage. It is thought that several months after the event that rips the star apart , its matter starts swirling into the hole itself. It heats up as it does so , releasing ultraviolet light and X-rays. If stars disrupted near black holes really do explode , then they could in principle allow these events to be detected at a much earlier stage , says Jules Hatpern of Columbia University in New York , US². “ It may make it possible to see the disruption of that star immediately if it gets hot enough, ” he says. Brassart agrees. “ Perhaps it can be observed in the X-rays and gamma rays , but it ' s something that needs to be more studied, ” he says. Supernova researcher Chris Fryer of the Los Alamos National Laboratory in Los Alamos , New Mexico , US³ , says the deaths of these stars are difficult to simulate , and he is not sure whether the researchers have proven their case that they explode in the process. 词汇 : supermassive adj.特大质量的
imbalance/im5bAIEns/n.不平衡 , 不平衡 veer/ viE/v.转向 , 改变方向
flatten/5flAtn/v.使成扁平 , 夷平 pancake/5pAnkeik/n.薄煎饼
obliterate/E5blitEreit/v.抹去 , 除去 , 消除
devour/di5vauE(r)/v.吞没.毁灭 swirl/swE:l/打旋 , 旋动
gamma rays 射线 supernova/7sju:pE5nEuE/n.超新星 注释 : 1. the Observatoire de Paris in Meudon , France : 位于法国默顿的巴黎天文台。 Observatoire de Paris : 法文 , 即observatory of Paris。

默顿位于巴黎西南部郊区。 2. Columbia University in New York , US : 美国纽约哥伦比亚大学 , 长青藤联盟校之一。创建于1756年 , 当时名为 “ 国王学院 ” 。美国独立后 , 为了纪念发现美洲新大陆的哥伦比亚就改为哥伦比亚学院 , 直到1921年成为一所综合大学。1897年 , 该校迁址曼哈顿上城区校区。

3. the Los Alamos National Laboratory in Los Alamos , Mexico , US : 位于美国新墨西哥州洛斯阿拉莫斯的洛斯阿拉莫斯国家实验室。洛斯阿拉莫斯是世界上第一颗原子弹和第一颗氢弹的诞生地 , 它占地110平方公里 , 拥有1万多名雇员 , 其中研究人员3 500名。

练习 : 1. Something destructive could happen to a star that gets too close to a black hole. Which of the following destructive statements is NOT mentioned in the passage? A The black hole could tear apart the star. B The black hole could trigger a nuclear explosion in the star. C The black hole could dwindle its size considerably. D The black hole could devour the star. 2. According to the third paragraph , researchers differed from each other in the problem of A whether nuclear reaction would occur. B whether the stars would increase its density and temperature. C whether shock waves would occur. D whether the uneven forces would flatten the stars. 3. According to the fourth paragraph , which of the following is NOT true? A No nuclear explosion would be triggered inside the star. B The star would be destroyed completely. C Much of the star ' s matter thrown by the explosion would be beyond the black hole ' s reach. D The black hole would completely devour the star. 4. What will happen several months after the explosion of the star? A The star ' s matter will move further away from by the black hole. B

The black hole ' s matter will heat up. C The torn star ' s matter will swirl into the black hole. D The black hole ' s matter will release ultraviolet light and X-rays. 5. According to the context , the word “ disruption ” in Paragraph 6 means A “ Confusion. ” B “ Tearing apart. ” C “ Interruption. ” D “ Flattening. ”

答案与题解： 1. C 短文的第一和第二段提供了答案。第一段第一句说，特大质量的黑洞能够撕裂靠近它们的恒星.第二段的第二句说，由于它们之间力量的悬殊，恒星内部会发生核爆炸。第五段提及黑洞吞噬恒星的问题。C的内容文章中没有找到，所以应该选择C。 2. A 该段告诉我们，两种研究的焦点在于是否会引起核爆炸。所以，A是正确选择。 3. D 第四段告诉我们，模拟实验发现，整个的条件会引起核爆炸，这将彻底毁灭恒星，但恒星的一些物质会被强力的爆炸抛出黑洞。所以，A、B、C三个选择的内容都是正确的说法，而D不是。 4. C 第五段中its matter starts swirling into the hole itself，这里的its matter指的是the star ' smatter，即被爆炸抛出黑洞的恒星物质。所以应选C。 5. B 根据全篇语境，disruption在这里的意思是第一段提到的tearing apart。 相关推荐：把职称英语页面加入收藏 2009年职称英语考试成绩查询汇总 2009年职称英语考试试题及答案点评专题 编辑推荐：为帮助广大学员有效备考，我们特推出了职称英语2010年网络辅导课程,相信会让大家有耳目一新的视听感受。现在报名职称英语辅导，赠送2009年精品课程及考试E币。点击查看详情》 100Test 下载频道开通，各类考试题目直接下载。详细请访问

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