**X3U2拓展练习**

**一、语法填空**

So, what are thought experiments? **Put simply**, they are experiments \_\_\_\_\_\_\_\_\_\_\_\_(carry) out in the laboratory of the mind; **in other words**, they take place in the imagination. We set up some hypothetical situation, carry out an operation, see \_\_\_\_\_\_\_\_\_\_\_\_ happens, and draw a conclusion from our analysis. As we explore the world in greater \_\_\_\_\_\_\_\_\_\_\_\_(deep), we may reach a point \_\_\_\_\_\_\_\_\_\_\_\_ it is impossible to run an experimental scenario in the real world due \_\_\_\_\_\_\_\_\_\_\_\_ physical, ethical or financial limitations. **In such circumstances**, we move into the area of thought experiments, which **function as** \_\_\_\_\_\_\_\_\_\_\_\_ valuable means to test the limits of our knowledge and advance our understanding of the world.

\_\_\_\_\_\_\_\_\_\_\_\_ the term "thought experiment" **originated** in the 19th century, the use of thought experiments can \_\_\_\_\_\_\_\_\_\_\_\_(trace) much further back, when ancient philosophers used them to explore difficult questions. About 2,500 years ago, Chinese philosopher Zhuangzi recorded one of the \_\_\_\_\_\_\_\_\_\_\_\_(early) thought experiments: if you cut a long stick in half and then cut the \_\_\_\_\_\_\_\_\_\_\_\_(remain) part in two each following day, you will never finish cutting it. With the birth of modern science, thought experiments became an important tool for scientists, especially in physics. Today thought experiments are regularly used in the areas of philosophy, economics and the sciences.

Throughout history, thought experiments \_\_\_\_\_\_\_\_\_\_\_\_(contribute) to the development of scientific theories. With logical reasoning, thought experiments are capable \_\_\_\_\_\_\_\_\_\_\_\_ putting forward a new theory and supporting or disproving an \_\_\_\_\_\_\_\_\_\_\_\_(exist) theory. A classic example of this is Galileo Galilei's thought experiment with two falling balls. In Galileo's day, Aristotle's \_\_\_\_\_\_\_\_\_\_\_\_(believe) that a heavier ball should fall faster than a lighter one was **well accepted**. \_\_\_\_\_\_\_\_\_\_\_\_(doubt), Galileo asked what would happen if the two balls were tied together. He then figured out two contradictory outcomes: because the two balls fell at different speeds, the lighter ball would slow down the fall of the heavier one; but if the two balls were considered \_\_\_\_\_\_\_\_\_\_\_\_ a whole, together they weighed more and should fall faster than each individual ball. \_\_\_\_\_\_\_\_\_\_\_\_(use) the power of the mind, Galileo was able to expose the paradox and prove Aristotle wrong.

**二、完成句子**

1. 无论设备水平如何，所有创客空间都致力于以合作的精神将年轻人聚集在一起，激励他们尝试不同的工艺和技术。

\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_ the level of equipment, all makerspaces \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_ bringing young people together \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_, \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_ with different crafts and technologies.

1. 上周邀请学生参加活动，所以我决定试一试。

Students were invited \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_ last week so I decided to \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_.

1. 不再担心错误，我又尝试了几次，终于成功了！

\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_, I tried a couple more times and finally \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_!

1. 我的第一次尝试有点灾难，所以我不得不从头开始。

My first attempts were \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_, so I had to \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_.

1. 的确，创造力的价值怎么强调都不为过。

Indeed, \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_.

1. 创造力并不一定意味着做出伟大的发现或发明;相反，这可能意味着对日常情况进行微小的改进，或者为日常问题找到一个简单的解决方案。

Creativity \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_; \_\_\_\_\_\_\_\_\_\_\_\_\_, it could mean \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_.

答案：

**一、语法填空**

So, what are thought experiments? Put simply, they are experiments carried out in the laboratory of the mind; in other words, they take place in the imagination. We setup some hypothetical situation, carry out an operation, see what happens, and draw a conclusion from our analysis. As we explore the world in greater depth, we may reach a point where it is impossible to run an experimental scenario in the real world due to physical, ethical or financial limitations. In such circumstances, we move into the area of thought experiments, which function as a valuable means to test the limits of our knowledge and advance our understanding of the world.

While the term "thought experiment" originated in the 19th century, the use of thought experiments can be traced much further back, when ancient philosophers used them to explore difficult questions. About 2,500 years ago, Chinese philosopher Zhuangzi recorded one of the earliest thought experiments: if you cut a long stick in half and then cut the remaining part in two each following day, you will never finish cutting it. With the birth of modern science, thought experiments became an important tool for scientists, especially in physics. Today thought experiments are regularly used in the areas of philosophy, economics and the sciences.

Throughout history, thought experiments have contributed to the development of scientific theories. With logical reasoning, thought experiments are capable of putting forward a new theory and supporting or disproving an existing theory. A classic example of this is Galileo Galilei's thought experiment with two falling balls. In Galileo's day, Aristotle's belief that a heavier ball should fall faster than a lighter one was well accepted. Doubtful, Galileo asked what would happen if the two balls were tied together. He then figured out two contradictory outcomes: because the two balls fell at different speeds, the lighter ball would slow down the fall of the heavier one; but if the two balls were considered as a whole, together they weighed more and should fall faster than each individual ball. Using the power of the mind, Galileo was able to expose the paradox and prove Aristotle wrong.

**二、完成句子**

1. Whatever the level of equipment, all makerspaces are devoted to bringing young people together in the spirit of collaboration, motivating them to experiment with different crafts and technologies.
2. Students were invited to participate in the activity last week so I decided to give it a shot.
3. No longer worrying about mistakes, I tried a couple more times and finally made it!
4. My first attempts were a bit of a disaster, so I had to start again from scratch.
5. Indeed, the value of creativity can never be overstated.
6. Creativity does not necessarily mean making a great discovery or invention; instead, it could mean making a minor improvement to an everyday situation or finding a simple solution to an everyday problem.