Teachers’ words:

1. Science is by no means a selfish pleasure. Those who are fortunate enough to devote themselves to scientific research should serve mankind with their knowledge. --- Germany Marx

科学绝不是一种自私自利的享乐。有幸能够致力于科学研究的人，首先应该拿自己的学识为人类服务。 ---德国 马克思

2. I would like to use my life as a ministry（手段） to engage in research and science, to contribute to the fertility of my motherland and people. ---Russia Pavlov

我愿用我全部的生命，从事研究和科学,来贡献给生育我栽培我的祖国和人民。

---俄罗斯 巴甫罗夫

Book 3 Unit 3 The world of science

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大观念： 社会进步与人类文明

Using Language

Writing and Presenting

Understanding Ideas

Starting out

Developing Ideas

培养科学态度，发展批判思维

微观探索科技，

从身边起航。

深入思考科学与生活

科学猜想，

丰富认知。

单元教学目标：

1. 本单元的主题是科学发展和科学精神，丰富学生对科学现象的认知，引导学生深入思考科学与生活之间的关系，引导学生用科学改变自己的生活。

2. 学习现在完成时被动的语法知识，使学生能够恰当地使用现在完成时的被动描述科学发展变化；能够通过读懂语篇内容，使用新语言描述科学实验或与科学有关的职业和科学家。

3. 让学生能够运用本单元所学的知识培养热爱科学的品质以及科学的探究和质疑精神，深化对本单元主题意义的理解和挖掘。

Period 1 Words & Expressions

1. Word Formation

A：派生

1. press v. 压；按； n. 媒体，报刊杂志，出版社--- pressure n. 压力--- impress v. 留下印象；

depress v.使沮丧； express v. 表达；n. 特快列车 (under pressure 在压力下；---put pressure on…向…施加压力；--- peer pressure 同侪压力；--- press conference 新闻发布会)

1. flexible adj. 易弯曲的，柔韧的，灵活的--- flexibly adv. 灵活地，易弯曲地--- flexibility n. 灵

活，柔韧---inflexible adj 僵化的； 顽固的； 硬的 ---inflexibility n.---inflexibly adv.

3. accurate adj. 精确的 --- accurately adv. 精确地 --- accuracy n. 精确

4. capable adj. 有能力的--- incapable adj. 无能力的，不会的--- capability n.才能，能力(be capable of (doing) sth.能够做某事)

5. significant adj. 重要的，影响很远的--- significantly adv. 有重大意义地；显著地，相当地--- significance n. 意义，重要性---insignificant adj. 无关紧要的 (be of significance=be significant重要，有意义,--- attach significance/ importance/value to sth重视某事)

6. injure v. 使受伤，弄伤--- injured adj.受伤的; the injured/wounded 伤员 ---injury n. 伤害，受伤处 （20 deaths and 30 injuries20人死亡和30人受伤）

7. origin n.最初，起源，原创---original adj. 原先的，最初的；原创的--- originally adv. 起初--- originate v. 起源(originate from来自…, 源于…)； by origin 按产地； On the Origin of species 物种起源论

8. mental adj. 精神的---mentally adv. 精神上地---mentality n. 精神 （physical and mental health身心健康）

9. declaration n. 声明，宣告--- declare v. 宣告，声明； 申报（declare for 声称支持---declare against 声称反对---declare war on…向…宣战--- Have you got something to declare ? 您有什么需要申报的吗？）

10. experiment n. 实验--- experimental adj. 实验的，试验性的

11. scientific adj. 科学的--- science n. 科学--- scientist n. 科学家

12. theory n.学说，理论--- theoretical adj. 理论上的---theoretically adv. 理论上地= in theory---

in practice 在实践中

13. minor adj. 少数的，小的； n. 未成年人--- minority n. 少数，少数民族；--- minor hall小礼堂 --- main hall 大礼堂---minor injuries 轻伤

14. fiction n. 虚构的事，想象的事 --- fictional adj. 虚构的; 小说的--- non-fiction 纪实作品

15. conduct v. 传导（电、热），指挥，实施，运行--- conductor n. 指挥，售票员，列车长，导体--- semi-conductor 半导体

B：转化

16. desire n. 渴望，欲望 v. 期望， 愿望， 想要

17. cure n. 药剂，疗法 v. 治愈，矫正; 解决（cure sb. of sth. 治愈某人某疾病/no cure for 无药可治； treatment 治疗）

18. draft v. 起草 n. 草稿

C. 合成

19. gun n.枪+ powder n.粉末--- gunpowder n.火药

【情景应用】

1. Choose the hand you often use so that you can apply it \_\_\_\_\_\_\_\_\_\_(flexible).

2. Animals in the zoo have lost the\_\_\_\_\_\_\_\_\_\_\_(capable) to catch food for themselves.

3. The new drug is of great \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_(significant) for the treatment of the disease.

4. He was physically fit, but \_\_\_\_\_\_\_( mental) he was a mess.

5. The company isn’t capable of \_\_\_\_\_\_\_\_\_\_\_(handle) such a large order.

6. To return to the problem of water pollution, I’d like you to look at a study \_\_\_\_\_\_\_\_\_(conduct) in Australia in 2012.

7. Eva is busy \_\_\_\_\_\_\_\_\_(draft) her speech for the press conference.

8. He took a very \_\_\_\_\_\_\_\_(science ) approach to management .

9. After the peace talk, the two countries made a joint(联合的) \_\_\_\_\_\_\_\_\_\_\_\_\_\_(declare).

10. If I had not got \_\_\_\_\_\_\_\_(injure) last week, I would run the marathon tomorrow.

11. If you compare the translation with the \_\_\_\_\_\_\_(origin) text, you will find much of its humor has been lost.

12. Can you measure the room \_\_\_\_\_\_\_\_\_\_(accurate)?

Keys: *1. flexibly; 2. capability; 3. significance; 4. mentally; 5. handling; 6. conducted;*

*7. drafting; 8. scientific;9. declaration; 10. injured; 11. original; 12. accurately*

II. Key Words

1. account n. 描述，报道; 账目，账户

v. 认为是; 视为

★on account of 由于，因为

★take … into account= take account of ...把……考虑在内// take...into consideration

★account for 说明…原因，解释； (在数量上)占……

★give an account of… 描述……

★on no account 绝不(放于句首，句子部分倒装)

1) 报纸对于事故的报道完全是虚构。

The newspaper's account of the accident was a complete fiction.

2) The accounts show we have spent more than we received.

账目显示我们入不敷出。

3) 综合考虑，这部车质量很好。

Taking everything into account/ consideration, the car is of high quality.

4) 持有这种观点的学生占有四分之一。

The students who hold /holding this view account for a quarter.

5) 你能解释我们行动失败的原因吗？

Can you account for the failure in our action?

6) In English law, a person is accounted innocent/not guilty until they are proved guilty.

在英国法律里，一个人未经证实有罪之前视为无罪。

7) 他因为生病没有去上学。

He was absent from school on account of illness.

8) 这本书描述了当地人的习俗。

The book gave an account of the local customs.

9) 遇到困难，我们绝不要放弃。

On no account can we give up when faced with/ facing trouble/in trouble.

2. attach v. ①系,贴,连接 ②使附属 ③使依恋 ④认为有(重要性、责任等)

attachment n. 附件，附属物; 依恋，依附

★be attached to 附属于；喜欢，依恋

★attach importance/significance /value to… 认为…很重要，重视…

1) 我在申请表里贴了一张照片。

I attached a photo to the application form.

2) I am very attached to that old picture.

我很喜欢那张旧图片。

3) 在抗击新冠病毒期间，山东大学附属医院向武汉派出一支医疗队伍。

The hospital attached to Shandong University sent a medical team to Wuhan during the fight against COVID-19.

4) 我们应该重视环境保护。

We should attach great significance/ importance to environmental protection.

5) 你可以在附件中找到我的求职信。

You can find my application letter in the attachment.

6) 随信寄给她母亲的还有20美元。

Attached to the letter, twenty dollars were sent to her mother.

III. Translate the following sentences into English.

1. 人们在演讲时必须考虑听众。(take ...into account)

One must take the audience into account when making a speech.

= The audience must be taken into account when one makes a speech.

2. 琳达在返回后，给我们生动地讲述了她的泰山之行。(account )

Linda gave us a vivid account of her trip to Mount Tai after her return.

3. 学习策略是老师所重视的，还没引起学生们的重视。(attach)

Learning strategies, to which teachers attach importance/significance, haven’t drawn enough attention of students.

4. 在他的努力下，他能够轻松的解答这类题目。(capable )

Through his efforts, he was capable of easily working out this type of questions.

5. 我们应该就学生对本次考试的态度做一次调查。(conduct)

We should conduct a survey of the students’ attitudes to the exam.

6. 不顾伤痛，他成功地完成了比赛。(injure)

Regardless of the injury and pain, he managed to finish the race.

Ⅳ.Vocabulary（话题词汇）

1. science and technology **科**学技术
2. technological innovation 技术创新
3. application n. 应用
4. driving force 推动力
5. carry out/ do research 进行研究
6. the spirit of exploration 探索精神
7. creative adj. 有创造力的
8. innovative adj. 创新的
9. critical thinking批判思维
10. mindset 思维定势
11. think out of the box

打破常规；另辟蹊径

1. push back the boundaries of knowledge 扩大知识范围

1. benefit from 得益于

2. lead to/ result in/ bring about /contribute to / give rise to 导致，致使

3. have an effect /impact / influence on… 对…有影响

4. play an important role in…在…方面起着重要的作用

5. make contributions/a contribution to…对…作出重大贡献

6. make a difference to…对…有影响

7. improve the quality of life 提高生活质量

**The world**

**of science**

IV. Practice

Period 2 Starting Out & Understanding Ideas

Step 1: Starting Out (Page 25)

Activity 1: Look at the pictures and read about the inventions from famous novels and choose those

that have become a reality.

Language focuses:

1. threw the cloak around shoulders 把斗篷披在肩上
2. presently 不久，一会儿
3. press the lever 按压操纵杆
4. off the machine will go 机器会绝尘而去
5. a faint blue light shot across it 一束微弱的蓝光投射过去
6. live on the other side of the earth 生活在地球的另一端
7. *Earth Chronicle 地球编年史*
8. subscribers 用户

Keys: The 3 rd and fourth inventions have become a reality. People nowadays can have video chats with each other via mobile phones and computers connected to the Internet. And many newspapers have offered their readers free digital editions. Furthermore, live chat rooms make it possible for people to communicate with reporters, statesmen and scientists.

Activity 2: Watch the video and answer the questions.

1. Which of the inventions in the video interests you most ? Why ?

\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_

1. Which of the inventions in the video do you think will become a reality ?

\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_

1. Of all the inventions in the world, which do you think is the most useful? Why ?

\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_

1. Do you have any ideas about future inventions?

(视频文本，学案没有)

Life in the Year 3000

Narrator: A lot has changed over the last thousand years. We're better-dressed and better-looking.

We’re better-educated. We travel more widely. We’re healthier and on average, we live

much longerlives. Things seem to be getting better and better. So what will life be like in

the year 3000?

 Girl: In the year 3000, we’ll be wearing special clothes that can change according to our

surroundings. Whether it's cold and wet or hot and dry, our clothes will change to keep us

feeling comfortable.

 Boy: And when we have science lessons at school, we won't need to use microscopes to see tiny

 things like cells. We'll just take a pill to make us small enough to visit and explore them

ourselves!

 Man: Our cars will be able to fly and go underwater. This will make it a lot easier to travel to

another country or even another continent.

 Boy: And we'll be going on holiday to other planets, too!

 Girl: Yes, I'd love to spend my summer holiday relaxing on the Moon or climbing the mountains onMars!

 Woman: We’ll apply special technology to our brains, and use it to translate any foreign language

as we hear it. When we travel, we'll be able to understand and speak to everyone!

 Old man: We'll develop medicines that can easily cure diseases like cancer and AIDS.What's more, well be able to live for more than 120 years. That means even at of 50, we'll still be young!

Step 2: Understanding Ideas (Page 26-27)

Task 1: Before reading

Activity 1: Look at the pictures and talk about how the way we live has changed over time. Discuss

the reasons behind these changes.

Task 2: Between reading

Activity 2: Read the interview and find out what inventions are mentioned.

gunpowder, paper -making, printing , the compass, the steam engine, the telephone, the radio,virtual

reality, wearable tech, the flexible battery, the 3D printer, the intelligent walking house, the wheel,

the car, new energy vehicles, and the time machine.

Activity 3: Choose the sentences that describe Dr Fairhurst’s opinions (page 28)

2, 4

Activity 4: Complete the mind map with information from the passage (page 28)

Refer to *ppt*

Task 3: Beyond reading *Think and Share*

1. If you were the interviewer, what other questions would you ask Dr Richard Fairhurst?

\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_

2. In your opinion, what else inspires people to invent things?

\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_

Period 3 Language points

Fill in the blanks based on the original text completing the related exercises

Task 1: Important phrases and key sentences

|  |  |
| --- | --- |
| Important phrases | 1. 随着时间的过去，久而久之 over time 2. 发明的黄金期 the golden age of invention 3. 虚拟现实 virtual reality 4. 可穿戴技术 wearable tech 5. 和，也 as well as 6. 就环境而言 in terms of the environment 7. 能够 be capable of 8. 以…开始 start with 9. 导致 lead to 10. 别轻易说绝不 never say never 11. 在新的技术时代 in the new age of technology 12. 在历史的长河中 throughout history 13. 基于技术的 tech-based 拓展： high-tech 高科技 14. 制作移植心脏和部分骨骼make replacement hearts and bone parts 15. 干货满满啊！Impressive stuff 16. 很有意思！That’s an interesting point 17. 智能可移动房屋 an intelligent walking house 18. 在古代 in ancient times |
| Key sentences | 1. In addition, important advances have been made in medicine and environmental science thanks to increasing computer power.  另外，多亏了日益增长的计算机能力，在医学和环保科学方面已经取得了重要的进展。  2. What is it that inspires us to invent things?  是什么激励我们去发明东西呢？  3. What remains important is that we have an incredible desire to think and create, and that’s the real spirit of invention.  依然重要的是我们对思考和创造有超乎想象的渴望，这就是真正的发明精神。  4. It is capable of using GPS technology to travel to different places, with  computing technology controlling its “legs”.  利用电脑科技控制房屋的“腿”，它就在使用全球定位系统时走向四海。  5. This was no doubt the reason behind the invention of the wheel in ancient  times, which much later developed into the car.  毫无疑问，这就是古代轮子发明背后的原因，这一点后来演变成了汽车。  6. Now，reduced energy supplies and environmental pollution have led to  more advances in the technology of new energy vehicles.  如今，能源需求的减少和环境污染诱发了新能源汽车技术的进步。  7. Nothing like this has been invented yet and I’d say we’re a long way from  an invention like that at the moment!  目前还没有这样的发明；而且我认为，我们离这样的发明还远着呢！ |

Task 2: Language Points

1. In addition, important advances have been made in medicine and environmental science thanks to increasing computer power.

1) in addition 除此之外，另外(通常用逗号与句子的其他部分隔开)

In addition, you'd better do more outdoor exercise to strengthen (strong) your body.

此外，你最好多进行户外运动来增强体质。

【拓展】in addition to"除...之.外(还)",是短语介词，后接名词、代词、从句或动名词。

How else could you help in addition to what has already been mentioned?

除了已经提到的，你还能提供怎样的帮助呢?

【活学活用】

In addition to paying for fuel, the owner of a car should set aside money for insurance.

除了支付油钱,车主还应该留出一笔钱买保险。

【拓展】表示“另外”的常见表达法plus, besides, for another thing, what’s more

2）make advances in… 在…方面取得进步= make progress in…

3）thanks to 多亏，幸亏

【拓展】表示“由于、因为”的短语：due to, on account of, as a result of, because of, as a consequence of, owing to等，后面常接名词、代词、从句或动名词。

他因为他的行为受到了惩罚。

He was punished on account of his behavior.

= He was punished on account of what he had done.

【活学活用】

①多亏你的帮助，我的演讲才如此成功。

Thanks to your help, my speech was so successful.

②因为生病，他今天没有上学。

He was absent from school because he was ill.

= He was absent from school due to being ill. (doing)

= He was absent from school due to the fact that he was ill. (同位语从句)

= He was absent from school due to his illness.（n.）

2. What is it that inspires us to invent things?

本句是强调句型的特殊疑问句形式。

(1)强调句基本结构:

It is/was +被强调部分+ that +其他部分。如果被强调的部分指人，可用who或that； 如果指物，用that

(2)用途:强调句型用来强调除了谓语以外的其它成分。

(3)强调句型的一般疑问句: Is/Was it +被强调部分+that/who +其他部分?

强调句型的特殊疑问句:疑问词+is/was+ it+ that /who+其他部分?

①It was my sister who/ that first had the idea to cycle along the entire river from where it begins to where it ends.

首先想到要沿整条河从源头到终点骑车旅行的是我的姐姐。

②Was it the young man's honesty and hard work that helped him gain this position?

是这个年轻人的诚实和勤奋为他赢得了这个职位吗?

③Who was it that gave you the permission to check my e-mail?

是谁允许你查看我的邮件呢?

【写作拓展】

a. 强调句特殊疑问句型做宾语从句

e.g. I wonder what it is that inspires him to insist on his dream.

b. not until句型的强调句

e.g. He didn’t leave until his father arrived back.

A. It was not until his father arrived back that he left.（强调句）

B. Not until his father arrived back did he leave （倒装句）

【活学活用】

a. It is the young man they looked for that/who caught the murderer.

b. Was it yesterday that he met Li Ping?

c. What was it that encouraged him to stick to his dream?

d. He didn’t do his homework until he finished his revision.

A.It was not until he finished his revision that he did his homework.(改为强调句)

B.Not until he finished his revision did he do his homework.(改为倒装句句)

3. What remains important is that we have an incredible desire to think and create, and that’s the real spirit of invention.

1）本句是主从复合句。其中what remains important是what引导的主语从句, what在从句中作主语; that we have. . . to think and create是that引导的表语从句, that在表语从句中不作成分。

①What caused the accident remains unknown.

事故的起因还不清楚。

②His suggestion is that we should stay calm.

他的建议是，我们应该保持冷静。

【活学活用】

a. What we need is time.

b. What I told him was that I would find him a good play.

2）remain:

linking verb.系动词 保持，仍然是

①Many of his songs remain popular.

他的许多歌曲仍然很流行。

②In spite of their quarrel, they remained the best of friends.

尽管他们吵架了，但他们仍然是最好的朋友。

vi. 停留，逗留；留存，剩下，遗留；留待，尚待

常用句型it remains to be done 尚待/有待于进一步去做

①They remained in Mexico until June.

他们停留在墨西哥到六月。

②Very little of the house remained after the big fire.

大火过后，这间房子所剩无几。

③It remains to be seen whether you are right.

你是否正确，尚待分晓。

【拓展】

remaining adj. 剩下的，留下的 常做前置定语

The three parties will meet next month to work out the remaining differences.

三方将在下个月会面，以解决余下的分歧。

remains n. 遗体，遗迹，剩余物

The remains of an ancient town were preserved (preserve) well by the local government.

一座古城的遗迹被当地政府完好地保存下来。

【活学活用】

a. It remains to be seen (see) whether Jim will be fit enough to play in the finals.

b. Please remain seated (seat).The winner of the prize will be announced soon.

3) desire n.渴望，欲望 vt. 渴望，希望，要求

a. have a/ no desire for sth./ to do sth. （不）渴望得到某物/做某事

He has no desire for fame and wealth.

他淡泊名利。

b. desire (sb.) to do sth. 渴望（某人）去做某事

He desired to get the job he had desired.

他渴望得到他一直想要的工作。

c. desire+ that从句，从句谓语动词使用(should) +动词原形。

My parents desired that I (should) make good preparations for the interview.

我的父母希望我为面试做好准备。

【活学活用】

a. I desired him to come back.= I desired that he (should) come back.(come)

b. He had a strong desire to go (go) on holiday.

Task 3: Fill in the blanks.

1. She has a strong desire for knowledge and desires to go (go) to college very much.

2. The terracotta warriors, which shows the armies of the first Emperor of China, remained hidden (hide) until 1974.

3. The lady said she would buy a gift for her daughter with the remaining (remain) 20 dollars.

4. This evening, I will be talking to Dr Richard Fairhurst, whose new book has just been published.

5. In terms of (就……而言) the environment, it is now possible to create (create) an intelligent walking house.

6. It remains to be settled (settle) whether he is qualified for the job.

7. Nothing like this has been invented (invent) yet.

8. Most inventions start with recognizing a problem that needs a solution (solve).

9. What he referred to in his article was unknown to the general readers.

10. What is known to us all is that the 2022 Winter Olympic Games will take place in Beijing.  
11. In addition to providing (provide) warmth, what was fire used for?

12. Top players must have excellent ball control, but it is not just what they do with their feet that counts.

Task 4: Translate the following sentences into English.

1. 令他宽慰的是，他最终在附近找到了一家修理厂。（what引导主语从句）

What relieved him was that he finally found a garage nearby.

2. 是我的英语老师鼓励我克服困难。（强调句）

It is my English teacher that/ who inspires me to get over the difficulties.

3. 除了上面提到的之外，你最好阅读一些英文小说。(in addition to)

In addition to what has been mentioned above, you’d better read some English novels.

4. 还有很多事要去做。(remain)

Much remains to be done.

5. 渴望能够被重点大学录取，他养成了每天都进行英语小说阅读的习惯（desire, 6123结构）

With a strong desire to be admitted into a key university, he makes it a rule to read English novels every day.

Task 5: Fill in the blanks. (课文语法填空)

Dr Richard Fairhurst, (1) \_\_\_\_\_\_new book *The New Age of Invention* has just been published, is an (2) \_\_\_\_\_\_\_\_ (invent) himself. He thinks there have been \_\_\_\_\_\_(gold)ages of invention throughout history and the present day is (4)\_\_ new age for inventions. Most of the new great inventions are (5) \_\_\_\_\_ (base) on advances in virtual reality, wearable tech, the flexible battery, medicine and (6) \_\_\_\_\_\_\_\_\_\_\_\_ (environment) science. 3D printers have been used to make replacement hearts and bone parts. In terms of the environment, it is now possible to create an intelligent walking house. It is capable (7) \_\_\_ using GPS technology to travel to different places, with computing technology (8) \_\_\_\_\_\_\_\_\_\_ (control) its “legs”. Solar technology can be eco-friendly, too. Most inventions start with recognizing a problem that (9) \_\_\_\_\_ (need) a solution. People have an incredible desire (10) \_\_\_\_\_\_\_ (think) and create, and that is the real spirit of invention.

*Keys: 1. whose;2. inventor;* *3.* *golden;4. a; 5. based ;6. environmental; 7. of; 8. controlling;*

*9. needs; 10. to think*

Period 4 Using Language (Ⅰ)

Step 1: 透析单元语法（现在完成时被动语态）

一、结构

|  |  |
| --- | --- |
| 肯定式 | 主语＋have/has been done... |
| 否定式 | 主语＋have/has not been done... |
| 一般疑问式 | Have/Has＋主语＋been done...？ |
| 特殊疑问式 | 疑问词＋have/has＋主语＋been done...？ |

二、基本用法：

1. 表动作发生在过去，其结果对现在产生影响。

1) Where has the recorder been put? I can't see it anywhere.

2) I got caught in the rain and my suit has been ruined.

2. 表动作从过去开始，一直持续到现在，可能还会延续下去。常与时间状语recently, lately, in

the past /last few years, so far, up to/ till now, by now, since+ 时间点, for+时间段等连用。

1) The machine has been repaired for two hours.

2) His work hasn’t been finished so far.

3. 用在时间或条件状语从句中，表示将来某时已完成的动作，即用现在完成时的被动语态代

替将来完成时的被动语态。

When the book has been published this year, the number of books he has written will reach thirty.

4. 动词短语在被动用法中要注意保持其完整性，尤其是短语中的介词或副词。

The problem has been paid special attention to.

5. 现在完成时的被动语态与一般过去时的被动语态的区别:

|  |  |  |
| --- | --- | --- |
| 时态 | 动作发生的时间 | 对现在有无影响 |
| 一般过去时的被动语态 | 过去 | 无 |
| 现在完成时的被动语态 | 过去 | 有 |

1)The big stone was removed last night.

2) The big stone has been removed, so there is no traffic jam now.

Step 2: 语法应用实践

*Do Activity 2 on Page 29.*

1. Many things in our lives have already been affected.
2. 3D-printed hamburgers have been served to customers in some restaurants in London.
3. But perhaps the most significant success that has been achieved to date is in medicine.
4. Human body parts, including a beating heart, have been made with 3D printing technology.
5. A new 3D -printed shell has been given to a turtle injured in a forest fire!

Step 3:单句语法填空

1. The English song \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_ (sing) for many years, but we still like it.
2. The famous musician, as well as his students，\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_ (invite) to perform at the

opening ceremony last night.

1. Oh no! We’re too late. The train \_\_\_\_\_\_\_\_\_\_\_\_\_\_ (leave).
2. Lots of studies \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_(show) that global warming has already become a very

serious problem.

1. Over the past three years, the paintings \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_ (take) to more than 20 museums in

the world.

1. Some efforts \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_ (make) to improve the air quality in the city last winter.
2. Since the early 1990s, a lot of clinics \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_ (found) in this country to treat poor

people for free.

1. —Have you heard about that fire in the market?

—Yes, fortunately no one \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_(hurt)．

1. Black Friday \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_(regard) as the beginning of the holiday shopping season for

years.

1. More than 50,000 yuan\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_(raise) for the poor family since the group was

founded.

1. His eyes have been focused \_\_\_\_\_\_\_\_\_ the computer for 3 hours.
2. The problem which has been drawn attention\_\_\_\_\_\_\_\_\_\_ hasn’t been solved yet.
3. Their new house\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_(decorate) for two months and they will settle in it in

the near future.

1. How many suggestions \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_ (give) to you so far?
2. Their new cars \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_ (advertise) on the Internet for a long time.
3. Every possible means \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_ (try) to save the wounded solider up to now.
4. Despite the previous rounds of talks, no agreement \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_(reach) so far by the

two sides.

*Keys: 1. has been sung; 2. was invited; 3. has left; 4. have shown; 5. have been taken;*

*6. were made; 7. have been founded; 8. was hurt; 9. has been regarded; 10. has been raised;*

*11. on; 12. to; 13. has been decorated; 14. have been given; 15. have been advertised;*

*16. has been tried; 17. has been reached*

Step 4:翻译下列句子

1. 男孩们已经被多次告知不要在那个湖里游泳，但这并不起作用。(tell)

The boys have been told not to swim in that lake many times, but it doesn’t make any difference.

1. 我们很高兴被告知他以优异的成绩已经被复旦大学录取。(admit)

We are glad to be told that he has been admitted into Fudan University for his excellent grades.

1. 从那时候起，她就没来过信。(hear )

She hasn’t been heard from since then.

1. 近十年来，学校发生了巨大的变化。(take place )

Great changes have taken place in the past 10 years in our school.

1. 多亏科学家的努力，迄今为止，医学取得了重要的进展。(thanks to )

Thanks to the scientists’ efforts, important advances have been made in medicine so far.

Period 5 Using Language (Ⅱ)

Step 1: Vocabulary & Listening

I. Do Activity 4 on Page 30.

1. What do you know about these careers?

a. A physicist is a person who does research connected with physics or who studies physics.

b. A mathematician is a person who is trained to the study of numbers and calculations.

c. A chemist is a person who does research connected with chemistry or who studies chemistry.

d. An astronomer is a scientist who studies the stars, planets and other natural objects in space.

e. A geographer is a person who studies geography or is an expert in it.

f. A biologist is a person who studies or works in the field of biology

II. Do Activity 5 on Page 30.

1. astronomer 2. biologist 3. geographer 4. physicist 5. chemist 6. mathematician

Step 2. Read “Did You Know” on Page 31, listen to the record and do Activity 7&8 on Page 31.

I.Keys to Activity 7: c b d a e

II. Keys to Activity 8

1. a pair of socks designed for people with Alzheimer’s disease.

2. a student from New York

3. His grandfather

4. A warning

5. gets out of bed

Step 3: Important phrases in using language

1. 无法辨认；面目全非 beyond recognition (P29)
2. 取得成功 achieve success(P29)
3. 直到现在 to date (P29)
4. 闯入实验室 break into the lab(P29)
5. 制定一种历法develop a calendar (P30)
6. 以A命名B name B after A(P30)
7. 认为…是…/称…为… regard…as… (P30)
8. 颁给某人诺贝尔奖 award sb. the Noble Prize (P30)
9. 由于自然选择 due to natural selection(P30)
10. 实地研究，实地调研 field research(P30)
11. 被认为是…… be recognized as… (P31 Did You Know)
12. 改善生活质量 improve the quality of life (P31 Did You Know)
13. 无药可治There is no cure for ... (P31 Did You Know)
14. 哥德巴赫猜想 Goldbach’s Conjecture (P30)
15. 纯镭的隔离提取the isolation of pure radium
16. 数论number theory
17. 格里历，阳历 Gregorian calendar(P30)

听力文本

Mike: Hey, look! I’ve read about a cool invention in this magazine!

Anna: A pair of socks?

Mike: Yes, but they’re not ordinary socks. This is a product designed for people with Alzheimer's disease.

Anna: Oh yes, I saw a TV show about that. It was invented by a student from New York called Kenneth. He even won an award for it at a science fair!

Mike: Wow! How did he come up with the idea?

Anna: Well, his grandfather has Alzheimer’s. He forgets things and gets lost easily. Once got lost in the city and it took a whole day to find him! The family was always worrying about him leaving the house and had to keep an eye on him-even at night! Kenneth had been trying to find a solution. Then one night, he was looking after his grandfather and saw him get out of bed and step on the floor. That moment inspired him, and a good idea came to his mind.

Mike: I didn't know that! How did that moment inspire him?

Anna: Well, it made him think of putting a device into a pair of socks to sense pressure. He started by drawing his ideas, and then he thought about how to power the device. Eventually, he created a device the size of a coin!

Mike: Like a coin? So how does it work?

Anna: He got his grandfather to wear the socks. When his feet touched the floor, the device sensed an increase of pressure, and a warning was sent to the boy’s mobile phone- like an alarm. That way, he could know his grandfather was getting out of bed without staying up all night.

Mike: How amazing! What a useful invention and caring grandson!

Anna: Yes, you are quite right.

Period 6 Developing Ideas & Presenting Ideas

Step 1: Developing Ideas

Task 1: Deal with Activity 1 on Page 32.

Task 2: Read the passage on Page 32 and finish off Activity 2

Franklin’s experiment aimed to prove that lightning was a form of electricity

Task 3: Read and finish off Activity 3 on Page 34.

Keys: 312

Task 4: Read the passage again and answer the questions in “Think and share”.

Keys (4) Firstly , scientific discoveries promote the development of our society. Secondly, the contributions of scientists in medicine extend our life span. Thirdly, scientists have invented a lot of surprising tools that fundamentally improve our living standards.

Step 2: Useful expressions and sentence patterns

1. Founding Father 缔造者，开国元勋
2. *Declaration of Independence*  独立宣言
3. introduce generations of children to science 向一代又一代的孩子们介绍科学
4. a flash of lightning 一道闪电
5. get an electric shock 触电
6. establish the truth 寻求事实真相
7. contribute towards scientific discoveries and inventions 促进科学发现和发明创造
8. establish the facts 查证事实
9. 放风筝fly a kite
10. 将某物系在某物上 tie/attach sth. to sth.
11. 寻求事实的方法 the/an approach to looking for the truth
12. 发生 take place
13. 引领他提出万有引力定律 lead him to come up with his theory of gravity
14. 区别：a falling apple正落下的苹果/ a fallen apple 落地的苹果
15. 敲打他的头 hit him on the head
16. 科研探索的精神spirit of scientific exploration

17. Apart from being (be) a successful statesman, he was also well known as a leading American author…

【翻译】他不仅是一位成功的政治家，还被称为美国著名的领军作家…

【分析】apart from:除…外(=except for, except); 除…之外还有…(= besides),其后常跟名词、代词、动词ing形式及名词性从句。

【练一练】

a. Apart from filling out/in a form, she has to pay a membership fee.

除了要填表格之外，她还要缴纳会费。

b. Apart from being fun, swimming is a very useful skill,

除了有乐趣外，游泳是一门有用的技能。

c. Apart from two men on watch in the room, everyone was asleep.

除了两个人在房间值班外，所有人都在睡觉。

18. He raised the kite with a piece of string tied (tie) to it. A metal key was attached to it. A flash of lightning hit the kite, and electricity was conducted (conduct) through the string to the key.

19. More than one generation of school children has been amazed by his bravery and his scientific

approach to looking(look) for the truth.

20.More than one account suggests（suggest）that while Newton was certainly inspired by a falling apple, there is no proof that it hit him on the head.

21.Franklin, along with many scientists, has inspired us and taught us that scientific(science) experiments are important in order to establish the truth and to contribute towards later scientific discoveries(discover) and inventions.

22. However, neither the story nor the details of the experiment are entirely true.

【分析】

1）more than one+ n（可数单数）作主语时，谓语动词用单数形式；

2）along with，with, together with, as well as, except, but, besides, rather than, like等连接名词或代词作主语时，谓语动词与其前面的主语形式一致。

3）neither…nor…, or, either…or…, not only…but also…等连接并列主语时，谓语动词与最近的主语保持一致。

【练一练】

a. Either you or the headmaster is (be) to hand out the prizes to those gifted students at the meeting tomorrow.

b. The students as well as the teacher are (be) present at the meeting now.

c. A library with five thousand books has been offered (offer) to the nation as a gift so far.

d. Neither he nor I have finished (finish) the experiment yet.

e. More than one student agrees (agree) with this plan at the moment.

23. But scientists all agree that if Franklin had actually touched the key, he would certainly have died from electric shock.

【翻译】但是科学家们都赞同如果富兰克林真的碰到了那把钥匙，他肯定已死于电击。

【分析】本句表示与过去事实相反的虚拟语气。if引导的与过去事实相反的虚拟条件句时态常用过去完成时，主句时态常用“would/ should/ could/ might +have done”。

【练一练】

a. If she had worked harder, she \_\_\_\_\_\_\_\_.

A. would succeed B. had succeeded C. should succeed D. would have succeeded

b. I didn’t see your sister at the meeting. If she \_\_\_\_\_\_, she would have met my brother.

A. has come B. did come C. came D. had come

c. ---- If he \_\_\_\_\_\_\_, he \_\_\_\_\_\_\_ that food.

---- Luckily he was sent to the hospital immediately.

A. was warned; would not take B. had been warned; would not have taken

C. would be warned; had not taken D. would have been warned; had not taken

24. Admittedly (admit, 无可否认), fiction is more interesting than the truth(true).

Step 3: Writing

I.Read the experiment on Page 35 and answer the question. (Page 35, Activity 5)

1. What do you think the results of this experiment will be?

The egg will squeeze into the bottle

2. What can you learn from this experiment?

The experiment shows us the effects of air pressure. Air pressure indeed exists, and it is very powerful

1. Complete the boxes with the information in Activity 5. Do further research if necessary. (Page 35, Activity 6)

The experiment is designed to prove whether air pressure really exists.

At the beginning of the experiment, 1 prepared the materials, including a boiled egg, a glass bottle whose neck is a bit smaller than the egg, and some hot water. With all the things prepared, the experiment began. First, I removed the shell of the egg. Then, I carefully poured some hot water into the bottle, and shook the bottle gently. After a few minutes, I poured out the hot water. Just at the same time, I quickly placed the egg on top of the bottle. To my amazement, the egg squeezed into the bottle at once. After the experiment, I can draw the conclusion that air pressure indeed exists, and it is very powerful. It is the force of the air that pushed the egg into the bottle.

III.【如何写实验报告】

实验报告是把实验目的、方法、过程、结果等记录下来， 经过整理写成的书面汇总材料。实验报告要明确体现实验目的、步骤和结果， 对具体实验现象的描述要客观准确， 分析要全面具体， 语言要简洁质朴、通俗易懂。

增分佳句

1．描写实验目的：

(1)... carry out/do/ perform /make/conduct an experiment to find out...

(2)The aim of the experiment is to find...

(3)... with the purpose of discovering...

2．描写实验用品：

(1)To carry out/make/do/perform the experiment, you need...

(2)The following things are needed...

(3)The following apparatus(仪器) is used...

3．描写实验方法或过程：

(1)... make good preparations for...

(2)It is important that...

(3)... do the experiment as follows.

(firstly, secondly, thirdly, finally; first, then, next, after that, two hours’ later; after several days)

(4) find a better way of doing/ to do

(5)... make a good study of...

4．描写实验结论：

(1)From this experiment we can conclude that ...

(2)... arrive at/reach/draw/come to the conclusion that ...

(3)We can learn from the experiment that ...

(4)We can find out that ...

(5)You can see/discover that ...

(6)In conclusion, ...

IV.【相关主题例文赏析】

假设你是光明中学的李华，请根据以下要点给你的美国笔友Tom写一封英文信，介绍你校刚刚建成的实验室和同学们上实验课的情况。

要点提示:

1.实验室设备齐全、先进;

2.老师非常优秀，实验课生动、有趣、有意义;

3.同学们积极活跃，观察和实践能力迅速提高。

注意:

1.词数100左右;

2.可以适当增加细节，以使行文连贯:

3.开头和结尾已给出,但不计人总词数。

Dear Tom，

How are you going? Now I'm writing to introduce our lab and our experiment class to you.

A new lab has just been completed in our school recently, which is equipped with all kinds of advanced laboratory facilities.（配备着各种各样的先进的实验设施） Our teachers who teach us physics and chemistry are very excellent. They always make classes lively, interesting and meaningful.（有意义的） And the students always listen carefully and attentively（仔细认真听讲），think deeply and participate actively （深入思考、积极参与）according to the teachers' instructions. So our abilities of observing and practicing improve rapidly.

As students, every one of us treasures the beneficial conditions（珍惜有利条件） and makes good use of our lab （充分利用实验室）to help us study.

Book 3 Unit 3 Quiz

Class \_\_\_\_\_\_\_ Name\_\_\_\_\_\_\_\_

1. Words

11. 药剂，疗法n. 治愈v. cure

12. 小的 adj. minor

13. 被动的adj. passive

14. 东西，物品n. stuff

15. 物种 n. species

16. 非凡的，出色的adj. extraordinary

17. 才华横溢的 adj.brilliant

18. 精神的 adj. mental

19. 声明，宣告 n. declaration

20. 完全地，彻底地 adv. entirely

1. 压力n. pressure

2. 易弯曲的，柔韧的，灵活的adj. flexible

3. 重要的，影响很远的adj. significant

4. 伤害，受伤处n. injury

5. 原先的，最初的;原创的adj. original

6. 精确的 adj. accurate

7. 传导v. conduct

8. 科学的adj. scientific

9. 程序，步骤 n. procedure

10. 起草v. 草稿n. draft

II. Phrases

1. 打破常规；另辟蹊径 think out of the box

2. 批判思维critical thinking

3. 描述……give an account of…

4. 附属于，喜欢，依恋be attached to

5. 就环境而言 in terms of the environment

6. 在…方面取得进步make advances in…= make progress in…

7. 取得成功 achieve success

8. 做实验 carry out/make/do/perform/conduct an experiment

9. 由于自然选择 due to natural selection

10. 改善生活质量 improve the quality of life

11. 放风筝fly a kite

12. 虚拟现实 virtual reality

13. 查证真相establish the truth

14. 可穿戴设备wearable tech

15. 无法辨认；面目全非 beyond recognition

16. 以A命名B name B after A

17. 除此之外，此外 in addition

18. 敲打他的头 hit him on the head

III. Sentences

1. 科学绝不是一种自私自利的享乐。有幸能够致力于科学研究的人，首先应该拿自己的学识

为人类服务。

Science is by no means a selfish pleasure. Those who are fortunate enough to devote themselves to scientific research should serve mankind with their knowledge.

2. 遇到困难，我们绝不要放弃。(account 倒装句)

On no account can we give up when faced with/ facing trouble.

3. 我们应该重视环境保护。（attach）

We should attach great significance/ importance/value to environmental protection.

4. 在他的努力下，他能够轻松地解答这类题目。(capable)

Through his efforts, he was capable of easily working out this type of questions.

5. 渴望能够被重点大学录取，他养成了每天都进行英语小说阅读的习惯。(desire, 6123结构)

With a strong desire to be admitted into a key university, he makes it a rule to read English novels every day.

6. 是空气的力把鸡蛋推进瓶子里。(强调句)

It is the force of the air that pushed the egg into the bottle.

7. 近来，我们学校刚建一所新的实验室，配备着各式各样先进的实验设备。（equip）

A new lab has just been completed in our school recently, which is equipped with all kinds of advanced laboratory facilities.

8. 销售经理想出来一个增加市场份额的新点子。（come up with ）

The sales manager came up with a new idea for increasing market share.

9. 我的家乡近几年以来发生了巨大变化。(take place )

Great changes have taken place in my hometown in the past few years.

10. 这个周末我们是否休息还要拭目以待。(remain)

It remains to be seen whether we will have this weekend off.

11. 事故的起因还不清楚。(what主语从句)

What caused the accident remains unknown.

12. 他已经盯着电脑3个小时了。（现在完成时被动）

His eyes have been focused on the computer for 3 hours.