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Nucleus 新核心 大学英语

B版

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阶梯阅读2

上海交通大学出版社

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内容提要

本书包括八个单元，每个单元包括五篇阅读材料。两篇短篇文章长度为200~500词，两篇长篇文章长度为700~1 200词，最后一篇文章是关于中国文化的，文后不设习题，主要是帮助学生了解中国历史文化的英语表达方式，提高他们对外交流能力。阅读材料的内容突出知识性，涉及自然学科和人文学科，体裁以说明文和议论文为主。

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《新核心 Nucleus 大学英语》系列教材

B版

编委会

前　言

21世纪以来，我国相继出版了一批优秀的大学英语教材。如果说这些教材都是以趣味性、可思性、文学性和人文性为课文选材原则，提倡人文素质教育的话，那么《新核心大学英语》系列教材将在这些方面有一个新的突破。

2013年出版的《新核心大学英语B版快速阅读》系列教材得到广大师生的充分肯定。随着大学英语改革的推进，随着英语四、六级考试改革的深入，我们及时对其进行了改版，出版此套《新核心大学英语B版阶梯阅读》教材。

一、教材编写依据

《新核心大学英语B版阶梯阅读》是以《新核心大学英语B版读写教程》为依托，从内容上对《新核心大学英语B版快速阅读》做进一步改进，提倡科学素质教育，以content-based为编写原则，文章选材上偏向提高学术能力的科普性文章。

目前，我国大学英语教学不再是单单打基础的阶段，不再是单纯地为学语言而学语言，而是趋向于与某一方面的专业知识或某一个学科结合的发展方向结合起来，换句话说，大学英语应当与学生的专业内容结合起来，这样才能体现新时期语言教学中的“需求分析”原则。《新核心大学英语B版阶梯阅读》正是为了适应我国大学英语教学转型要求而编写的，是为了帮助大学生达到《大学英语课程教学要求》中阅读部分的一般要求、较高要求和更高要求而编写的一套具有鲜明时代特色的大学英语教材；是培养学生查阅学术文献能力的需要，培养学生在较短时间里通过快速

阅读，查到自己所需要的信息。

二、教材结构框架

《新核心大学英语B版阶梯阅读》是《新核心大学英语》主干教材的配套教材，包括《新核心大学英语B版阶梯阅读 基础级》、《新核心大学英语B版阶梯阅读 1》、《新核心大学英语B版阶梯阅读 2》、《新核心大学英语B版阶梯阅读 3》、《新核心大学英语B版阶梯阅读4》五册。《新核心大学英语B版阶梯阅读》系列教材旨在培养学生语篇信息查找能力，训练学生快速阅读能力以及水平考试中阅读理解文章的能力。

每册包括八个单元，每个单元包括五篇阅读材料。教材中每个单元所选阅读材料基本与《新核心大学英语B版读写教程》相应单元的主题内容一致，难度略低于《新核心大学英语B版读写教程》，两篇短篇文章长度为200~500词，两篇长篇文章长度为700~1 200词，最后一篇文章是关于中国文化的，文后不设习题，主要是帮助学生了解中国历史文化的英语表达方式，提高他们对外交流能力。阅读材料的内容突出知识性，涉及自然学科和人文学科，体裁以说明文和议论文为主。

三、教材使用说明

作为《新核心大学英语B版读写教程》的配套使用教材，我们建议《新核心大学英语B版阶梯阅读》每个单元的总学时数不少于2个课时，课内学时数不少于1个学时，学生课外自主阅读时间不少于1个学时。在每周大学英语课堂教学中教师根据具体授课进度、单元主题内容指定《新核心大学英语B版阶梯阅读》中相应的文章让学生进行阅读训练，教师也可以将本系列教材作为学生课后自主阅读的材料，教师对学生自主学习过程进行监督与评价。

编　者

2014年3月

Contents

Unit 1
Space Exploration

Passage 1

Time Taken: _____ minutes

The Mars Exploration Program

Since our first close-up picture of Mars was taken in 1965, spacecraft voyages to the Red Planet have revealed a world strangely familiar, yet different enough to challenge our perceptions of what makes a planet work. Every time we feel close to understanding Mars, new discoveries send us straight back to the drawing board to **revise**[1] existing theories.

Like Earth, Mars has polar ice caps and clouds in its atmosphere, volcanoes, canyons（峡谷）and other recognizable features. However, conditions on Mars vary wildly from what we know of our own planet.

Over the past decades, spacecraft have shown that Mars is rocky, cold, and **sterile**[2] beneath its hazy, pink sky. We've discovered that today's Martian wasteland hints at a volatile world where volcanoes once raged and floods rushed over the land. However, Mars continues to throw out new enticements（吸引力）with each landing or orbital pass made by our spacecraft.

Defining Question for Mars Exploration: Life on Mars?

Among our discoveries about Mars, one stands out above all others: the possible presence of liquid water on Mars, either in its ancient past or preserved

Guess the meanings of the following words from their context.

（1）revise	A. 删除	B. 修改	C. 复习
（2）sterile	A. 贫瘠的	B. 富饶的	C. 宽广的

in the subsurface today. Water is key because almost everywhere we find water on Earth, we find life. If Mars once had liquid water, or still does today, it is **compelling**[3] to ask whether any microscopic life forms could have developed on its surface. Is there any evidence of life in the planet's past? If so, could any of these tiny living creatures still exist today? Imagine how exciting it would be to answer, "Yes!"

Our Exploration Strategy: Follow the Water!

To discover the possibilities for life on Mars, the Mars Program has developed an exploration strategy known as "Follow the Water".

Following the water begins with an understanding of the current environment on Mars. We want to explore observed features like dry riverbeds, ice in the polar caps and rock types that form only when water is present. We want to look for hot springs, hydrothermal vents (热液喷口) or subsurface water reserves. We want to understand if ancient Mars once held a vast ocean as some scientists believe and how Mars may have made the transition from a watery environment to the dry and dusty climate it has today. Searching for these answers means delving into the planet's geologic (地质的) and climatic history to find out how, when and why Mars underwent dramatic changes to become the **forbidding**[4], yet promising planet we observe today.

Future Missions

To pursue these goals, our future missions will be driven by **rigorous**[5] scientific questions that will continuously evolve as we make new discoveries.

Brand new technologies will enable us to explore Mars in ways we

(3) compelling	A. 强制的	B. 迷人的	C. 激发兴趣的
(4) forbidding	A. 险峻的	B. 禁止的	C. 有希望的
(5) rigorous	A. 严肃的	B. 严密的	C. 严酷的

never have before, resulting in higher resolution（分辨率）images, and even the return of Martian soil and rock samples for studies in laboratories on Earth. *(461 words)*

Abridged and revised from
http://mars.jpl.nasa.gov/programmissions/overview

Select the most appropriate answer for each of the following questions.

（1）New discoveries on Mars make the scientists _____.

A. reflect on the previous theories

B. aware of the importance of exploration

C. improve the scientific instruments

D. follow the water

（2）What does Mars look like?

A. It is quite different from the Earth.

B. There are many rivers on Mars.

C. It is like the Earth, with polar ice caps, clouds, volcanoes, and the like.

D. It is covered with ice.

（3）Which of the following words can replace the word "**volatile**" in Paragraph 3?

A. wide.　　B. unsteady.　　C. interesting.　　D. stimulating.

（4）_____ is probably the hottest topic among the discoveries on Mars.

A. The exploration strategy　　B. Life on Mars

C. The dry and dusty climate　　D. A rigorous scientific question

（5）Why do the scientists delve into the geologic and climatic history of Mars?

A. To arouse the ordinary people's interest in Mars.

B. To make the floods rush on Mars.

C. To follow the water.

D. To find out why Mars varies wildly from our own planet.

Passage 2

Time Taken: _____ minutes

Plans for Spacecraft Set to Launch in 2020

Building on the success of Curiosity's landing, NASA① has announced plans for a new robotic science rover set to launch in 2020. The announcement comes a day after NASA **released**[1] the results of the first soil tested by the Curiosity rover, which found traces of some of the compounds like water and oxygen that are necessary for life, the U.S. space agency said. It affirms the agency's commitment to a bold exploration program that meets our nation's scientific and human exploration objectives.

The proposed 2020 rover mission is part of NASA's Mars Exploration Program, a long-term effort of robotic exploration of the red planet. Designed to advance high-priority science goals for Mars exploration, the mission would address key questions about the **potential**[2] for life on Mars. The mission would also provide opportunities to gather knowledge and demonstrate technologies that address the challenges of future human **expeditions**[3] to Mars.

The mission design would advance science priorities in the National Research Council's② 2011 Planetary Science Decadal Survey③, as well as respond to findings of the Mars Program Planning Group, established to

Guess the meanings of the following words from their context.

(1) release	A. 发布	B. 释放	C. 让与
(2) potential	A. 潜力	B. 开放性	C. 可能性
(3) expedition	A. 活动	B. 探险	C. 征战

assist NASA in planning the future of Mars exploration.

NASA will openly compete for the opportunity to implement the mission's specific science payload, following established processes of NASA's Science Mission Directorate④. NASA has begun this process with the establishment of a science definition team tasked to outline the mission's scientific objectives.

The budget for this mission is contingent on future **appropriations**[4]. To keep mission costs and risks as low as possible, the highly capable rover would be based on NASA's successful Mars Science Laboratory mission architecture, including the proven guided entry and sky-crane landing system that successfully carried the Curiosity rover to the Martian surface in August, 2012. Designed to launch in 2020, this mission would take advantage of a favorable launch opportunity when Earth and Mars are in advantageous positions in their orbits for a Mars landing.

NASA will also assess options for **infusing**[5] new capabilities through investments by NASA's Space Technology Program, Human Exploration and Operations Mission Directorate, and contributions from international partners. *(342 words)*

Abridged and revised from
http: //mars.jpl.nasa.gov/m2020/mission/overview

(4) appropriation	A. 拨款	B. 适当	C. 比例
(5) infuse	A. 泡制	B. 输入	C. 鼓舞

Select the most appropriate answer for each of the following questions.

(1) What does "It" refer to in Paragraph 1?

A. A robotic science rover.
B. The announcement.
C. The U.S. space agency.
D. A bold exploration program.

（2）Which of the following can replace the expression “contingent on” in Paragraph 5?

A. supposed to　　B. heading for

C. determined by　　D. likely to

（3）_____ contributes to lowering the risks to the new robotic science rover set to launch in 2020.

A. NASA’s successful Mars Science Laboratory mission architecture

B. The compounds like water and oxygen

C. The findings of the Mars Program Planning Group

D. The budget

（4）Which of the following statements is true?

A. The plans for a new robotic science rover set to launch in 2020 were announced before the soil test made by the Curiosity rover.

B. The Curiosity rover found life on Mars.

C. Water and oxygen are essential for life.

D. The spacecraft will be launched when Earth and Mars are drawing near.

（5）The passage is mainly about _____.

A. the establishment of a science definition team

B. the announcement of the results of the first soil tested by the Curiosity rover

C. the allotment of future appropriations

D. the introduction of the plans for a spacecraft set to launch in 2020

Notes

① NASA: 美国国家航空和宇宙航行局(National Aeronautics and Space Administration),简称“美国航空航天局”。

② the National Research Council: 国家科学研究委员会。

③ Planetary Science Decadal Survey: 行星科学十年勘测计划。

④ Science Mission Directorate: 科学任务委员会。

Passage 3

Time Taken: _____ minutes

Directions: *In this section, there is a passage with ten blanks. You are required to select one word for each blank from a list of choices given in a word bank following the passage. Read the passage through carefully before making your choices. Each choice in the bank is identified by a letter. Please mark the corresponding letter for each item. You may not use any of the words in the bank more than once.*

A space station is an artificial structure designed for humans to live in outer space. It is ____(1)____ from other manned spacecraft by its lack of major propulsion or landing facilities — instead, other vehicles are used as transport to and from the station. Space stations are ____(2)____ for medium-term living in orbit, for periods of weeks, months, or even years.

Space stations are used to study the ____(3)____ of long-term space flight on the human body as well as to provide platforms for greater number and length of scientific studies than available on other space vehicles. Since the ill-fated flight of Soyuz 11 (联盟11号，宇宙飞船名) to Salyut 1 (前苏联沙礼特1号), all manned spaceflight duration records have been set aboard space stations. The duration record of 437.7 days was set by Valeri Polyakov aboard Mir (前苏联米乐航空站) from 1994 to 1995. As of 2005, three ____(4)____ have completed single missions of over a year, all aboard Mir.

Broadly speaking, the space stations so far launched have been of two types. The ____(5)____ stations, such as Salyut and Skylab, have been

"monolithic," intended to be constructed and launched in one piece, and then manned by a crew later. They generally contained all their ____(6)____ and experimental equipment when launched, and were considered "expended," and then ____(7)____, when these were used up.

Starting with Salyut 6 and 7, a change was seen; these were built with two docking ports, which allowed a second crew to ____(8)____, bringing a new spacecraft with them. This allowed for a crew to man the station ____(9)____. The presence of a second port also allowed the supply vehicles to be docked to the station, meaning that fresh supplies could be brought to aid ____(10)____ missions. *(283 words)*

Abridged and revised from
http://www.for68.com/new/2006/1/li8092395737181160021339 3-0.htm

(A) astronauts	(I) artificial
(B) abandoned	(J) designed
(C) earlier	(K) fresh
(D) long-duration	(L) supplies
(E) visit	(M) continually
(F) effects	(N) completed
(G) man-made	(O) distinguished
(H) generally	

Passage 4

Time Taken: _____ minutes

Directions: *In this section, you are going to read a passage with ten statements attached to it. Each statement contains information given in one of the paragraphs. Identify the paragraph from which the information is derived. You may choose a paragraph more than once. Each paragraph is marked with a letter.*

Interplanetary Travel

A As of this writing, humans have paid visits to one other world in the Universe besides the Earth: our own Moon. We have sent robotic probes to the surfaces of Venus and Mars. We have flown remotely controlled vessels past the outer planets. At first, we know what interplanetary travel is. By definition, it refers to the travel between the planets in a given star system. This passage tells us two parts of the interplanetary travel. One is the achievements and the other is the orbital mechanics(轨道力学) of it.

Achievements Made in Interplanetary Travel

B NASA's Apollo program① landed twelve people on the Moon and returned them to Earth: Apollo 11-17, except 13, i.e. six missions, each with three astronauts of which two landed on the Moon. Robot probes have been sent to fly past most of the major planets of the solar system. The most distant probe spacecraft Pioneer 10, Pioneer 11, Voyager 1 and Voyager 2 are on course to leave the solar system, but will cease to function long before reaching the Oort cloud②.

C Robot landers such as Viking and Pathfinder have already landed on the