

## Unit 4 Test A

Name: \_\_\_\_\_ Date: \_\_\_\_\_

### Unit 4 Test Purposes

- Comprehend the main ideas and details in a reading passage
- Understand and use target vocabulary from the unit
- Recognize and understand comparisons and contrasts (Reading Skill)
- Distinguish between homonyms (Vocabulary Skill)
- Understand a point-by-point compare and contrast essay (Writing Skill)
- Use subordinators and transitions to compare and contrast (Grammar)
- Write a compare and contrast essay

## I. Reading Comprehension

**A. Read the article about space stations. Then choose the best answer for each question.**

### Islands in Space

#### Section 1

**1** The International Space Station (ISS) is the most complicated scientific project ever undertaken. First proposed in 1984, it involves the effort of 16 nations: the 11 nations of the European Space Agency, the USA, Canada, Japan, Russia, and Brazil. The first component of the ISS, Zarya (“sunrise” in Russian) was launched in 1998. A few weeks later, a US space shuttle brought the second piece, Unity, and connected the two. The launch of the third major component, the Russian Zvezda (“star”) came in July 2000, and the station’s first long-term crew arrived in November of that year. It has been continuously occupied since then, by over 200 crew members from dozens of countries. The ISS is 109 meters long and its internal volume is about the same as that of a Boeing 747 aircraft. It is one of the most expensive scientific projects ever undertaken. The planned cost for the entire project is over \$150 billion.

#### Section 2

**2** The ISS is not the first space station. That distinction belongs to the Soviet Union’s Salyut 1. Salyut 1 was launched in 1971. In all, there were six Salyut stations. The first—and only—US space station, Skylab, was launched in 1973. The US used the third stage of a Saturn V booster rocket left over from the Apollo moon missions, so Skylab was much roomier than the Soviet stations. The station had to be abandoned in 1975 because there was no way to get to it. The US had used up its Apollo rockets and the first space shuttle wouldn’t be launched until 1981. Eventually, Skylab fell to Earth in 1979. At the time, some people feared that the fragments might land where people live, and a few people even built “Skylab shelters.” However, there was no reason to panic; Skylab burned up harmlessly over an Australian desert.

#### Section 3

**3** The ISS and earlier space stations are very different from the space stations described by science fiction writers and even by some scientists. After World War II, rocket scientist Werner von Braun suggested that a large space station was essential to the exploration of space, providing a stopping place on the way to the moon and the planets. In 1952, von Braun wrote a magazine article about space stations that was illustrated by the artist Charles Bonestell. This image popularized the “spinning wheel”

## Unit 4 Test A

or “donut in the sky” design for space stations which soon became the public’s idea of what a space station *should* look like. There is a memorable scene in Stanley Kubrick’s film *2001: A Space Odyssey* (1969) in which a rocket gracefully lands at a wheel-shaped space station to the musical accompaniment of *The Blue Danube Waltz*.

### Section 4

**4** NASA began focusing attention on space station design in the mid-1970s. In 1975, scientists at Stanford University proposed that clusters of massive space stations, each capable of housing large populations, be constructed at the Lagrange Points. These are the five points in space where the moon’s gravity and the Earth’s gravity are counter-balanced. A space station placed at a Lagrange Point is not pulled toward the Earth or the moon. Unlike the International Space Station, a Lagrange station would not require boosting by rocket engines to stay in orbit. These huge stations were to be built to last for hundreds of years. According to the studies, the materials needed to build the station could be mined from the moon. To pay for the station’s construction and upkeep, solar panels could collect energy from the sun and send it by microwave to the Earth. The stations would contain residential, industrial, and agricultural zones. The inhabitants of the stations would include not just engineers and astronauts but also farmers, factory workers, teachers, merchants, doctors, and artists. A scientist named Gerald O’Neill wrote a popular book called *High Frontier* in 1975 to promote Lagrange stations, and the L-5 society, named after one of the Lagrange points, was formed to encourage governments to build Lagrange stations.

### Section 5

**5** One proposed design for a Lagrange Station was called Island 3, also known as the Sunflower Design or O’Neill Cylinder. Gerald O’Neill described it as “an inside-out planet.” It consisted of a huge cylindrical structure 36 kilometers long and 6.3 kilometers in diameter. It would be shaped like a giant aluminum can. The interior surface of the cylinder would be landscaped with features such as lakes, waterfalls, forests, and mountains. It could house up to a million inhabitants who would live in towns set in a park-like environment. The cylinder would spin on its axis, creating “gravity,” and it would be so large that it would generate its own weather. Inhabitants and tourists could enjoy such unique opportunities as zero-gravity “flying” at the center of the cylinder.

### Section 6

**6** Within a decade, government enthusiasm for the Lagrange stations faded. There was not enough money to undertake such ambitious projects. Space engineers began to focus their attention on more modest projects, such as the ISS. But interest in immense space stations has never completely died. These “islands in space” still have a grip on people’s imaginations.

1. Which of these sequences best describes the order in which the first three ISS components were launched?

- A. Zvesda–Zarya–Unity
- B. Unity–Zarya–Zvesda
- C. Zarya–Unity–Zvesda
- D. Zarya–Zvesda–Unity

**Unit 4 Test A**

2. There has been a permanent crew presence on board since ...

- A. 1971
- B. 1984
- C. 1998
- D. 2000

3. Who drew the picture of the space station that gave people an idea of what space stations should look like?

- A. Charles Bonestell
- B. Werner von Braun
- C. Gerald O'Neill
- D. Stanley Kubrick

4. Which of these terms is NOT a name for the type of Lagrange Station described in Section 5?

- A. Island 3
- B. Sunflower Design
- C. L-5
- D. O'Neill Cylinder

5. Which of the following would probably NOT be true about the Lagrange Stations described in Section 5?

- A. Tourists from earth might visit them.
- B. They would depend on earth for all their food.
- C. People could "fly" through their centers where there was no gravity.
- D. Because of their size, they would actually create their own weather.

6. What point about immense space stations is made in Section 6?

- A. They will almost certainly be built one day.
- B. They continue to hold people's interest.
- C. They are not as useful as smaller stations.
- D. They are still being planned.

<i>1 point for each correct answer</i>		6
--	--	---

**B. Read the statements. Write T (true) or F (false).**

- \_\_\_\_\_ 7. Over \$150 billion has already been spent on the ISS.
- \_\_\_\_\_ 8. The "Skylab shelters" that were built turned out to be totally unnecessary.
- \_\_\_\_\_ 9. The movie *2001: A Space Odyssey* features a rocket arriving at a cylindrical Lagrange station.
- \_\_\_\_\_ 10. Lagrange points are located exactly halfway between the earth and the moon.

<i>1 point for each correct answer</i>		4
--	--	---

**Unit 4 Test A**

**II. Vocabulary**

**A. Choose the word or phrase from the word bank that best completes these sentences.**

absorb	alleviate	drought	innovative	organic	porous	premise	shortage
--------	-----------	---------	------------	---------	--------	---------	----------

11. Sponges are \_\_\_\_\_ so that they can absorb and hold liquids.  
12. Although it rained hard last night, one storm was not enough to relieve the \_\_\_\_\_.  
13. Most of the comedies I watch on TV seem dull and repetitive, but I find that new show *Family Tree* quite \_\_\_\_\_. I've never seen a show quite like it.  
14. Aspirin can \_\_\_\_\_ pain and reduce fever.  
15. Mufflers on a car are designed to \_\_\_\_\_ engine noise.

1 point for each correct answer		5
---------------------------------	--	---

**B. Match each word with the correct synonyms or definitions.**

- \_\_\_\_\_ 16. caution  
\_\_\_\_\_ 17. extract  
\_\_\_\_\_ 18. premise  
\_\_\_\_\_ 19. motion  
\_\_\_\_\_ 20. resemble

- A. statement or basic idea of an argument  
B. fee; payment  
C. warn about possible dangers  
D. look like; be similar to  
E. remove; take out  
F. proceed; move forward  
G. movement; flow

1 point for each correct answer		5
---------------------------------	--	---

**III. Reading Skill: Understanding comparisons and contrasts**

**A. Read these sentences of comparison/contrast based on information from an article called "Two Chemicals That Have Changed Lives." If they are written correctly, mark them C; if they are written incorrectly, mark them X.**

- \_\_\_\_\_ 21. Similarly to ammonia, penicillin has led to vast improvements in many people's lives.  
\_\_\_\_\_ 22. Penicillin is not as commonly prescribed to patients than it was in the past.  
\_\_\_\_\_ 23. In contrast to ammonia, penicillin is a mold, not a chemical substance.  
\_\_\_\_\_ 24. Although its great value as a fertilizer, ammonia is a very toxic substance.

**Unit 4 Test A**

- \_\_\_\_\_ 25. Penicillin could not be put into production for many years after it was first discovered.  
Likewise, it took a long time before ammonia could be produced in large amounts.
- \_\_\_\_\_ 26. While both penicillin and ammonia are useful, they have very different uses.

1 point for each correct answer		6
---------------------------------	--	---

**IV. Vocabulary Skill: Using the dictionary to distinguish between homonyms**

**Decide if the underlined word is used as a noun, verb, adjective, or adverb in the sentences below.**

27. \_\_\_\_\_ That sports car she bought is really fast.
28. \_\_\_\_\_ The early morning meal is called “breakfast” because that is when we end our overnight fast.
29. \_\_\_\_\_ This summer seems to be passing so fast; I can’t believe tomorrow is September 1.
30. \_\_\_\_\_ He asked for a lift to the stadium.
31. \_\_\_\_\_ The lift was broken so we had to walk up to the seventh floor.
32. \_\_\_\_\_ Did Jorge lift that idea from somewhere else?

1 point for each correct answer		6
---------------------------------	--	---

**V. Writing Skill: Writing a compare and contrast essay**

**Read the article comparing the atmospheres on Venus and Mars. Then fill in the missing points in the outline with information from the article.**

**1** The two planets closest to earth are Mars and Venus. Two nearly identical spacecraft—MarsExpress and VenusExpress—have orbited the planets, analyzing the atmospheres of the two worlds and found that they have more in common than you might think.

**2** "Mars and Venus are very different planets," said David Brain, a planetary scientist at the University of California, Berkeley. "Venus's atmosphere is very thick, dry, and hot, hot enough to melt lead. Mars's atmosphere is very thin and cold, far colder than any place on earth. And yet some of the same processes are happening on both planets."

**3** Both Venus's and Mars's atmospheres are mostly carbon dioxide. Today, the atmosphere here on Earth is mostly nitrogen, but scientists think it used to be more like these two other rocky worlds. Neither of our neighboring planets has a protective magnetic field; the solar wind is free to interact directly with the planets' atmospheres. On Mars, solar radiation causes atmospheric particles to accelerate and escape from the planet. On Venus, the heavy cloud cover traps the sun's radiation and the atmosphere is so thick, the heat cannot escape. Earth is mostly protected from solar radiation by its magnetic field.

**Unit 4 Test A**

4 "These results really highlight what a special place Earth is and how lucky we are to have an atmosphere protected by a magnetic field," Brain said.

	<b>The Atmosphere of Venus</b>	<b>The Atmosphere of Mars</b>
<b>General description</b>		Very thin and cold
<b>Chemical composition</b>	Mostly carbon dioxide	
<b>Magnetic field</b>	No magnetic field	No magnetic field
<b>Effects of solar radiation</b>		

<i>2 points for each correct answer</i>		8
---	--	---

**VI. Grammar**

**A. Rewrite the sentences using the words in parentheses.**

37. It was a warm evening. Jamil put on a sweater. (although)
38. The word *Homeward* means going toward home. *Skyward* means moving toward the sky. (likewise)
39. In some countries, Sunday newspapers are larger than daily newspapers. In other countries, daily papers are larger than Sunday papers. (on the other hand)
40. They are building an airport on the island. They are building a cruise ship dock. (in addition)
41. Yang was a beginner chess player. He won the student chess tournament. (nevertheless)

<i>1 point for each correct answer</i>		5
--	--	---

**B. Underline the word that best completes the sentence.**

42. (Though/Even) her alarm didn't go off, Margreet still got to work on time.
43. Drums are considered percussion instruments, (where/whereas) guitars are considered string instruments.
44. Claudia has a full-time job at a bank; (nevertheless/in addition), she volunteers as a tutor three evenings a week.
45. (Although/Despite) the rain, the concert began on schedule.
46. Britain is an island (while/when) Australia is a continent.

<i>1 point for each correct answer</i>		5
--	--	---

<b>Total points Sections I–VI</b>		<b>50</b>
-----------------------------------	--	-----------

**Unit 4 Test A**

**VII. Writing**

Write an essay (200–250 words) comparing and contrasting exploration in space and exploration on Earth.

<b>Points Section VII</b>		<b>20</b>
---------------------------	--	-----------

<b>Total points Sections I–VII</b>		<b>70</b>
------------------------------------	--	-----------

**Unit 4 Test**

**Writing Rubric**

Student name: \_\_\_\_\_

Date: \_\_\_\_\_

**Assignment:** Write an essay (200–250 words) comparing and contrasting exploration in space and exploration on Earth.

<b>Write a Compare and Contrast Essay</b>		Points (0 – 5)	
Discourse competence	The essay successfully compares and contrasts exploration in space and exploration on Earth.		/ 5
	The essay has a concluding paragraph that summarizes main differences and similarities between the two fields.		/ 5
Linguistic competence	The essay uses grammar appropriate to compare and contrast essays to successfully complete the task.		/ 5
	The paragraph uses a range of vocabulary appropriate to compare and contrast essays to successfully complete the task.		/ 5

**Total points:** \_\_\_\_\_

**Comments:**