Name_____

Claiming the South Pole for Mankind

Roald Amundsen set out to claim the last uncharted place on Earth. He wanted to reach the South Pole. A few years earlier, he had sailed the Northwest Passage of the Arctic. While making plans to continue his exploration of the far north, he learned of others who also planned to explore the North Pole. Secretly, he began planning an expedition to the South Pole instead.

His journey was not without rival. Captain Scott of England was also headed for the South Pole. Amundsen knew about the competition, so he started out early before the weather was truly manageable. As a result, a few of his dogs died and members of his team suffered from frostbite. Amundsen retreated to his base and assessed the situation, deciding to wait until the spring before attempting the journey again.

Amundsen brought valuable experience to the expedition. He had sailed previously as part of a scientific voyage. The ship became stuck on the pack ice, and the crew was forced to stay in the Antarctic until winter was over. Amundsen used the experience to make observations that later led to improvements in polar equipment. He spent three years in the Arctic, which further prepared him for his conquest of the South Pole. He learned from the native people and applied their survival techniques to his own experience.

The winter layover gave Amundsen and his crew the opportunity to carefully scrutinize and test supplies and equipment. He went over every detail, keeping in mind the harsh environment they would face.

Finally, at the start of the Antarctic spring, Amundsen set out with four companions to make the eight-hundred-mile trek across the ice. He reached his goal in December of 1911. The crew set their country's flag on the geographical South Pole. Before they left their polar camp for home, Amundsen left a letter for Scott. Scott found and kept the letter, which later proved the success of Amundsen's expedition.

Text Questions

1. What organizational structure did the author use for this passage?
   a. compare and contrast
   b. problem and solution
   c. chronological
   d. cause and effect

2. Which statement describes one way in which Amundsen was experienced for such a polar expedition?
   a. He had been part of a crew that got stuck in a temperate zone during the winter.
   b. When stuck on pack ice, Amundsen ignored his situation.
   c. Amundsen had never spent any time in polar environments.
   d. He learned from native people in the Arctic and applied their survival techniques.

3. What is the purpose of the last paragraph?
   a. It summarizes the success of Amundsen's expedition.
   b. It gives details about the journey.
   c. It explains why Amundsen was successful.
   d. It describes the competition Amundsen faced.

4. What does it mean to say Amundsen *assessed* the situation?
   a. He set a value on what it would be worth to reach the South Pole.
   b. He set the amount of tax future explorers would have to pay.
   c. He determined how important it was to him to beat Captain Scott.
   d. He evaluated the significance of the factors that had caused them to turn back.

5. What might we learn today from comparing and contrasting Amundsen's and Scott's polar expeditions?

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Name_____

Braces

Dental braces are also called orthodontic braces. They are used by dentists to realign and straighten teeth. In doing so, they can also improve dental health.

Braces have been used for thousands of years. Mummies have been found with braces. Ancient Greeks and Romans were found to have used braces. Over two hundred years ago, teeth were first extracted to help with overcrowding. Once teeth weren't as crowded, braces could straighten teeth. A century later, wires and mild pressure were used to move teeth. During the twentieth century, the application and use of braces continued to be perfected.

About forty years ago, dentists developed braces that can be worn on the inside of the teeth and, therefore, are not visible. These were called lingual braces. One example was iBracesTM, made with the aid of digital computer imaging. They were popular for over a decade. Then, tooth-colored ceramic braces were invented. Ceramic braces can be any color the patient chooses.

Years ago, dentists learned that plastic dental appliances could aid in making minor movement changes in teeth. Not too long ago, two people who had braces developed a system using clear plastic molds. They applied 3D computer-aided technology, and the "Invisalign®" method was developed. The dental community was skeptical. Neither of the two inventors were dentists, nor had they studied in the field of medicine. Regardless, over the last ten years or so, these clear plastic brace appliances have become very popular.

Where will orthodontics go from here? Imaging continues to improve. Creative, new methods allow various metals to be used, such as nickel titanium alloys. Braces will soon be worn for shorter periods of time. They will continue to be less visible and will obtain better results.

Text Questions

1. What is the primary purpose of braces?
   a. to make teeth white
   b. to extract extra teeth and prevent overcrowding
   c. to improve dental health
   d. to straighten teeth
2. What does the word *realign* mean as it is used in the text?
   a. to remove
   b. to make straight again
   c. to bring components of a machine into proper coordination with each other
   d. to come to agreement again
3. Which of the following is <u>not</u> specifically a development in medical technology?
   a. Tooth extraction helped with overcrowding.
   b. Wires and mild pressure were used to move teeth.
   c. Dentists developed braces that can be worn on the inside of the teeth and, therefore, are not visible.
   d. 3D computer-aided technology was used to develop a system using clear plastic molds.
4. What is the purpose of the first paragraph?
   a. It describes the history of early braces.
   b. It gives details about the development of orthodontic technology.
   c. It introduces the topic with a general statement of purpose.
   d. It summarizes the topic and considers future development.
5. In what ways might braces improve dental health? Give examples to support your answer.

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Name_____

Microbursts

One of the least known weather phenomena is the microburst. It is a wind occurring beneath certain clouds that is strong enough to damage buildings, knock down trees, and crash airliners. Microbursts can produce wind speeds higher than 175 miles per hour, which is greater than many tornadoes and hurricanes.

Microbursts are fast-moving columns of air that develop beneath cumulonimbus clouds. These are the same clouds that produce thunderstorms and tornadoes. The air develops quickly and moves straight down from the cloud base. It then moves along the ground and curls back up and around in a circular manner. They are also called "cloud sneezes."

Since 1975, eight airline crashes have been directly attributed to microbursts. The crashes occur during either takeoff or landing. Let's consider an aircraft landing as an example. Flying low in its approach, the aircraft encounters the outer area of the microburst's curling wind. The pilot senses the updraft and forces the nose of the airplane down to compensate. As the airplane continues, it encounters the strong downdraft at the center. Because the nose of the plane is already lowered, the down-moving air forces the nose rapidly lower, and the pilot is unable to compensate. This forces the airplane down to the ground.

The most famous microburst airline crash was Delta Airlines Flight 191 at Dallas/Fort Worth International Airport on August 2, 1985. The airliner crashed on approach due to a microburst, and 137 passengers and crew members died.

As a result of that airliner crash, the government sought ways to detect microbursts with various types of weather radar. This and other precautionary measures have lessened the number of airline crashes due to microbursts.

Text Questions

1. What primary structure does the author use to organize the thoughts in the text?
   a. cause and effect
   b. compare and contrast
   c. problem and solution
   d. sequential or chronological approach
2. What is the main idea of the second paragraph?
   a. how people can avoid a microburst
   b. how a microburst is formed
   c. how a microburst affects airlines
   d. how the government has stopped microbursts from happening
3. Based on what you read in the text, what is the best way to describe the effect a microburst has on aircraft?
   a. A microburst limits a pilot's visibility during landings.
   b. The extreme shifts in wind direction make it difficult to navigate the plane safely.
   c. The force of wind in a microburst prevents a plane from taking off.
   d. The extreme wind speeds knock aircraft sideways, and they crash.
4. What does the word *compensate* mean as it is used in the third paragraph?
   a. to make equitable with financial return
   b. to make amends
   c. to counteract or make allowance for
   d. to navigate
5. According to the text, what is the most dangerous aspect of a microburst?

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PAPER 4 LISTENING (approximately 40 minutes)

Part 1

You will hear people talking in eight different situations. For questions **1–8**, choose the best answer (**A**, **B** or **C**).

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1 You hear someone talking about women's football.
What is she doing when she speaks?

A encouraging young girls to support a team

B suggesting how to attract young girls to the sport

C asking young girls to take the sport seriously

2 You hear a man talking on the radio about a bag made for use on walking trips.
How does this new bag differ from others?

A It has pockets on the side.

B You can take off the rain cover.

C There are some extra features.

3 On the radio, you hear a man discussing a cartoon film about dinosaurs.
What aspect of the film disappointed him?

A the design of the backgrounds

B the quality of the sound effects

C the size of the dinosaurs

4 You overhear a couple talking about keeping fit.
What do they agree about?

A the need to be more active

B the benefits of joining a gym

C the dangers of too much exercise

5 In a radio play, you hear a woman talking on the phone to a friend.
Where does the woman want her friend to meet her?

A on the beach

B at the bank

C in a shop

6 You hear a student talking to his friend about a meeting with his tutor.
What was the student's purpose in meeting his tutor?

A to see if there was a part-time job available

B to ask for financial assistance

C to request more time to complete coursework

7 You hear a man talking about learning how to paint landscapes.
What does he say about it?

A It proved easier than he had thought.

B It showed him he had some talent.

C It opened up opportunities for him.

8 You turn on the radio and hear a man talking.
What is he talking about?

A finding friendship

B solving problems

C helping others

Part 2

You will hear an interview with a man called Richard Porter who is a maker of musical instruments called organs. For questions **9–18**, complete the sentences.

Musical Instrument Maker

Richard's first ambition was to be a _____ **9**

Richard makes organs which are used in

_____ **10** and churches worldwide.

It costs £_____ **11** to buy one of the organs which Richard makes.

According to Richard, personal

_____ **12** provide him with most of his overseas clients.

Richard says that he is involved in

_____ **13** organs, as well as building and selling them.

In terms of raw materials, only the

_____ **14** that Richard uses comes from Britain.

Richard's new workshop will be in a building that was once used as a

_____ **15**

Richard will have to work in a

_____ **16** as well as in his new workshop.

The only thing that Richard will have to pay for in his new workshop is the

_____ **17**

The new workshop will be perfect for the instruments Richard makes because it is a

_____ **18** place.

Part 3

You will hear five different cyclists talking about a long-distance race they took part in. For questions **19–23**, choose from the list (**A–F**) what each speaker says. Use the letters only once. There is one extra letter which you do not need to use.

A I started the race but then decided not to continue.

Speaker 1 | | 19

B I had to change bicycles during the race.

Speaker 2 | | 20

C I felt uncomfortable on my bicycle throughout the race.

Speaker 3 | | 21

D I had done some serious physical training for the race.

Speaker 4 | | 22

E I think the organisers of the race were inefficient.

Speaker 5 | | 23

F I was satisfied with my performance in the race.

Part 4

You will hear an interview with a TV presenter, Tanya Edwards, who is talking about her career and her daughter called Maddy. For questions **24–30**, choose the best answer (**A**, **B** or **C**).

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24 What does Tanya say about her first job in children's TV?

A She had contacted the TV company earlier.

B It was difficult to get used to the instructions.

C Her previous experience was useful.

25 What does Tanya say about Paul Broadly, her first boss?

A He thought of nothing but his work.

B It was difficult to work with him.

C He was unwilling to share ideas about the work.

26 What does Tanya say about her parachute jump?

A She wishes she had never done it.

B It resulted in unexpected attention.

C Her boss was cross about what happened.

27 What does Tanya say about her daughter's flute playing?

A She knew that Maddy had talent.

B She saw that Maddy liked an audience.

C She wanted Maddy to practise more.

28 How does Tanya feel when her daughter sings in public?

A responsible for Maddy's success

B worried that something will go wrong

C aware of how the audience feels

29 Tanya says that Maddy finds modelling difficult because

A she finds it exhausting.

B you have to cope with criticism.

C people don't respect models.

30 What is Tanya's attitude to fame in general?

A You should enjoy it while it lasts.

B You should try and ignore it.

C You should accept its drawbacks.