Space tourism

A Space exploration is important. Apart from the fact that it inspires whole new generations of young scientists, it helps us understand our environment and has given us a perspective on the world in which we live. Mostly, space travel has been restricted to military or scientific exploration, but this is now changing. Now there is a growing space tourism industry, which enables people to pay money to achieve their dreams of leaving the Earth.

B Space tourism is not yet a realistic possibility for most people, although there have been commercial flights into space for a few lucky people over the past few decades. In fact, the very first space tourist, Dennis Tito, travelled to the International Space Station as long ago as 2001. Since then, six other fee-paying astronauts have made the trip into space. The explanation for why it was possible for these visitors to have the privilege to leave the Earth, of course, is that they paid enormous sums of money. For his seven days and 22 hours in space, Dennis Tito is reported to have paid $20 million.

C At present, there are several business ventures planning to launch commercial flights to the edge of space, and specially designed vehicles to enable this are being created. Although these do not plan to take tourists away from the Earth's atmosphere, they do offer the chance to travel on board a suborbital flight, reaching altitudes of up to 160 kilometres and moving at over 1.4 kilometres per second. This would offer customers the experience of seeing a dark sky filled with stars, as well as a stunning view of the planet Earth below. Tickets would cost in the region of $200,000 per trip, which would be a bargain compared to the fee Dennis Tito had to pay. However, the trips would be a lot shorter, offering only a few minutes of weightlessness before returning back to the ground, instead of seven days in outer space.

D So, it is possible that space tourism could one day become affordable and achievable for many people. However, although a journey into space (or the edge of it) would be a rewarding, once-in-a-lifetime experience for the lucky few, space travel could have widespread drawbacks for the rest of us. According to a study carried out by NASA, a large number of suborbital launches would inevitably release a significant amount of carbon dioxide into the higher levels of the Earth's atmosphere. This alone could cause large-scale disruption to the planet's climate, increasing temperatures globally and disrupting the ozone layer.

LIVEWORKSHEETS

Which paragraph contains the information.

1. a comparison between two different amounts of time
2. a challenge to the idea that space tourism is worthwhile
3. a reason why certain people could achieve something
4. gives a justification of why space travel is useful
5. mentions the main types of space travel that have existed until now
6. gives examples of people who have paid to travel into space
7. gives details of flights which reach the edge of space

LIVEWORKSHEETS

The meaning and celebration of Matariki

Henry Wilkes travels to New Zealand to investigate an ancient Māori tradition

A Over the cliffs at Mission Bay in Auckland, New Zealand, an incredible number of kites give extra colour to the cold blue sky. It is no coincidence that so many people have gathered here to fly them; they have come together to celebrate the arrival of the Matariki, the group of seven stars that appear in mid-winter. Many of the kite fliers are Māori, descendants of the people who first arrived in New Zealand in the 13th century, but others have European ancestors, or are recent immigrants to this country. What all of them have in common is that they are keen to take part in the celebration, and a key part of this is the designing and making of a kite. The Māori used to make them out of pampas grass, flax and the bark of the mulberry tree, and would often decorate them with shells or feathers. Nowadays, although it is easy enough to make a modern plastic kite, people prefer to follow their customs and use traditional methods and materials.

B Before the Europeans began to arrive and settle in New Zealand, festivities associated with the Matariki were popular amongst all Māori tribes. They gradually began to disappear, eventually coming to an end with the last traditional festival held in the 1940s. It wasn't until the beginning of the 21st century that people began calling in large numbers for Matariki to be brought back as a cultural event. In 2000, around 500 people attended a community gathering and public firework display in Hastings, New Zealand, to mark the return of Matariki. This year, over 20,000 people are expected to participate in the same event. And around the rest of New Zealand, other similar events are co-ordinated.

C Māori have several stories about the origins of the Matariki. One is connected to their creation myth, in which the god of the weather and winds threw his eyes into the heavens, where they became the seven stars. In another version, the god of the forests, Tāne Mahuta, became jealous of a very bright star which everyone admired. He angrily threw the star to destroy it but instead it broke up into seven smaller stars. In a third myth, the main star is a mother and the six smaller ones are her daughters. Regardless of the origins, Māori communities have traditionally celebrated in similar ways.

D Although Māori living in New Zealand recognise January 1st as the official start of the year, it is the appearance of the Matariki which traditionally marks the beginning of the Māori New Year. Of course, people living in different parts of the world will be able to see the cluster of seven stars at different times of year. However, for New Zealanders hoping to see the Matariki, they should keep an eye out from the second week of June. If they look towards the north-east horizon, slightly to the west of where the sun rises, they should have

LIVEWORKSHEETS

a good chance of spotting it in the tail of the Milky Way. Of course, it is best to get up an hour before dawn, so the stars are bright enough to be easily noticed. A pair of binoculars can come in handy, too.

E Like the first people to settle in Tonga, Samoa, Niue, the Cook Islands, Hawaii and Tahiti, the Māori were great sailors. All these Polynesian peoples were able to travel long distances over water by observing the position of the stars. The seven stars that made up the Matariki were especially useful due to the fact that they changed position during the year, showing a clear direction for the huge traditional canoes to follow. It's easy to see the common ancestry of the people of Polynesia when you look at the names for the Matariki in the different countries: it is *Matali'l* in Samoa, *Makali'l* in Hawaii, and *Mataliki* in Tonga, for example.

F Nowadays, as in the past, Matariki celebrations provide an excellent opportunity for communities to unite. It is a time when people reflect on the experiences of the year which has just passed, give thanks for the good things they have received from the land and the sea, and look forward to the year ahead. It is also the perfect time for older members of the extended family or local tribe to share their knowledge with the young. They may teach them traditional songs or stories, demonstrate old ways of fishing or catching eels, or show them how to prepare *hangi* (food which is cooked on heated stones in a hole in the ground). For many Māori children, this contact and experience gives them a strong sense of cultural identity and belonging.

G While Māori arts such as carving and weaving were practised during Matariki celebrations in the past, the arrival of the seven stars had another significant role. Māori decided when to plant their crops according to how easily the stars could be seen. If they were clear and bright, Māori believed that the growing season would be a productive one, and they would plant their crops in September. But if they appeared to be out-of-focus and closer together than usual, they knew that the winter was going to be an extremely cold one. This meant they wouldn't start planting until October. But Matariki also occurred at harvest time, so there was plenty of food to share around between family members and visitors. This kind of feasting is still very much part of the modern celebrations.

LIVEWORKSHEETS

1. Paragraph A
2. Paragraph B
3. Paragraph C
4. Paragraph D
5. Paragraph E
6. Paragraph F

i The role of the Matariki in bringing different generations of people together

ii Different ancient legends told in New Zealand about how the Matariki were created

iii The possibility of the Matariki replacing traditional national holidays

iv Current interest in a craft once commonly associated with celebrating Matariki

v The importance of the Matariki as a navigational tool in the past

vi Other cultures' legends about the origin of the seven stars

vii The Matariki's influence on customs associated with agriculture

viii The decline and later revival of the celebration of Matariki

ix The kind of traditional dishes guests can expect to receive during Matariki

x A strategy for locating the formation of the stars that make up the Matariki

LIVEWORKSHEETS