

--

--	--	--	--	--

--	--	--	--

0510/23

May/June 2016

2 hours

Candidates answer on the Question Paper.

No Additional Materials are required.

READ THESE INSTRUCTIONS FIRST

Write your Centre number, candidate number and name on all the work you hand in.

Write in dark blue or black pen.

Do not use staples, paper clips, glue or correction fluid.

DO **NOT** WRITE IN ANY BARCODES.

Answer **all** questions.

Dictionaries are **not** allowed.

At the end of the examination, fasten all your work securely together.

The number of marks is given in brackets [] at the end of each question or part question.

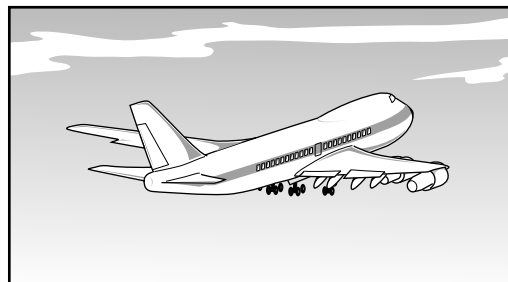
This document consists of **15** printed pages and **1** blank page.

Exercise 1

Read the following brochure for a holiday tour in Morocco, and then answer the following questions.

Destination Holidays to Morocco

Morocco is a north African country of outstanding beauty, with the flat, west Sahara Desert and the high Atlas Mountains. In the busy cities, you can explore the narrow streets and buy souvenirs in colourful, bustling markets. Destination Holidays offers the following four-day tour to visitors:



Day 1: Arrive in Casablanca and evening in Marrakech

After your arrival at Casablanca's international airport, you will board your coach. Before leaving the city for Marrakech, you will have the opportunity to visit the Hassan II Mosque, which has the tallest minaret in the world. This mosque is a fine example of magnificent Moroccan architecture, and is the most popular attraction for visitors in Casablanca. By late afternoon, you will reach your hotel in Marrakech, and you will have the evening to enjoy a walk through the city streets, stopping to visit markets.

Day 2: Marrakech

You will have a full day in Marrakech and a choice of visitor attractions. The Majorelle Garden is famous for its trees and exotic plants. Here you can walk in the shade, past refreshing streams and pools filled with water lilies and lotus flowers, while listening to the birds. The garden offers a calming retreat from the heat of midday and the busy city traffic.

The Museum of Marrakech was once a palace. It still has fountains in the central courtyard and traditional seating areas, though most of the intricate tile work and carvings are replicas. The museum holds exhibits of both modern and traditional Moroccan art, together with fine examples of historical books, coins and pottery.

If you prefer not to walk, look for the little yellow taxis that are everywhere in the city. You can normally travel anywhere in Marrakech for under 50 Dirhams, and a ride from the famous Jamaa El Fna Square to Gueliz, the new town, should cost no more than 15 Dirhams. You can find yellow taxis outside your hotel, but the fare will be higher.

Day 3: Sahara Desert

You will set off for an overnight trip to the Sahara. Visitors will never forget the camel ride and the sunset over the golden dunes. Instead of a hotel for the night, your accommodation will be a Bedouin-style tent, with Moroccan carpets used to cover the sand. You will sleep well in a cosy bed but don't expect soft mattresses to sleep on.

Day 4: Return to Casablanca

Your coach will return to Casablanca, with plenty of time for shopping before your flight. Make sure you also sample delicious traditional pastries and mint tea in one of the many cafés, and don't forget to pick up some last-minute souvenirs.

- (a) What would a tourist find attractive about the Moroccan landscape?
.....[1]
- (b) What could you visit on the first day in Casablanca?
.....[1]
- (c) Where would you sleep on your first night of the tour?
.....[1]
- (d) How can visitors avoid the hot sun in the Majorelle Garden?
.....[1]
- (e) What remains of the original palace in Marrakech?
.....[1]
- (f) How much is a taxi ride from Jamaa El Fna Square to Gueliz?
.....[1]
- (g) What will visitors always remember about the Sahara Desert? Give **two** details.
.....
.....[1]
- (h) What makes a night in a tent on the Sahara trip more comfortable? Give **two** details.
.....
.....[1]
- (i) When shopping in Casablanca, what should you try in a café? Give **two** details.
.....
.....[1]

[Total: 9]

Exercise 2

Read the following article about sitting, and then answer the following questions.

Too much sitting is bad for you!

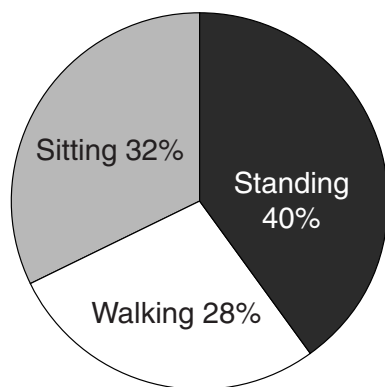
Most of us are guilty of excess sitting. We sit at school, at our computers and in front of the TV, moving only to change from one seat to another. Some studies suggest that people who sit all day reduce their life expectancy by around two years compared to those who are more active. Medical researchers have found evidence that sitting for long periods increases the risk of obesity and diabetes. According to Dr Amir Khan, an expert in teenage development, "Today's teenagers are particularly at risk because of the hours they spend using digital technology." It is clear that constant sitting at home, at school and in the workplace is harmful to health.



In the nineteenth century, many office workers stood at their desks and moved around a lot more. However, this changed in the twentieth century when the number of employees in a typical office grew and it was much easier to supervise people when they were sitting down. Today, companies with modern offices face a huge challenge to reduce the amount of time people spend sitting, and schools are becoming aware of a similar need to change.

A school in Minnesota decided to experiment with a new 'standing classroom' design. They removed the standard desks and replaced them with high tables. These new tables are at chest level and have a swinging footrest. As well as the expected health advantages, teachers have noticed other improvements. The students appear to be more attentive, more alert and able to concentrate better. At the beginning of the experiment, there were no chairs, but the school has now added some high chairs because not all of the students wanted to stand all day.

Improved time spent being active or seated at school



Students are happy with their new environment and especially enjoy the background music, which has been added to improve their learning. Results show that their time is now divided fairly equally between when they stand, when they walk around the classroom and when they sit, with each of the three activities accounting for about one third of their time.

Other schools are now calculating the costs and benefits of using standing desks. Many are keen to improve their students' results, and they carefully consider all their performance and attendance data before making a final decision. Parents also need to be consulted as they may have doubts about the effect of these changes on their children. Some schools even organise after-school events where parents, students and teachers can experience a lesson in the new-

style standing classroom. It is essential that everyone understands the value of these changes as they are expensive to introduce. A classroom with traditional desks and chairs costs less than half that of a 'standing classroom'.

Dr Khan is unsure how much teenagers can change. He believes that, at that age, they have firmly established habits and they don't want to do things differently. They might be reluctant to stand for lessons and they should be allowed to choose whether to stand or sit. He adds that a mix of standing desks and traditional seating ensures that all students can work in the way that suits them.

- (a) What do studies show that people must do to live two years longer?
[1]
- (b) What **two** health problems can be caused by too much sitting?

[2]
- (c) When was it normal for office workers to stand at their desks?
[1]
- (d) Why did employers prefer their workers to sit?
[1]
- (e) How were the new desks in a school in Minnesota different from their old ones?
[1]
- (f) In what **two** ways did standing help improve the behaviour of students?

[2]
- (g) What changes were made to the original classroom design?
[1]
- (h) According to the chart, how much of their time did students spend seated in their new classroom?
[1]
- (i) How can parents find out about the new style of classroom?
[1]
- (j) What are the challenges of introducing a 'standing classroom'?

[4]

[Total: 15]

Exercise 3

Dinah Heracleous entered an international technology competition, with a group of four other students at her school, and their entry has reached the final round. The students designed and built a robot which detects movement and measures the temperature in a room. It took them three months to build their final model, which is controlled by a laptop. The robot is currently stored at Raches High School, Beech Avenue, Larissa, in Greece, where Dinah and the rest of her group study design and technology, physics and mathematics. Their teacher, Miss Demetriou, has supervised the students' work and is very excited by their success so far. Dinah's father, Mr Heracleous, is also proud of his daughter's achievements as he is a scientist himself.

All entries that have reached this stage of the competition will be displayed at the annual Institute of Technology Exhibition in Bern, Switzerland, and the finalists will travel to Bern University with their robot. They will not be able to bring the necessary laptop to control the robot, for security reasons, and need one to be provided by the university when they arrive. Because of their age, they will need an adult to accompany them. The students are all currently sixteen years old, although one of Dinah's friends will be seventeen before the date of the exhibition. Both Miss Demetriou and George Heracleous would like to accompany the group to Bern, but Dinah's father has an important business meeting in the same week so he is unable to attend the exhibition.

Accommodation can be provided at the university during the summer holidays. The students have discussed whether they would prefer to stay in single bedrooms, with all meals provided, or whether they would like to share a student flat with a fully-equipped kitchen. The group has decided that they would prefer not to cook for themselves. They will all stay for five nights. However, Dinah has a cousin in Bern and she will visit her for a week's holiday after the rest of the group leaves. She will stay for one extra night at the university because her cousin cannot collect her until the following day.

When the group travels to Bern, they will catch the bus from Larissa to Athens International Airport and fly from Greece to Munich, arriving at 11.00. Later, the group will take an evening flight and arrive at Bern Airport at 19.30. Then they will need transport to the university because their robot is difficult to carry.

During their stay, the students will have the opportunity to work with experienced scientists on one of three projects. Dinah is interested in the Stars and Space project, and also thinks that Earth Chemistry sounds good, but she has decided to choose Plants under the Microscope because it is a new subject for her and will be different from her school studies.

While the group is in Bern, parents will be able to contact the school by phone on 35722 681144, and will receive regular email updates from headteacher@raches.sch.gr

Imagine you are Dinah. Fill in the form, using the information above.

Institute of Technology Exhibition Finalist's Attendance Form

Section A: Personal details

Full name:

Age:

Family contact (name and relationship):

Section B: Competition entry details

School name and address:

.....

Contact details: phone email

Accompanying adult (name and relationship):

.....

Brief details of your competition entry:

.....

Extra equipment required:

Choice of project (please tick one box):

☐

Earth Chemistry

☐

Stars and Space

☐

Plants under the Microscope

Section C: Accommodation and travel

Accommodation preference (please circle one): single room with meals self-catering flat

Number of nights required:

If you need transport to the university, please state the time and place of arrival in Bern:

.....

Section D

In the space below, write one sentence of between 12 and 20 words to explain the benefits of reaching this stage of the competition.

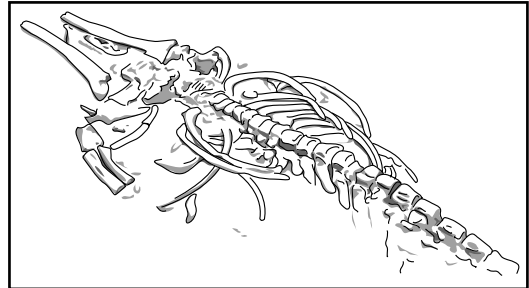
[Total: 8]

Exercise 4

Read the following article about whale fossils in Chile, and then complete the notes on the following page.

Whale fossils explained

Fossils, such as preserved bones and imprints found in rock, offer scientists valuable information about prehistoric plants and animals. Large marine mammals, like whales, are difficult for marine biologists and scientists to study. Any relevant information is therefore used to learn more about these fascinating animals, and fossil remains can provide very useful research data.



One of the most surprising fossil discoveries of recent years has been a collection of whale skeletons, which was discovered when roadworks began on the Pan-American Highway in Chile. People living nearby already knew that there were whale fossils in Chile's Atacama Desert because their bones could be seen sticking out of the ancient sandstone rocks. Local people call the site Cerro Ballena, which means 'Whale Hill', but international scientists had no idea that the fossils existed. Chilean and US researchers were given just two weeks to study the fossils and to complete their research before the construction work began again on the new road. The team began recording as much detail as possible, including making 3D digital models of the skeletal remains and then removing bones for further study in the laboratory.

The fossil researchers identified over 40 skeletons of whales, as well as other important marine species, including some extinct creatures. One of these was a dolphin that had evolved a walrus-like face. Seal skeletons were also identified at the site. Scientists believe that these marine mammal fossils were preserved more than five million years ago.

The Chilean fossil discovery has given valuable information about how whales swim too close to land and become stranded. It shows that for millions of years, groups of large marine mammals, like whales, have become stuck in coastal areas, river estuaries and shallow water. They are unable to escape and eventually die. There are a number of possible explanations for these events.

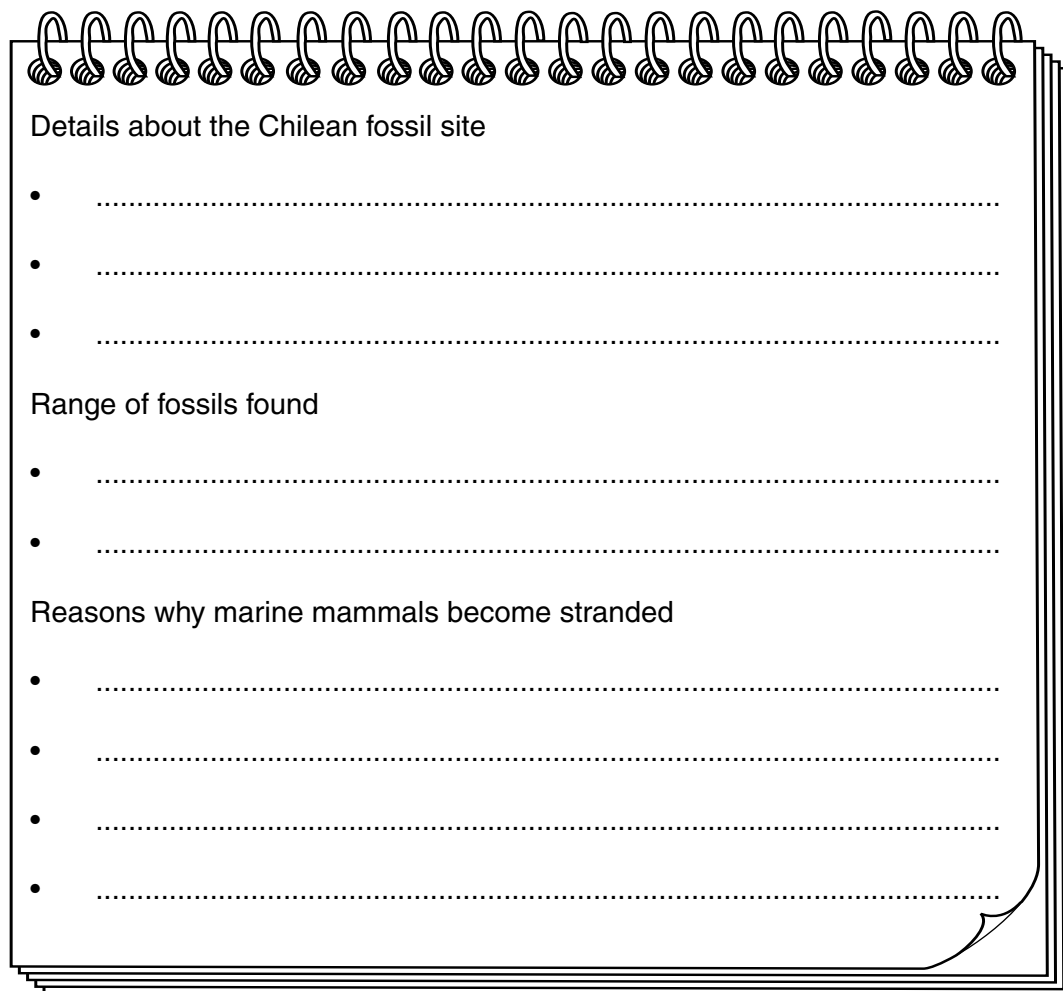
Although there can be man-made causes, scientists have identified the most common natural cause as toxic algae. When marine animals eat these poisonous water plants, they can suffer organ failure and die. Experts believe that the dead and dying mammals were washed into an estuary and onto flat sands where they became buried over time. Other suggested reasons for strandings include whales or other large creatures swimming too close to land in their search for food. A further suggestion is that whales could have been responding to a call for help from another member of the group in danger of becoming stranded.

The research team immediately noticed that the skeletons had similarities. Many were lying in the rock facing in the same direction and upside down. This indicated that the creatures all suffered the same fate. There also appeared to be four different layers of fossil remains, suggesting four separate events spread over a period of several thousand years.

Cerro Ballena is now regarded as one of the densest fossil sites in the world – certainly for whales and other extinct marine mammals. The scientists calculate there could be hundreds of specimens in the area still waiting to be unearthed and investigated. The University of Chile in Santiago is currently working to establish a research station to carry this into effect.

You have been asked to give a short talk to your youth group about the discovery of whale and other marine mammal fossils in Chile. Prepare some notes to use as the basis for your talk.

Make your notes under each heading.



The notebook is a spiral-bound notebook with three sections for notes. Each section has a heading and a list of bullet points with dotted lines for writing.

Details about the Chilean fossil site

-
-
-

Range of fossils found

-
-

Reasons why marine mammals become stranded

-
-
-
-

[Total: 9]

Exercise 5

Read the following article about solo dining.

Write a summary of how restaurants are changing to make people who are eating out alone feel more welcome.

Your summary should be about 100 words long (and no more than 120 words long). You should use your own words as far as possible.

You will receive up to 6 marks for the content of your summary, and up to 5 marks for the style and accuracy of your language.

Solo Dining

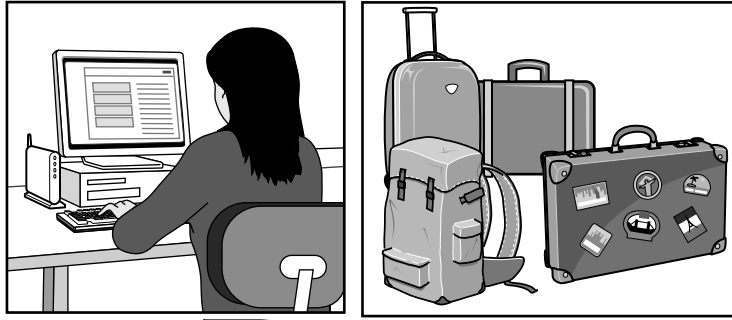
When eating out in a restaurant, customers have traditionally booked a table for two or more people and a table for one was unusual. Solo dining used to mean eating a takeaway alone in the car or taking a room service meal in a hotel room. This was better than the thought of dining alone in a proper restaurant feeling lonely. Some of that fear of booking a table for one no doubt dates back to childhood, when sitting alone in the school cafeteria made you look unpopular. However, today, a growing number of people live alone. In London, nearly a third of homes are now occupied by just one person, while in New York and Paris it is more than half. And in cities such as Stockholm, 60% of residents live on their own.

There are many more single people, who have much more money to spend on food and living expenses, so it has become more socially acceptable to dine alone. With more people choosing to dine out alone, restaurants around the world are trying to become more welcoming to solo diners. Some restaurants are fitting more bar seating, so these valued customers can sit by themselves but still be near to other diners. It is becoming more common for restaurant owners to train their waiting staff to be more attentive to customers sitting on their own. It is important to remember, too, that solo diners choose to eat out simply to enjoy the food, and not because the occasion is a celebration with family or friends. Therefore, restaurants can attract these customers by offering tasting menus of up to eight small courses.

Restaurant reviewers and experts advise solo diners to ask for the things they want. Restaurants might have a table in a quiet corner for single customers who do not want any conversation. Solo diners might prefer to read books and magazines while they enjoy their food. A good restaurant wants to make solo diners happy by meeting all their needs. One Canadian restaurant owner encourages solo diners by offering a free lunch to any customer who has booked a table for two, only to find themselves alone because their guest has not come. He believes that if he takes care of his customers, they will show loyalty and return to the restaurant again.

Another restaurant owner felt that while the restaurant already had seating in front of the open kitchen, the chefs were not showing enough interest in the customers. As a result, there are innovative restaurants where solo diners sitting by the kitchen can now enjoy a performance. The show usually allows chefs to give cooking demonstrations, to show their skill and speed in preparing dishes. The restaurants even provide free tastings at different stages of the cooking process. There are even kitchens where chefs hold conversations with single customers, offering tips and advice about the best way to cook their dishes. As part of this service, a restaurant might also offer to take a customer's email address, in order to send them information about ingredients and recipes. The most thoughtful and original restaurant owners will do whatever it takes to make solo dining a memorable experience.

[Turn over

Exercise 6

You are going on a family holiday but your brother/sister cannot come. Your parents have said you can invite a friend instead.

Write an email to your friend, inviting him/her to join you on holiday with your family.

In your email, you should:

- explain why your brother/sister is unable to come
- describe where you are going and what you plan to do
- say why you think your friend should come.

The pictures above may give you some ideas, and you should try to use some ideas of your own.

Your email should be between 150 and 200 words long.

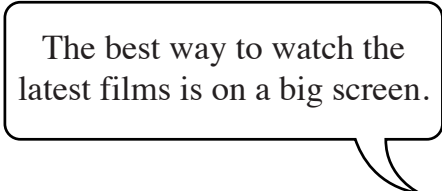
You will receive up to 10 marks for the content of your email, and up to 9 marks for the style and accuracy of your language.

© UCLES 2016

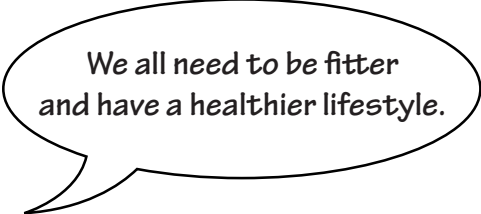
Exercise 7

There are plans to build a cinema in your town centre. However, some local people would prefer a sports centre there instead. Your local newspaper has invited its readers to express their views.

Here are two of the comments already made:



The best way to watch the latest films is on a big screen.



We all need to be fitter and have a healthier lifestyle.

Write an article for your local newspaper, giving your views.

The comments above may give you some ideas, and you should try to use some ideas of your own.

Your article should be between 150 and 200 words long.

You will receive up to 10 marks for the content of your article, and up to 9 marks for the style and accuracy of your language.

© UCLES 2016

BLANK PAGE

Permission to reproduce items where third-party owned material protected by copyright is included has been sought and cleared where possible. Every reasonable effort has been made by the publisher (UCLES) to trace copyright holders, but if any items requiring clearance have unwittingly been included, the publisher will be pleased to make amends at the earliest possible opportunity.

To avoid the issue of disclosure of answer-related information to candidates, all copyright acknowledgements are reproduced online in the Cambridge International Examinations Copyright Acknowledgements Booklet. This is produced for each series of examinations and is freely available to download at www.cie.org.uk after the live examination series.

Cambridge International Examinations is part of the Cambridge Assessment Group. Cambridge Assessment is the brand name of University of Cambridge Local Examinations Syndicate (UCLES), which is itself a department of the University of Cambridge.