## Cambridge International Examinations

Cambridge International General Certificate of Secondary Education


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.

## Exercise 1

Read the following article about the cacao tree, and then answer the questions on the opposite page.

## Spotlight on Chocolate

In this month's magazine, Anna Lee, our expert on agricultural matters, reports on a trip to Belize.
Like many people, I love chocolate, and on a recent visit to Central America, I found out more about where this delicious, sweet-tasting substance comes from.

## Cacao Trees

I travelled deep into the beautiful rainforest in Belize. There, I was introduced to the cacao tree farmers whose crop is used for making chocolate. The farmers pointed to colourful pods the size of footballs growing straight out of the cacao tree trunk. They told me that one pod of white beans contains enough cacao to make two small bars of chocolate.


## Making Chocolate

After the cacao beans have been harvested, the growers send them to a factory where they are roasted and turned into an oily paste called cocoa liquor. Some of this liquor goes straight into chocolate; the rest is pressed to make cocoa butter. If you have ever wondered why chocolate melts in your mouth, it is due to the addition of cocoa butter, which melts at body temperature. In order to make different kinds of chocolate, sugar and vanilla are also added in varying amounts.

## Growing Cacao

In Belize, the farmers that I spoke to were proud to be growing cacao the traditional way. This age-old method has many advantages: the cacao trees are shaded by the tall forest canopy, which prevents the trees drying out when it gets hot. Furthermore, in this environment natural predators thrive, and they destroy the insects that would eat the cacao crop. The farmers also showed me the cacao leaf litter which covers the forest floor. Leaf litter is a thick layer of fallen leaves, which enriches the soil and helps plants grow. Without leaf litter, chemical fertilisers have to be used, which can get into streams and pollute the water supply.

The farmers that I met knew about protecting the rainforest. But in other areas, not all growers are as environmentally aware. Some growers cut down the rainforest and plant cacao trees on the cleared ground. Cacao trees grow well in sunshine, but this way of farming can cause problems for the ecosystem.

## Organic Chocolate

If you buy chocolate, consider buying organic chocolate. The organic approach to growing cacao supports the rainforests as well as the farmers and their families.

## Competition!

Enter our chocolate competition and if you win, you will receive a ticket to visit the Maya Gold chocolate factory. To enter the competition, just tell us where Maya Gold chocolate comes from. Put your answer on a postcard, and remember to give us your name, address and age.
(a) Who did Anna meet on her trip to the rainforest?
$\qquad$
(b) On which part of the tree do the cacao pods grow?
$\qquad$
(c) How many cacao pods are needed to produce two bars of chocolate?
$\qquad$
(d) How is cocoa liquor used? Give two details.
$\qquad$
$\qquad$
(e) Why does chocolate melt at body temperature?
$\qquad$
(f) What are the benefits of the traditional method of growing cacao? Give two details.
$\qquad$
$\qquad$
(g) What prize will competition winners receive?
$\qquad$
(h) Apart from your competition answer, what should you include on the postcard?
$\qquad$

## Exercise 2

Read the following article about the Tyrannosaurus rex, and then answer the questions on the opposite page.

## T-rex

Millions of years after its lifetime, the dinosaur Tyrannosaurus rex (T-rex) has become a legend. More than any other extinct creature, T-rex has gripped our imagination. Children in particular enjoy learning about dinosaurs and playing with models of T-rex. Just over a century ago, however, no-one knew that such a creature had ever walked the earth.


People have known about dinosaurs since the 1820 s, but it was not until 1905 that the most fearsome dinosaur, T-rex, was identified. T-rex was about the height of a two-storey building, with a bite eight times greater than a lion's and, if alive today, it could easily swallow an adult human whole.

T-rex inhabited swampland and forest in the part of the world we now call North America. Dinosaurs became extinct about 65 million years ago, during the end of the Cretaceous period, and T-rex was one of the last dinosaur species to exist.

The story of the discovery of T-rex is complex. The first significant T-rex finds were a fossilised jaw and backbone, which were unearthed in 1901 by an expert from the American Museum of Natural History, Barnum Brown. The specimens were found on a river bank in Wyoming. In the next few years, Brown made further discoveries of fossilised parts of the T-rex neck and leg. Brown's most successful find came in 1908. One day, on his way back from camp, he noticed four tail bones sticking out from a sandstone hillside, and he was excited to see that the parts belonged to another T-rex skeleton. Using a plough, then dynamite, he gradually exposed more bones and a complete skull.

All the bones were sent to a museum in New York, where experts reconstructed a T-rex skeleton. This first T-rex reconstruction went on display in the American Museum of Natural History in 1915, where it still stands today. T-rex was thought to be the largest meat-eating dinosaur, until 10 years ago, when a creature two tonnes heavier was identified in South America.

In the hundred years since its discovery, T-rex has continued to intrigue the public. Children are always enthusiastic about visiting exhibitions which feature T-rex. It may be the enormous size of T-rex that people find so amazing, or its strange and ferocious appearance. Museum reconstructions show that an average adult T-rex weighed 7 tonnes, stood up to 4 m tall and 12 m long. Its pointed, rigid tail aided movement and helped to counterbalance the enormous head. The jaws contained 50-60 sharp teeth, which, unlike those of other species, could grow again when broken. These teeth were perfect for eating meat.

Analysis of the skull indicates that T-rex had a very strong sense of smell. Scientists have established that all dinosaurs had tough, scaly skin, but there is no evidence to indicate their original colour. It is possible that the creature developed camouflage to increase the chances of survival. In addition, no-one can say how many bones T-rex had, as a complete specimen has yet to be discovered.

Selected Dinosaurs


Some experts believe that T-rex was a scavenger and ate animals that had already died, rather than hunting live animals. One reason for this view is that it is thought to have been a slow, lumbering creature, which many potential victims could outrun.

Novels and films featuring dinosaurs, especially T-rex, are enduringly popular. The most wellknown film about dinosaurs is possibly the box-office hit, Jurassic Park. The fact that T-rex is from the Cretaceous not the Jurassic period of history, does not seem to have deterred the film-makers at all!
(a) When were people first aware of dinosaurs?
$\qquad$
(b) What kind of environment did T-rex live in? Give two details.
$\qquad$
$\qquad$
(c) Which T-rex bones did Barnum Brown discover first? Give two details.
$\qquad$
$\qquad$
(d) Where could people first see a life-size model of T-rex?
$\qquad$
(e) What advantages did the stiff tail give T-rex? Give two details.
$\qquad$
$\qquad$
(f) What was unusual about T-rex's teeth?
$\qquad$
(g) How do we know that T-rex had a powerful sense of smell?
$\qquad$
(h) What do experts know about the appearance of dinosaurs' skin?
$\qquad$
(i) Why was it difficult for T-rex to catch live animals?
$\qquad$
(j) According to the chart, which was the second smallest dinosaur and what was its height?
$\qquad$
(k) What evidence is there that dinosaurs fascinate people? Give four details.
$\qquad$
$\qquad$
$\qquad$
$\qquad$

## Exercise 3

Leila Ranjit and her twin brother, Eric, attend Lakeview Community School, 1767 Falling Leaf Avenue, Toronto, L3J 6T8, in Canada, where they are both studying for a travel and tourism qualification. Leila and her brother are keen to get a job with an airline when they leave school. Leila was doing some research for her coursework when she found out about the Airline Training Partnership (ATP). This local organisation offers students the chance to do work experience, and Leila and her brother were very interested in the opportunity.

The twins' travel and tourism teacher, Mr Wilson, agreed that the work experience would be of benefit, and he applied to ATP for the twins to attend. Leila and her brother were delighted when Mr Wilson told them they had been given a full day's work experience on 21 June, starting at 9 am. This was a particularly special day for them as it was also their 17th birthday.

The training took place at a special training facility on an airfield. Their parents were excited about this opportunity for the twins and they drove them to the local train station, where they caught a train to the airfield.

On arrival at ATP Leila, Eric and other work experience students from different schools, met some airline representatives who were very well informed and answered all their questions. They went on a tour of different kinds of aircraft and even went into the cockpits where they had a go at the controls. They each had a turn at using a flight simulator and practised take-off and landing of an aircraft. The twins also watched a film about what cabin crew have to do if there is an emergency. At the end of the day, the twins met a pilot, who talked about his experiences flying around the world.

During their excellent lunch, the twins were presented with a surprise birthday cake. All the work experience participants wished them a very happy birthday. After this, they went back on board and were given emergency-type situations to manage on one of the planes, just as if they were real cabin crew. It was fun dealing with smoke in the kitchen and going down the emergency chute, but Leila feels she will never forget the excitement of climbing onto a life raft.

Leila loved showing her friends the photographs she had taken, especially those of the practical tasks she had carried out in the afternoon, which made the experience interesting. This confirmed for her that she wanted to work in the travel industry. Eric felt that the life-saving skills that he had learned made him think he might like to work in the fire service. The twins loved the day and felt that the staff had been very friendly and informative. Leila hopes that her school will allow other students to have the same opportunity in future.

ATP ask work experience participants to complete a feedback questionnaire.

## Imagine you are Leila. Fill in the questionnaire, using the information above.

## ATP Work Experience Feedback Questionnaire

## Section A: Personal details

Full Name: $\qquad$
MALE / FEMALE: (please delete)
Age: $\qquad$
Name of person who arranged your work experience:
$\qquad$
School name: $\qquad$
School address: $\qquad$
Full name of any other student from your school attending the event:
$\qquad$

## Section B: Work Experience details

Date of work experience:
Which session(s) did you attend? (please tick)
Morning $\square$ Afternoon $\square$ Morning and afternoon $\square$
How helpful were the staff you met? $\qquad$
What was your opinion of the lunch provided? $\qquad$
What was the most memorable activity of the day?

## Section C

Write one sentence between 12-20 words saying whether you would recommend this work experience and why.

## Exercise 4

Read the following article about the uses of garlic, and then complete the notes on the opposite page.

## Garlic: the lifesaver



Often bitter, sometimes sweet, garlic is a real attack on the senses. Love it or hate it, it is impossible to ignore this ancient member of the onion family, and it might just save your life.

Garlic dates back over 6000 years, and is a native plant of central Asia. In ancient Egypt, garlic was included in religious ceremonies. Interestingly, clay models of garlic have been found in the tomb of Tutankhamun. Apart from its spiritual uses the Egyptians valued it as a form of currency when exchanging goods. The Romans thought of it in health terms, as an internal cleanser.

Today, garlic is used as a seasoning in Asia, Africa and Europe. It is appreciated by cooks because it has a distinctive taste and can bring out the flavour of other ingredients. It is also easy to grow, as long as you protect it from birds. They mistake the emerging garlic bulbs for worms and enjoy eating them. After harvesting, the garlic can be dried in the sun, or in an airy place for the skin to mature so that it remains fresh for longer.

In scientific terms, garlic is a member of the allium family, which includes onions, leeks and chives. Crushing garlic produces allicin, which is known to scientists for its unique health-giving properties. It is also the substance which gives garlic its characteristic aroma.

Scientists are researching the health benefits of garlic and have discovered some encouraging facts. In the well respected scientific investigation called the 'Seven Countries Study', scientists found a clear connection between the consumption of garlic and low rates of heart disease, even when other factors which might also reduce heart disease, such as a healthy diet, were taken into account. Furthermore, studies in Asian countries found that eating garlic every day reduced the rates of some kinds of cancer. Some people who suffer from asthma have said their health improved after they began to include garlic in their diet, but so far there is not enough scientific evidence for doctors to recommend it for this condition.

It seems wise to include garlic in your diet, but only in moderate amounts. Eating excessive amounts of garlic can be harmful, because the high sulphur content destroys the natural bacteria in the gut. This can cause the irritating skin condition, dermatitis. It has also been known to cause a distressing and painful inflammation of the stomach. There has even been some evidence that a very high intake of garlic can cause difficulties with blood clotting.

Garlic has always been part of people's diet in some parts of the world, but in other areas it is a more recent addition and is increasing in popularity. For people who like eating garlic, but who are worried about their breath smelling of it, the best cure seems to be to take a sauna or just sweat a lot. This is far more effective than eating mint or chewing parsley. An informal alternative is to make sure your close friends eat the same amount of garlic as you do.

You have been asked to give a talk to your class about garlic. Prepare some notes to use as the basis for your talk.

Make short notes under each heading.

[Total: 9]

## Exercise 5

Read the following article about baby elephants who have lost their parents and are being raised in an orphanage.

On the opposite page, write a summary about the problems the orphan elephants have and how the workers at the orphanage overcome these problems.

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.

## Orphaned Elephants

The David Sheldrick Wildlife Trust in Kenya, east Africa, is the first orphanage to care for baby elephants who have lost their families. Since it first opened, it has reared 62 elephants - the equivalent of a large herd. David's daughter, Angela, who is now in charge, says, "We want to raise the elephants so that they are psychologically strong enough to be returned to the wild, where they belong."

When Angela's mother, Daphne, reared her first newborn elephant in the early 1970s, it had never been done before. "Infant elephants are very difficult to feed by hand," says Angela. "They will refuse food unless the tip of their trunk rests on something that feels like their mother's body." The keepers at the orphanage wear a woollen blanket tied around them, as the texture of the blanket reminds the babies of the absent mother. They need four big bottles of milk at each feeding, but they drink very slowly. It takes a lot of time and patience to feed them and to make sure they get enough milk.

One of the first hand-reared elephants was Olmeg, who was just two years old when he was flown in. Tribesmen had discovered him trapped in mud and seriously dehydrated. "He was terrified when he arrived," says Angela, "and we thought we might lose him." He survived, thanks to their expert nursing skills.

Another, Dika, arrived when he was three months old. His family had been attacked by ivory poachers. Terrified, he had run away through thorn bushes. When he was found, his tiny body was pierced with hundreds of thorns. For four months he was traumatised from such a horrific experience, and did not respond to the keepers. Under the keepers' love and support, he
eventually started to feed and become happier.
Elephants share many characteristics with humans. They have the same lifespan as we do, and develop at a similar pace, reaching adulthood at the age of 20 . They mourn the death of their loved ones, even suffering depression. Elephants also share a strong sense of family, which means they can be jealous and competitive. The keepers have learned techniques to manage the elephants' behaviour.

All the elephants grieve for lost relatives when they first come to the orphanage. The youngest resident is Nalitu, who is just over four months old. She was found two months ago after she had been washed away from her herd during a flood. "She was depressed when she first came," says Angela, "but she is gradually recovering." Another baby elephant, tiny Buchuma, fell into a storm drain, but has recovered and is now flourishing at the orphanage.

Baby elephants get pneumonia easily and can die, so the orphanage staff need to take special precautions. Angela says, "In the wild, a baby lies under its mother's belly, protected from rain and wind. In the orphanage, we protect them with blankets and an umbrella." Less serious conditions are also dealt with effectively. "We rub the baby elephants with coconut oil to prevent dry skin and to keep ticks and parasites away," explains Angela.

Angela says that the work of the orphanage is never easy, but adds, "It is so rewarding. The elephants have fantastic memories and never forget anything. After being returned to the wild, they occasionally return to see us. It is wonderful to see them doing so well."

## Exercise 6



You unexpectedly met a friend you had not seen for a long time. You decided to spend the day together.

## Write a letter to a relative about your day.

In your letter:

- explain what you were doing when you met your friend
- describe what you did together
- say how you felt about the day.

The pictures above may give you some ideas, and you should try to use some ideas of your own.
The letter should be 150-200 words long. Do not write an address.
You will receive up to 10 marks for the content of your letter, and up to 9 marks for the style and accuracy of your language.
$\qquad$
$\qquad$
$\qquad$
$\qquad$
$\qquad$
$\qquad$
$\qquad$
$\qquad$
$\qquad$
$\qquad$
$\qquad$
$\qquad$
$\qquad$
$\qquad$
$\qquad$
$\qquad$
$\qquad$
$\qquad$
$\qquad$
$\qquad$
$\qquad$
$\qquad$
$\qquad$
$\qquad$

## Exercise 7

You have read in your local newspaper that developers would like to build a zoo in your town.
Here are some comments on the topic from people living in the town:


Write an article for the 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 150-200 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.

## 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.

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.

