#### EXERCISE 1

#### Literate women make better mothers?

Children in developing countries are healthier and more likely to survive past the age of five when their mothers can read and write. Experts in public health accepted this idea decades ago, but until now no one has been able to show that a woman's ability to read in itself improves her children's chances of survival.

Most literate women learnt to read in primary school, and the fact that a woman has had an education may simply indicate her family's wealth or that it values its children more highly. Now a long-term study carried out in Nicaragua has eliminated these factors by showing that teaching reading to poor adult women, who would otherwise have remained illiterate, has a direct effect on their children's health and survival.

In 1979, the government of Nicaragua established a number of social programmes, including a National Literacy Crusade. By 1985, about 300,000 illiterate adults from all over the country, many of whom had never attended primary school, had learnt how to read, write and use numbers.

During this period, researchers from the Liverpool School of Tropical Medicine, the Central American Institute of Health in Nicaragua, the National Autonomous University of Nicaragua and the Costa Rican Institute of Health interviewed nearly 3,000 women, some of whom had learnt to read as children, some during the literacy crusade and some who had never learnt at all. The women were asked how many children they had given birth to and how many of them had died in infancy. The research teams also examined the surviving children to find out how well-nourished they were.

The investigators' findings were striking. In the late 1970s, the infant mortality rate for the children of illiterate mothers was around 110 deaths per thousand live births. At this point in their lives, Those mothers who later went on to learn to read had a similar level of child mortality(105/1000). For women educated in primary school, however, the infant mortality rate was significantly lower, at 80 per thousand.

In 1985, after the National Literacy Crusade had ended, the infant mortality figures for those who remained illiterate and for those educated in primary school remained more or less unchanged. For those women who learnt to read through the campaign, the infant mortality rate was 84 per thousand, an impressive 21 points lower than for those women who were still illiterate. The children of the newly-literate mothers were also better nourished than those of women who could not read.

Why are the children of literate mothers better off? According to Peter Sandiford of the Liverpool School of Tropical Medicine, no one knows for certain. Child health was not on the curriculum during the women's lessons, so he and his colleagues are looking at other factors. They are working with the

same group of 3,000 women, to try to find out whether reading mothers make better use of hospitals and clinics, opt for smaller families, exert more control at home, learn modem childcare techniques more quickly, or whether they merely have more respect for themselves and their children.

The Nicaraguan study may have important implications for governments and aid agencies that need to know where to direct their resources. Sandiford says that there is increasing evidence that female education, at any age, is 'an important health intervention in its own right' .The results of the study lend support to the World Bank's recommendation that education budgets in developing countries should be increased, not just to help their economies, but also to improve child health. 'We've known for a long time that maternal education is important,' says John Cleland of the London School of Hygiene and Tropical Medicine. 'But we thought that even if we started educating girls today, we'd have to wait a generation for the pay-off. The Nicaraguan study suggests we may be able to bypass that.'

Cleland warns that the Nicaraguan crusade was special in many ways, and similar campaigns elsewhere might not work as well. It is notoriously difficult to teach adults skills that do not have an immediate impact on their everyday lives, and many literacy campaigns in other countries have been much less successful. 'The crusade was part of a larger effort to bring a better life to the people,' says Cleland. Replicating these conditions in other countries will be a major challenge for development workers.

#### Questions 1-5

Complete the summary using the list of words, A-J, below.

Write the correct letters, A-J, in boxes 14-18 on your answer sheet.

NB You may use any letter more than once.

The Nicaraguan National Literacy Crusade aimed to teach large numbers of illiterate 1 ...... to read and write. Public health experts have known for many years that there is a connection between child health and 2...... However, it has not previously been known whether these two factors were directly linked or not. This question has been investigated by 3...... in Nicaragua. As a result, factors such as 4 ...... and attitudes to children have been eliminated, audit has been shown that 5...... can in itself improve infant health and survival.

A child literacy

B men and women

C an international research team

D medical care

E mortality

F maternal literacy

G adults and children H paternal literacy

I a National Literacy Crusade

J family wealth

#### Questions 6-11

Do the following statements agree with the claims of the writer in this reading passage? In boxes 6-11 on your answer sheet, write:

YES if the statement agrees with the claims of the writer

NO if the statement contradicts the claims of the writer

NOT GIVEN if it is impossible to say what the writer thinks about this

6 About a thousand or the women interviewed by the researchers had learnt to read they were children.

7 Before the National Literacy Crusade, illiterate women had approximately the same levels of infant mortality as those who had learnt to read in primary school.

8 Before and after the National Literacy Crusade, the child mortality rate for the illiterate women stayed at about 110 deaths for each thousand live births.

9 The women who had learnt to read through the National Literacy Crusade showed the greatest change in infant mortality levels.

3

10 The women who had learnt to read through the National Literacy Crusade had the lowest rates of child mortality.

11 After the National Literacy Crusade, the children of the women who remained illiterate were found to be severely malnourished.

### Questions 12 and 13

Choose TWO letters, A-E

Write the correct letters in boxes 25 and 26 on your answer sheet

Which **TWO** important implications drawn from the Nicaraguan study are mentioned by the writer of the passage?

A It is better to educate mature women than young girls

B Similar campaigns in other countries would be equally successful.

C The effects of maternal literacy programmes can be seen very quickly

D Improving child health can quickly affect a country's economy.

E Money spent on female education will improve child health.

#### **EXERCISE 2**

Choose the correct heading for sections A-D from the list of headings below.

Write the correct number, i-vii, in boxes 1-4 on your answer sheet.

#### List of Headings

i The role of video violence

ii The failure of government policy

iii Reasons for the increased rate of bullying

iv Research into how common bullying is in British schools

v The reaction from schools to enquiries about bullying

vi The effect of bullying on the children involved

vii Developments that have led to a new approach by schools

- 1 Section A
- 2 Section B
- 3 Section C
- 4 Section D

# Persistent bullying is one of the worst experiences a child can face. How can it be prevented?

Peter Smith, Professor of Psychology at the University of Sheffield, directed the Sheffield Anti-Bullying Intervention Project, funded by the Department for Education. Here he reports on his findings

A Bullying can take a variety of forms, from the verbal -being taunted or called hurtful names- to the physical- being kicked or shoved- as well as indirect forms, such as being excluded from social groups. A survey I conducted with Irene Whitney found that in British primary schools up to a quarter of pupils reported experience of bullying, which in about one in ten cases was persistent. There was less bullying in secondary schools, with about one in twenty-five suffering persistent bullying, but these cases may be particularly recalcitrant.

**B** Bullying is clearly unpleasant, and can make the child experiencing it feel unworthy and depressed. In extreme cases it can even lead to suicide, though this is thankfully rare. Victimised pupils are more likely to experience difficulties with interpersonal relationships as adults, while children who

persistently bully are more likely to grow up to be physically violent, and convicted of anti-social offences.

C Until recently, not much was known about the topic, and little help was available to teachers to deal with bullying. Perhaps as a consequence, schools would often deny the problem. 'There is no bullying at this school' has been a common refrain, almost certainty IllItrue. Fortunately more schools are now saying: There is not much bullying here, but when it occurs we have a clear policy for dealing with it.'

D Three factors are involved in this change. First is an awareness of the severity of the problem. Second, a number of resources to help tackle bullying have become available in Britain. For example, the Scottish Colllicil for Research in Education produced a package of materials, Action Against Bullying, circulated to all schools in England and Wales as well as in Scotland in summer 1992, with a second pack, Supporting Schools Against Bullying, produced the following year. In Ireland, Guidelines on Countering Bullying Behaviour in Post-Primary Schools was published in 1993. Third, there is evidence that these materials work, and that schools can achieve something. This comes from carefully conducted 'before and after I evaluations of interventions in schools, monitored by a research team. In Norway, after an intervention campaign was introduced nationally, an evaluation of forty-two schools suggested that, over a two-year period, bullying was halved. The Sheffield investigation, which involved sixteen primary schools and seven secondary schools, found that most schools succeeded in reducing bullying.

E Evidence suggests that a key step is to develop a policy on bullying, saying clearly what is meant by bullying, and giving explicit guidelines on what will be done if it occurs, what record will be kept, who will be informed, what sanctions will be employed. The policy should be developed through consultation, over a period of time-not just imposed from the head teacher's office! Pupils, parents and staff should feel they have been involved in the policy, which needs to be disseminated and implemented effectively.

Other actions can be taken to back up the policy. There are ways of dealing with the topic through the curriculum, using video, drama and literature. These are useful for raising awareness, and can best be tied in to early phases of development while the school is starting to discuss the issue of bullying. They are also useful in renewing the policy for new pupils, or revising it in the tight of experience. But curriculum work alone may only have short-term effects; it should be an addition to policy work, not a substitute.

There are also ways of working with individual pupils, or in small groups. Assertiveness training for pupils who are liable to be victims is worthwhile, and certain approaches to group bullying such as 'no blame', can be useful in changing the behaviour of bullying pupils without confronting them directly, although other sanctions may be needed for those who continue with persistent bullying.

Work in the playground is important, too. One helpful step is to train lunchtime supervisors to distinguish bullying from playful fighting, and help them break up conflicts. Another possibility is to improve the playground environment, so that pupils are less likely to be led into bullying from boredom or frustration.

**F** With these developments, schools can expect that at least the most serious kinds of bullying can largely be prevented. The more effort put in and the wider the whole school involvement, the more substantial the results are likely to be. The reduction in bullying - and the consequent improvement in pupil happiness- is surely a worthwhile objective.

#### Questions 5-8

Choose the correct letter. A. B. C or D.

Write the con-ect letter in boxes 5-8 on your answer sheet.

5 A recent survey found that in British secondary schools

A there was more bullying than had previously been the case.

B there was less bullying than in primary schools.

C cases of persistent bullying were very common.

D indirect forms of bullying were particularly difficult to deal with.

6 Children who are bullied

A are twice as likely to commit suicide as the average person.

B fmd it more difficult to relate to adults.

C are less likely to be violent in later life.

D may have difficulty forming relationships in later life.

7 The writer thinks that the declaration 'There is no bullying at this school'

A is no longer true in many schools.

B was not in fact made by many schools.

C reflected the school's lack of concern.

D reflected a lack of knowledge and resources.

8 What were the findings of research canied out in Norway?

A Bullying declined by 50% after an anti-bullying campaign.

B Twenty-one schools reduced bullying as a result of an anti-bullying campaign

C Two years is the optimum length for an anti-bullying campaign.

D Bullying is a less serious problem in Norway than in the UK.

#### Questions 9-13

Complete the summary below

Choose NO MORE THAN TW'O WORDS from the passage for each answer

Write your answers in boxes 9-13 on your answer sheet.

#### What steps should schools take to reduce bullying?

#### Question 14

Choose the correct letter, A, B, C or D.

Write the correct letter in box 40 on your answer sheet.

Which of the following is the most suitable title for this reading passage?

A Bullying: what parents can do

B Bullying: are the media to blame?

C Bullying: the link with academic failure

D Bullying: from crisis management to prevention

8

## **EXERCISE 3**

Choose the correct heading for sections B, C, E and F from the list of headings below.

Write the correct number, i-xi, in boxes 1-4 on your answer sheet.

## List of Headings

i MIRTP as a future model

ii Identifying the main transport problems

iii Preference for motorised vehicles

iv Government Authrities' instructions

v Initial improvements in mobility and transport modes

vi Request for improves transport in Makete

vii Transport improvements in the northern part of the district

viii Improvements in the rail network

ix Effects of initial MIRTP measures

x Co-operation of district officials

xi Role of wheelbarrows and donkeys

Example Answer

Section A vi

1 Section B

2 Section C

Example Answer

Section D ix

3 Section E

4 Section F

#### Makete Integrated Rural Transport Project

#### Section A

The disappointing results of many conventional road transport projects in Africa led some experts to rethink the strategy by which rural transport problems were to be tackled at the beginning of the .1980s. A request for help in improving the availability of transport within the remote Makete District of southwestern Tanzania presented the opportunity to try a new approach.

The concept of' integrated rural transport was adopted in the task of examining the transport needs of the rural households m the district The objective was to reduce the time and effort needed to obtain access to essential goods and services -through an improved rural transport system. The underlying assumption was that the time saved would be used instead for activities that would improve the social and economic development of the communities. The Makete Integrated Rural Transport -Project (MIRT P) started in 1985 with financial support from the Swiss Development Corporation and was coordinated .with the help of the Tanzanian government.

#### Section B

When the project began. Makete District was virtually totally isolated dunng the rainy "sensory. The regional road was in such bad shape that access to the main towns was impossible for about three months of the year. Road traffic was extremely rare with the district, and alternative means of transport were restricted to donkeys in the north of the distinct people relied primarily on the paths, which were supper and dangerous during the rains.

Before solutions cook be proposed, the problems had to be understood. Little was known about the transport demands of the rural households, so Phase I. between December 1985 and December 1987, (ocused'on research. The socio-economic survey of more then 400 households in the district indicate of that a household in Makete spent, on average, seven hours a day on transporting themselves and their goods, a figure which seemed extreme but which has also been obtained in surveys in other rural areas in Africa. Interesting facts regarding transport were found; 95% was on foot 80% was within the locality: and 70% was related to the collect on of water and firewood and travelling to gunning mills-

#### Section C

Having determined the main transport needs, possible solutions were identified which might reduce the time and burden During Phase II. From January to February 1991, a number of approaches were implemented in an effort to improve mobility and access to transport

An improvement of the rotted network was considered necessary to ensure the import and export of goods to the district. These improvements were carried out using methods that were heavily

dependent on labour. In addition to the improvement of roads, these methods provided training in the operation of a mechanical workshop and bus and truck services Hoverer. The difference from the conventional approach was that this time consideration was given to local transport needs outside the road network.

Most goods were transported along the paths that provide short-cuts up and down the hillsides, but the paths were a real safety ask and made the journey on foot even more arduous. It made sense to improve the paths by building steps, handrails and footbridges.

It was uncommon to fixit means of transport that were more efficient than walking but less technologically advanced than motor vehicles. The use of bicycles was constrained by their high cost and the lack of available spare parts. Oxen were not used at all but donkeys were used by a few households in the northern part of the district MIRTP focused on what would be most appropriate for the inhabitants of Makete in terms of what was available, how much they could afford and what they are willing to accept after careful consideration, the project chose the promotion of donkeys - a donkey costs less than a bicycle - and the introduction of a locally manufacturability wheelbarrow.

#### Section D

At the end of Phase II, it was dear that the selected approaches to Makete's transport problems had had different degrees of success. Phase III. From March 1991 to March 1993, focused on the refinement and must of these activities.

The road improvements and accompanying maintenance system had helped make the district centre accessible throughout the year. Essential goods from outside the district had become more readily available at the market and prices did not fluctuate as much as they had done before.

Paths and secondary roads were improved only at the request of communist who were willing to participate in construction and maintenance. However, the improved paths impressed the inhabitants, and requests for assistance greatly increased soon after only a few improvements had been completed.

The efforts to improve the efficiency of the existing transport services were not very successful because most of the motorised vehicles in the district broke down and there were no resources to repair, them. Even the introduction of low-cost means of transport was difficult because of the general poverty of the district. The locally manufactured wheelbarrows were still too expensive for all but a few of the households. Modifications to the original design by local carpenters cut- production time and costs. Other local carpenters have been trained in the new design So that they can respond to requests. Nevertheless, a locally produced wooden wheelbarrow which costs around

500QTanzanian shillings (less than US\$20) in Makete, and is about one quarter the cost of a metal wheelbarrow, is still too expensive for most people.

Donkeys, which were imported to the district have become more common and contribute, in particular, to the transportation of crops and goods to market. Those who have bought donkeys are mainly from richer households but with an increased supply through local breeding, donkeys should become more affordable. Meanwhile, local initiatives are promoting the renting out of the existing donkeys.

It should be noted, however, that a donkey, which at 20,000 Tanzanian shillings costs less than a bicycle, is still an investment equal to an average household's income over half a year. This dearly illustrates the need for supplementary measures if one wants to assist the rural poor.

#### Section E

It would have been easy to criticize the MIRTP for using in the early phases atop-down' approach, in which decisions were made by experts and officials before being handed down to communities, but it was necessary to start the process from the level of the governmental authorities of the district It would have been, difficult to respond to the requests of villagers and other rural inhabitants without the support and understanding of district authorities.

#### Section F

Today, nobody in the district argues about, the importance of improved paths and inexpensive means of transport. But this is the result of dedicated work over a long penned particularly from the officers in charge of community development They played an essential role in raising awareness and interest among the rural communities.

The concept of integrated rural transport is now well established in Tanzania, where a major program of rural transport is just about to start. The experiences from Makete will help in this initiative, and Makete Distinct will act as a reference for future work.

#### Questions 5-9

Do the following statements agree with the claims of the writer in the reading passage? In boxes 5-9 on your answer sheet write:

YES if the statement agrees with the claims of the writer

NO if the statement contradicts the claims of the writer

NOT GIVEN if it is impossible to say what the writer thinks about this

- 5 MIRTP was divided into five phases.
- 6 Prior to the start of the MIRTP the Makete district was almost inaccessible during the rainy reason.
- 7 Phase I of MIRTP consisted of a survey of household expenditure on transport.
- 8 The survey concluded that one-fifth or 20% of the household transport requirement as outside the local area.
- 9 MIRTP hopes to improve the movements of goods from Makete district to the country's capital.

#### Questions 10-13

Complete each sentence with the correct ending, A-J, below.

Write thecorrect letter, A-J,in boxes 36-39 on your answer sheet.

- 10 Construction of footbridges, steps and handrails
- 11 Frequent breakdown of buses andtrucks in Makete
- 12 the improvement of secondary roads and paths
- 13 the isolation of Makete for part of the year
  - A provided the people of Makete with experience in running bus and truck services.
  - B was especially successful in the northern part of the district.
  - C differed from earlier phases in that the community became less actively involved.
  - D improved paths used for transport up and down hillsides.
  - E was no longer a problem once the roads had been improved.
  - F cost less than locally made wheelbarrows.
  - G was done only at the request of local people who were willing to lend a hand.
  - H was at first considered by MIRTP to be affordable for the people of the district.
  - I hindered attempts to make the existing transport services more efficient.
  - J was thought to be the most important objective of Phase III.

## Question 14

Choose the correct letter.A, B, C or D.

Write the correct letter in box 40 on your answer sheet.

Which of the following phrases best describes the main aim of this reading passage?

A to suggest that projects such as MIRTP are needed in other countries

B to describe how MIRTP was implemented and how successful it was

C to examine how MIRTP promoted the use of donkeys

D towarn that projects such as MIRTP are likely to have serious problems

## **EXERCISE 4**

Choose the correct headings for sections A-F from the list of headings below.

Write the correct number, i-x, in boxes 1-6 on your answer sheet.

**List of Headings** 

i The results of the research into blood-variants

ii Dental evidence

iii Greenberg's analysis of the dental and linguistic evidence

iv Developments in the methods used to study early population movements

v Indian migration from Canada to the U.S.A.

vi Further genetic evidence relating to the three-wave theory

vii Long-standing questions about prehistoric migration to America

viii Conflicting views of the three-wave theory, based on non-genetic Evidence

ix Questions about the causes of prehistoric migration to America

x How analysis of blood-variants measures the closeness of the relationship

between different populations

1 Section A

2 Section B

3 Section C

4 Section D

5 Section E

6 Section F

Example Answer

Section G viii

#### Population movements and genetics

A Study of the origins and distribution of hum on populations used to be based on archaeological and fossil evidence. A number of techniques developed since the 1950s however have placed the study of these subjects on a sounder and more objective footing. The best information on early population movements is now being obtained from the archaeology of the living body the clues to be found in genetic material.

B Recent work on the problem of when people first entered the Americas is an example of the value of these new techniques. North-east Asia and Siberia have long been accepted as the launching ground for the first human colonisers of the New World! But was there one major wave of migration across the Bering Strait into the Americas, or several? And when did this event, or events, take place? In recent years, new clues hove come from research into genetics, including the distribution of genetic markers in modern Native Americans<sup>2</sup>.

C An important project, led by the biological anthropologist Robert Williams, focused on the variants (called Gm all types) of one particular protein - immunologic G - found in the fluid portion of human blood. All proteins 'drift', or produce variants, over the generations, and members of an interbreeding human population will share a set of such variants. Thus, by comparing the Gm allotypes of two different populations (e.g. two Indian tribes), one can establish their genetic distance, which itself can be calibrated to give an indication of the length of time since these populations last interbred. D Williams and his colleagues sampled the blood of over 5,000 American Indians in western North America during a twenty- year period. They found that their Gm allotypes could be divided into two groups, one of which also corresponded to the genetic typing of Central and South American Indians. Other tests showed that the Inuit (or Eskimo) and Aleut3 formed a third group. From this evidence it was deduced that there had been three major waves of migration across the Bering Strait. The first, Paleo - Indian wave more than 15,000 years ago was ancestral to all Central and South American Indians. The second wave, about 14,000-12,000 years ago, brought No-Dene hunters ancestors of the Navajo and Apache (who only migrated south from Canada about 600 or 700 years ago). The third wave perhaps 10,000 or 9,000 years ago saw the migration from North-east Asia of groups ancestral to the modem Eskimo and Aleut.

E How far does other research support these conclusions? Geneticist Douglas Wallace has studied mitochondrial DNA<sup>4</sup> in blood samples from three widely separated Native American groups: Pima-Papa go Indians in Arizona, Maya Indians on the Yucatan peninsula, Mexico, and Ticuna Indians in the Upper Amazon region of Brazil. As would have been predicted by Robert Williams's work, all three groups appear to be descended from the same ancestral (Paleo-Indian) population.

F There are two other kinds of research that have thrown some light on the origins of the Native

American population; they involve the study of teeth and of languages. The biological anthropologist

Christy Turner is on expert in the analysis of changing physical characteristics in human teeth. He

argues that tooth crowns and roots5 have a high genetic component, minimally affected by

environmental and other factors. Studies carried out by Turner of many thousands of New and Old

World specimens, both ancient and modern, suggest 'hot the majority of prehistoric Americans are

linked to Northern Asian populations by crown and root traits such as incisor6 shoveling (a scooping

out on one or both surfaces of the tooth), single-rooted upper first premolars6 and triple-rooted

lower first molars6.

According to Turner, this ties in with the idea of a single Paleo-Indian migration out of North Asia,

which he sets at before 14,000 years ago by calibrating rates of dental micro-evolution. Tooth analyses

also suggest that there were two later migrations of Na-Denes and Eskimo- Aleut.

G The linguist Joseph Greenberg has, since the 1950s, argued that all Native American languages

belong to a single Amerind family, except for No-Dene and Eskimo-Aleut - a view that gives credence

to the idea of three main migrations. Greenberg is in a minority among fellow linguists, most of whom

favor the no I on of a great money waves of migration to account for the more than 1,000 - languages

spoken at one time by American Indians. But there is no doubt that the new genetic and dental

evidence provides strong backing for Greenberg's view. Dates given for the migrations should

nevertheless be treated with caution, except where supported by hard archaeological evidence.

New World: the American continent, as opposed to the so-called Old World of Europe, Asia and Africa

2. Modern Native America: an American descended from the groups that were native to America

3. Inuit and Aleut: two of the ethnic groups native to the northern region of North America (i.e. northern

Canada and Greenland)

4. DNA: the substance in which genetic information is stored

5. Crown/ Root: Parts of the tooth

6. incisor/premolar/molar: kinds of teeth

## Questions 7 and 8

The discussion of Williams's research indicates the periods at which early people are thought to have migrated along certain routes.

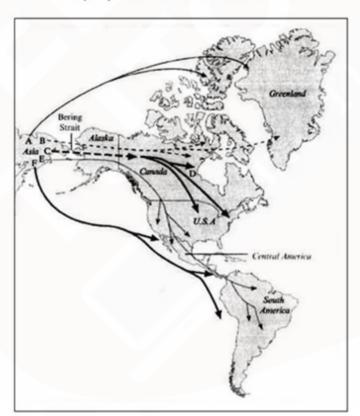
There are six routes, A-F, marked on the map below.

## Complete the table below.

Write the correct letter, A-F, in boxes 7 and 8 on your answer sheet.

Route	Period (number of years ago)		
7			
8	600 to 700		

## Early Population Movement to the Americas



#### Questions 9-12

Reading Passage 156 refers to the three-wave theory of early migration to the Americas. It also suggests in which of these three waves the ancestors of various groups of modern Native Americans first reached the continent.

**Wave Number** 

10 .....

11 .....

Classify the groups named in the table below as originating from

- A the first wave
- B the second wave
- C the third wave

Name of Group

Write the correct letter. A. B or C. in boxes 22-25 on your answer sheet.

Inuil	9	

Ticuna 12 .....

#### Question 13

Pima-Papago

Apache

Choose the correct letter. A. B. C or D.

Write the correct letter in box 13 on your answer sheet.

Christy Turner's research involved the examination of ....

A teeth from both prehistoric and modern Americans and Asians

B thousands of people who live in either the New or the Old World

C dental specimens from the majority of prehistoric Americans

D the eating habits of American and Asian populations

### **EXERCISE 5**

#### Read the passage below and answer questions 8-14

Forests are one of the main elements of our natural heritage. The decline of Europe's forests over the last decade and a half has led to an increasing awareness and understanding of the serious imbalances which threaten them. European countries are becoming increasingly concerned by major threats to European forests, threats which know no frontiers other than those of geography or climate: air pollution, soil deterioration, the increasing number of forest fires and sometimes even the mismanagement of our woodland and forest heritage. There has been a growing awareness of the need for countries to get together to co-ordinate their policies. In December 1990, Strasbourg hosted the first Ministerial Conference on the protection of Europe's forests. The conference brought together 31 countries from both Western and Eastern Europe. The topics discussed included the coordinate study of the destruction of forests, as well as how to combat forest fires and the extension of European research programs on the forest ecosystem. The preparatory work for the conference had been undertaken at two meetings of experts. Their initial task was to decide which of the many forest problems of concern to Europe involved the largest number of countries and might be the subject of joint action. Those confined to particular geographical areas, such as countries bordering the Mediterranean or the Nordic countries therefore had to be discarded. However, this does not mean that in future they will be ignored.

As a whole, European countries see forests as performing a triple function: biological, economic and recreational. The first is to act as a 'green lung' for our planet; by means of photosynthesis, forests produce oxygen through the transformation of solar energy, thus fulfilling what for humans is the essential role of an immense, non-polluting power plant. At the same time, forests provide raw materials for human activities through their constantly renewed production of wood. Finally, they offer those condemned to spend five days a week in an urban environment an unrivalled area of freedom to unwind and take part in a range of leisure activities, such as hunting, riding and hiking. The economic importance of forests has been understood since the dawn of man - wood was the first fuel. The other aspects have been recognised only for a few centuries but they are becoming more and more important. Hence, there is a real concern throughout Europe about the damage to the forest environment which threatens these three basic roles.

The myth of the 'natural' forest has survived, yet there are effectively no remaining 'primary' forests in Europe. All European forests are artificial, having been adapted and exploited by man for thousands of years. This means that a forest policy is vital, that it must transcend national frontiers and generations of people, and that ft must allow for the inevitable changes that take place in the forests, in needs, and hence in policy. The Strasbourg conference was one of the first events on such a scale to reach

this conclusion. A general declaration was made that 'a central place in any ecologically coherent forest policy must be given to continuity over time and to the possible effects of unforeseen events, to ensure that the full potential of these forests is maintained'.

That general declaration was accompanied by six detailed resolutions to 3ssist national policymaking. The first proposes the extension and systematic sitter of surveillance sites to monitor forest decline. Forest decline is still poorly understood but leads to the loss of a high proportion of a tree's needles or leaves. The entire continent and the majority of species are now affected: between 30% and 50% of the tree population. The condition appears to result from the cumulative effect of a number of factors, with atmospheric pollutants the principal culprits. Compounds of nitrogen and sulphur dioxide should be particularly closely watched. However, their effects are probably accentuated by climatic factors, such as drought and hard winters, or soil imbalances such as soil acidification, which damages to roots. The second resolution concentrates on the need to preserve the genetic diversity of European forests. The aim is to reverse the decline in the number of tree species or at least to preserve the 'genetic material' of all of them. Although forest fires do not affect all of Europe to the same extent the amount of damage caused the experts to propose as the third resolution that the Strasbourg conference consider the establishment of a European databank on the subject. All information used in the development of national preventative policies would become generally available. The subject of the fourth resolution discussed by the ministers was mountain forests. In Europe, it is undoubtedly the mountain ecosystem which has changed most rapidly and is most at risk. A thinly scattered permanent population and development of leisure activities, particularly skiing, have resulted in significant longterm changes to the local ecosystems. Proposed developments include a preferential research program on mountain forests. The fifth resolution relented the European research network on the physiology of trees, called Euro Silva should support joint European research on tree diseases and their physiological and biochemical aspects. Each country concerned could increase "the number of scholarships and other financial support for doctoral theses and research projects in this area, finally, the conference established the framework for a European research network on forest ecosystems. This would also involve harmonizing activities in individual countries as well as identifying a number of priority research topics relating to the protection of forests The Strasbourg conference's main concern was to provide for the future. This was the initial motivation, one now shared by all 31 participants representing 31 European countries. Their final text commits them to on-going discussion between government representatives with responsibility for forests.

#### Questions 1-7

Do the following statements agree with the information given in the reading passage? In boxes 1-7 on your answer sheet, write:

TRUE if the statement agrees with the information-

FALSE if the statement contradicts the information

NOT GIVEN if there is no information on this

- 1 Forest problems of Mediterranean countries are to be discussed at the next meeting of experts.
- 2 Problems in Nordic countries were excluded because they are outside the European Economic Community.
- 3 Forests are a renewable source of raw material.
- 4 The biological functions of forests were recognised only in the twentieth century.
- 5 Natural forests still exist in parts of Europe.
- 6 Forest policy should be limited by national boundaries.
- 7 The Strasbourg conference decided that a forest policy must allow for the possibility of change.

#### Questions 8-13

Look at the following statements issued by the conference.

Which six of the following statements. A-J, refer to the resolutions that were issued?

Match the statements with the appropriate resolutions (Questions 34-39).

Write the correct letter. A-J. in boxes 34-39 on your answer sheet.

- A All kinds of species of trees should be preserved.
- B Fragile mountain forests should be given priority in research programs.
- C The surviving natural forests of Europe do not need priority treatment.
- D Research is to be better co-ordinate throughout Europe:
- E Information on forest fires should be collected and shared.
- F Loss Of leaves from trees should be more extensively and carefully monitored
- G Resources should be allocated to research into tree diseases.
- H Skiing should be encouraged in thinly populated areas.
- I Soil imbalances such as acidification should be treated with compounds of nitrogen and sulphur.
- J Information is to be systematically gathered on any decline in the condition of forests.
- 8 Resolution 1
- 9 Resolution 2
- 10 Resolution 3
- 11 Resolution 4
- 12 Resolution 5
- 13 Resolution 6

### Question 14

Choose the correct letter, A. B, C or D.

Write the correct letter in box 14 on your answer sheet

- 14 What is the best title for the reading passage?
  - A The biological, economic and recreational role of forests
  - B Plans to protect the forests of Europe
  - C The priority of European research into ecosystems
  - D Proposals for a world-wide policy on forest management