AL NOOR INTERNATIONAL SCHOOL
Riyadh, Saudi Arabia

English Enhancement Program

Grade 5 Modules

S.Y. 2021 – 2022

MODULE 7

RAINFORESTS

Adults and children are frequently confronted with statements about the alarming rate of loss of tropical rainforests. For example, one graphic illustration to which children might readily relate is the estimate that rainforests are being destroyed at a rate equivalent to one thousand football fields every forty minutes – about the duration of a normal classroom period. In the face of the frequent and often vivid media coverage, it is likely that children will have formed ideas about rainforests – what and where they are, why they are important, what endangers them – independent of any formal tuition. It is also possible that some of these ideas will be mistaken.

Many studies have shown that children harbor misconceptions about 'pure', curriculum science. These misconceptions do not remain isolated but become incorporated into a multifaceted, but organized, conceptual framework, making it and the component ideas, some of which are erroneous, more robust but also accessible to modification. These ideas may be developed by children absorbing ideas through the popular media. Sometimes this information may be erroneous. It seems schools may not be providing an opportunity for children to re-express their ideas and so have them tested and refined by teachers and their peers. Despite the extensive coverage in the popular media of the destruction of rainforests, little formal information is available about children's ideas in this area. The aim of the present study is to start to provide such information, to help teachers design their educational strategies to build upon correct ideas and to displace misconceptions and to plan programs in environmental studies in their schools. The study surveys children's scientific knowledge and attitudes to rainforests.

Secondary school children were asked to complete a questionnaire containing five open-form questions. The most frequent responses to the first question were descriptions which are self-evident from the term 'rainforest'. Some children described them as damp, wet or hot. The second question concerned the geographical location of rainforests. The commonest responses were continents or countries: Africa (given by 43% of children), South America (30%), and Brazil (25%). Some children also gave more general locations, such as being near the Equator.

Responses to question three concerned the importance of rainforests. The dominant idea, raised by 64% of the pupils, was that rainforests provide animals with habitats. Fewer students responded that rainforests provide plant habitats, and even fewer mentioned the indigenous populations of rainforests. More girls (70%) than boys (60%)

raised the idea of rainforest as animal habitats. Similarly, but at a lower level, more girls (13%) than boys (5%) said that rainforests provided human habitats. These observations are generally consistent with our previous studies of pupils' views about the use and conservation of rainforests, in which girls were shown to be more sympathetic to animals and expressed views which seem to place an intrinsic value on non-human animal life.

The fourth question concerned the causes of the destruction of rainforests. Perhaps encouragingly, more than half of the pupils (59%) identified that it is human activities which are destroying rainforests, some personalizing the responsibility by the use of terms such as 'we are'. About 18% of the pupils referred specifically to logging activity. One misconception, expressed by some 10% of the pupils, was that acid rain is responsible for rainforest destruction; a similar proportion said that pollution is destroying rainforests. Here, children are confusing rainforest destruction with damage to the forests of Western Europe by these factors. While two fifths of the students provided the information that the rainforests provide oxygen, in some cases this response also embraced the misconception that rainforest destruction would reduce atmospheric oxygen, making the atmosphere incompatible with human life on Earth.

In answer to the final question about the importance of rainforest conservation, the majority of children simply said that we need rainforests to survive. Only a few of the pupils (6%) mentioned that rainforest destruction may contribute to global warming. This is surprising considering the high level of media coverage on this issue. Some children expressed the idea that the conservation of rainforests is not important. The results of this study suggest that certain ideas predominate in the thinking of children about rainforests. Pupils' responses indicate some misconceptions in basic scientific knowledge of rain forests' ecosystems such as their ideas about rainforests as habitats for animals, plants and humans and the relationship between climatic change and destruction of rainforests.

Pupils did not volunteer ideas that suggested that they appreciated the complexity of causes of rainforest destruction. In other words, they gave no indication of an appreciation of either the range of ways in which rainforests are important or the complex social, economic and political factors which drive the activities which are destroying the rainforests. One encouragement is that the results of similar studies about other environmental issues suggest that older children seem to acquire the ability to appreciate value and evaluate conflicting views. Environmental education offers an arena in which these skills can be developed, which is essential for these children as future decision-makers.

Post- Reading Activities

Comprehension Check-Up: Write TRUE, FALSE or NOT GIVEN on the space provided.

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. The plight of the rainforests has largely been ignored by the media.

_____2. Children only accept opinions on rainforests that they encounter in their classrooms.

_____3. It has been suggested that children hold mistaken views about the 'pure' science that they study at school.

_____4. The fact that children's ideas about science form part of a larger framework of ideas means that it is easier to change them.

_____5. The study involved asking children a number of yes/no questions such as 'Are there any rainforests in Africa?'

_____6. Girls are more likely than boys to hold mistaken views about the rain forests' destruction.

_____7. The study reported here follows on from a series of studies that have looked at children's understanding of rainforests.

_____8. A second study has been planned to investigate primary school children's ideas about rainforests.

9. In your own perspective, what is a rainforest and why do we need it?

_____

_____

_____

10. Cite two examples of rainforest destructions.

_____

_____

_____

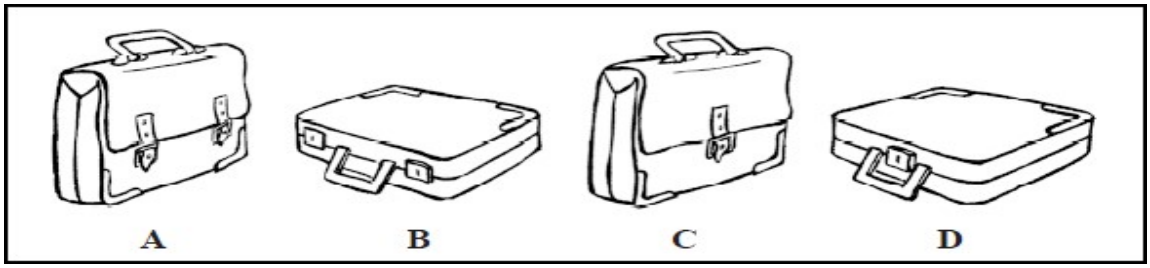
Listening Activity

LOST BRIEFCASE

Pre-Listening Exercise: Have you lost a thing and you don't know where it is? Where you able to find it?

Listening Exercise: Listen to the recording and answer the following questions.

1. What does her briefcase look like?

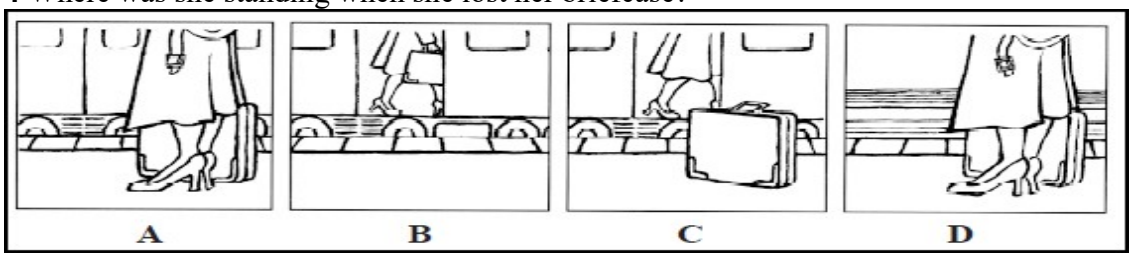


2. Which picture shows the distinguishing features?

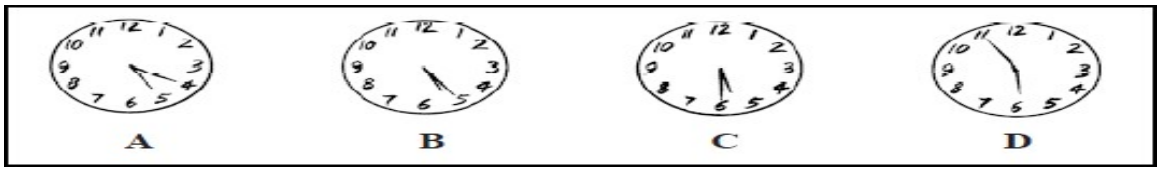
3. What did she have inside her briefcase?

A. wallet, pens and novel
B. papers and wallet
C. Pens and novel
D. Papers, pens and novel

4 Where was she standing when she lost her briefcase?



5. What time was it when she lost her briefcase?



Listen again to the recording and complete the dialogue.

THE LOST BRIEFCASE

Characters:

R = Receptionist W = Woman P = Police Officer

R: Good evening, City Police Station. Can I help you?
W: Oh hello, I'd like to report a _____ briefcase, please.
R: Just a minute and I'll put you through.
P: Lost _____. Can I help you?
W: Oh, yes. I've had my briefcase stolen.
P: OK … I'll take some details … Tell me what it looks like, first of all.
W: Well … it's a soft _____ one, you know, not a heavy box-type like a _____.
P: Mmm… and how does it close?
W: It's got buckles at the front ... two of them they're gold-plated ones.
P: Fine… Was it locked?
W: No, _____.
P: Never mind. Any distinguishing features?
W: _____?
P: Any marks or badges on it that make it stand out?
W: Only the _____name.
P: And where's that?
W: It's on the back … at the bottom in the left-hand corner. It's Sagi. Oh and there's a _____… it's quite bad but small … directly above the brand name. I did it recently putting it on my _____.
P: Right, got that. So, what did you have inside the briefcase?
W: Well all my papers from college. It's so _____ but, thank goodness for computers, I haven't lost them _____!
P: Yes, you're lucky.
W: I had my _____ in my pocket so I didn't lose that but there were also my pens which I got for my birthday and a novel I was planning to read on the train.
P: Right. Where exactly did you lose the briefcase?
W: Well … I _____. I was standing on the platform … it was right next to me.
P: You were holding it?
W: I'd just put it down on the floor but I could almost feel it beside me. I was watching for my tram because sometimes it comes early and then next time I looked, my briefcase wasn't there.
P: And what _____ was this?
W: Ah … it was … it must have been about 5.20 … no a bit later. I'd say _____ because it was just getting crowded and the train normally comes at about twenty-five to six.

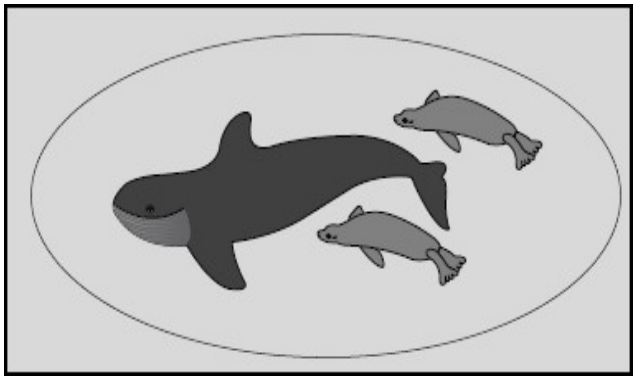
Speaking Exercise

Practice the dialog with your partner and perform it in the class.

MODULE 8

What Do Whales Feel?

An examination of the functioning of the senses in cetaceans, the group of mammals comprising whales, dolphins and porpoises.



Some of the senses that we and other terrestrial mammals take for granted are either reduced or absent in cetaceans or fail to function well in water. For example, it appears from their brain structure that toothed species are unable to smell. Baleen species, on the other hand, appear to have some related brain structures but it is not known whether these are functional. It has been speculated that, as the blowholes evolved and migrated to the top of the head, the neural pathways serving sense of smell may have been nearly all sacrificed. Similarly, although at least some cetaceans have taste buds, the nerves serving these have degenerated or are rudimentary.

The sense of touch has sometimes been described as weak too, but this view is probably mistaken. Trainers of captive dolphins and small whales often remark on their animals' responsiveness to being touched or rubbed, and both captive and free ranging cetacean individuals of all species (particularly adults and calves, or members of the same subgroup) appear to make frequent contact. This contact may help to maintain order within a group, and stroking or touching are part of the courtship ritual in most species. The area around the blowhole is also particularly sensitive and captive animals often object strongly to being touched there.

The sense of vision is developed to different degrees in different species. Baleen species studied at close quarters underwater – specifically a grey whale calf in captivity for a year, and free-ranging right whales and humpback whales studied and filmed off Argentina and Hawaii – have obviously tracked objects with vision underwater, and they can apparently see moderately well both in water and in air. However, the position of the eyes so restricts the field of vision in baleen whales that they probably do not have stereoscopic vision.

On the other hand, the position of the eyes in most dolphins and porpoises suggests that they have stereoscopic vision forward and downward. Eye position in freshwater dolphins, which often swim on their side or upside down while feeding, suggests that what vision they have is stereoscopic forward and upward. By comparison, the bottlenose

dolphin has extremely keen vision in water. Judging from the way it watches and tracks airborne flying fish, it can apparently see fairly well through the air–water interface as well. And although preliminary experimental evidence suggests that their in-air vision is poor, the accuracy with which dolphins leap high to take small fish out of a trainer's hand provides anecdotal evidence to the contrary.

Such variation can no doubt be explained with reference to the habitats in which individual species have developed. For example, vision is obviously more useful to species inhabiting clear open waters than to those living in turbid rivers and flooded plains. The South American boutu and Chinese beiji, for instance, appear to have very limited vision, and the Indian susus are blind, their eyes reduced to slits that probably allow them to sense only the direction and intensity of light.

Although the senses of taste and smell appear to have deteriorated, and vision in water appears to be uncertain, such weaknesses are more than compensated for by cetaceans' well-developed acoustic sense. Most species are highly vocal, although they vary in the range of sounds they produce, and many forage for food using echolocation.

Large baleen whales primarily use the lower frequencies and are often limited in their repertoire. Notable exceptions are the nearly song-like choruses of bowhead whales in summer and the complex, haunting utterances of the humpback whales.

Toothed species in general employ more of the frequency spectrum, and produce a wider variety of sounds, than baleen species (though the sperm whale apparently produces a monotonous series of high-energy clicks and little else). Some of the more complicated sounds are clearly communicative, although what role they may play in the social life and 'culture' of cetaceans has been more the subject of wild speculation than of solid science.

Post- Reading Activity

Comprehension Check-Up: Complete the table below. Choose NO MORE THAN THREE WORDS. Write your answers in boxes.

SENSE	SPECIES	ABILITY	COMMENTS
Smell	Toothed	No	evidence from brain structure
	Baleen	not certain	related brain structures are present
Taste	some types	Poor	nerves linked to their 1. _____ are underdeveloped
Touch	All	Yes	region around the blowhole very sensitive

Vision	2._____	Yes	probably do not have stereoscopic vision
	dolphins and porpoise	Yes	probably have stereoscopic vision porpoises 3._____
	4._____	Yes	probably have stereoscopic vision forward and upward
	bottlenose dolphin	Yes	exceptional in **5.** _____ and good dolphin in air–water interface
	boutu and beiji	Poor	have limited vision
	Indian susu	No	probably only sense direction and intensity of light
Hearing	Toothed	Yes	use more of frequency spectrum; have wider repertoire

Listening Activity

SCHOOL ORIENTATION

Pre-Listening Exercise: What are the things to do when there is school orientation?

Listening Exercise:

Listen to the recording and answer the following questions.

Post-Listening Exercise

Comprehension Check:

1. The orientation meeting
   A. took place recently.
   B. took place last term.
   C. will take place tomorrow.
   D. will take place next week.
2. Attendance at lectures is
   A. optional after 4 pm.
   B. closely monitored.
   C. difficult to enforce.
   D. sometimes unnecessary.
3. Tutorials take place
   A. every morning.
   B. twice a week.
   C. three mornings a week.
   D. three afternoons a week.
4. The lecturer's name is
   A. Roberts.
   B. Rawson.
   C. Rogers.
   D. Robertson.

Listen to the dialogue again and fill in the blanks with right words.

SCHOOL ORIENTATION

Characters:

M = male student F = female lecturer

M: Hello can I come in?

F: Oh yes, come in. How can I help you?

M: I was looking for the Economics office. I've been all over the _____ Faculty *building* looking for it but I could only find the School of Accounting and Economic History. Is this the right place?

F: Yes this is the School of Economics.

M: Oh good. Um, I'm a new _____ and I was wondering if someone could give me some information.

F: Well I might be able to help. I lecture on that program. What do you need to know?

M: Quite a few things, actually. Firstly, how many lectures a week do I have to attend?
F: Ah, well, the Economics I course is a _____ unit so there are two lectures a week and one _____. The lectures are scheduled for Tuesday and Thursday.
M: What time?
F: _____ … You know this information is all in the handout which you should have received yesterday at the orientation meeting.
M: Oh, was there a meeting yesterday? I didn't know about that … no one _____ …
F: Yes, there was, but never mind. Now lectures are at four in the afternoon.
M: _____ a bit late. I've got a part time job that starts at four thirty.
F: Well, you can't be in two places at once, can you, and _____ at lectures is necessary. We expect at least 90% attendance at this university you know.
M: _____ That's high. Do they enforce that _____?
F: Yes, we do. We're pretty strict about it actually.
M: And what times have been set down for the tutorials — do you have that information?
F: That's a very well attended course so there's a number of tutorial times. Monday,Wednesday and Friday, all at 9 o'clock. Yours will be allocated at the first lecture.
M: Can't I _____ the time?
F: Maybe, maybe not.. You'll have to talk to the lecturer on the _____.
Dr. Roberts is his name.
M: Oh, OK.

Speaking Exercise

Practice the dialogue with your partner and act this at front.

MODULE 9

VISUAL SYMBOLS AND THE BLIND

Part 1

From a number of recent studies, it has become clear that blind people can appreciate the use of outlines and perspectives to describe the arrangement of objects and other surfaces in space. But pictures are more than literal representations. This fact was drawn to my attention dramatically when a blind woman in one of my investigations decided on her own initiative to draw a wheel as it was spinning. To show this motion, she traced a curve inside the circle (*Fig. 1*). I was taken aback. Lines of motion, such as the one she used, are a very recent invention in the history of illustration. Indeed, as art scholar David Kunzle notes, Wilhelm Busch, a trend-setting nineteenth-century cartoonist, used virtually no motion lines in his popular figures until about 1877.


Fig. 1

When I asked several other blind study subjects to draw a spinning wheel, one particularly clever rendition appeared repeatedly: several subjects showed the wheel's spokes as curved lines. When asked about these curves, they all described them as metaphorical ways of suggesting motion. Majority rule would argue that this device somehow indicated motion very well. But was it a better indicator than, say, broken or wavy lines – or any other kind of line, for that matter? The answer was not clear. So I decided to test whether various lines of motion were apt ways of showing movement or if they were merely idiosyncratic marks. Moreover, I wanted to discover whether there were differences in how the blind and the sighted interpreted lines of motion.

To search out these answers, I created raised-line drawings of five different wheels, depicting spokes with lines that curved, bent, waved, dashed and extended beyond the perimeter of the wheel. I then asked eighteen blind volunteers to feel the wheels and assign one of the following motions to each wheel: wobbling, spinning fast, spinning steadily, jerking or braking. My control group consisted of eighteen sighted undergraduates from the University of Toronto.

All but one of the blind subjects assigned distinctive motions to each wheel. Most guessed that the curved spokes indicated that the wheel was spinning steadily; the wavy spokes, they thought, suggested that the wheel was wobbling; and the bent spokes were taken as a sign that the wheel was jerking. Subjects assumed that spokes extending beyond the wheel's perimeter signified that the wheel had its brakes on and that dashed spokes indicated the wheel was spinning quickly.

In addition, the favored description for the sighted was the favored description for the blind in every instance. What is more, the consensus among the sighted was barely higher than that among the blind. Because

motion devices are unfamiliar to the blind, the task I gave them involved some problem solving. Evidently, however, the blind not only figured out meanings for each line of motion, but as a group they generally came up with the same meaning at least as frequently as did sighted subjects.

Part 2

We have found that the blind understand other kinds of visual metaphors as well. One blind woman drew a picture of a child inside a heart – choosing that symbol, she said, to show that love surrounded the child. With Chang Hong Liu, a doctoral student from China, I have begun exploring how well blind people understand the symbolism behind shapes such as hearts that do not directly represent their meaning. We gave a list of twenty pairs of words to sighted subjects and asked them to pick from each pair the term that best related to a circle and the term that best related to a square. For example, we asked: What goes with soft? A circle or a square? Which shape goes with hard? All our subjects deemed the circle soft and the square hard. A full 94% ascribed happy to the circle, instead of sad. But other pairs revealed less agreement: 79% matched fast to slow and weak to strong, respectively. And only 51% linked deep to circle and shallow to square. (See *Fig. 2*.) When we tested four totally blind volunteers using the same list, we found that their choices closely resembled those made by the sighted subjects. One man, who had been blind since birth, scored extremely well. He made only one match differing from the consensus, assigning 'far' to square and 'near' to circle. In fact, only a small majority of sighted subjects – 53% – had paired far and near to the opposite partners. Thus, we concluded that the blind interpret abstract shapes as sighted people do.

Words associated with circle/square	Agreement among subjects (%)
SOFT-HARD	100
MOTHER-FATHER	94
HAPPY-SAD	94
GOOD-EVIL	89
LOVE-HATE	89
ALIVE-DEAD	87
BRIGHT-DARK	87
LIGHT-HEAVY	85
WARM-COLD	81
SUMMER-WINTER	81
WEAK-STRONG	79
FAST-SLOW	79
CAT-DOG	74
SPRING-FALL	74
QUIET-LOUD	62
WALKING-STANDING	62
ODD-EVEN	57
FAR-NEAR	53
PLANT-ANIMAL	53
DEEP-SHALLOW	51

Fig. 2 Subjects were asked which word in each pair fits best with a circle and which with a square. These percentages show the level of consensus among sighted subjects.

Post- Reading Activity

Comprehension Check-Up: Circle the letter of you answer.

1. In the first paragraph the writer makes the point that blind people
   A. may be interested in studying art.
   B. can draw outlines of different objects and surfaces
   C. can recognize conventions such as perspective.
   D. can draw accurately.

2. The writer was surprised because the blind woman
   A. drew a circle on her own initiative.
   B. did not understand what a wheel looked like.
   C. included a symbol representing movement.
   D. was the first person to use lines of motion.

3. From the experiment described in Part 1, the writer found that the blind subjects
   A. had good understanding of symbols representing movement.
   B. could control the movement of wheels very accurately.
   C. worked together well as a group in solving problems.
   D. got better results than the sighted undergraduates.

Listening Activity

THE ACCOMMODATION

Pre-Listening Exercise:

Have you been to a place that you seem to dislike? What is your feeling towards being in that place?

Listening Exercise: Listen to the recording and answer the following questions.

Post-Listening Exercise

Comprehension Check:

KATE	
Her first impressions of the town	*Example* ***Quiet***
Type of accommodation	(1)
Her feelings about the accommodation	(2)
Her feelings about the other students	(3)
Name of course	***Environmental Studies***
Difficulties experienced on the course	(4)
Suggestions for improving the course	(5)

LUKI	
First type of accommodation	(6)
Problem with the first accommodation	(7)
Second type of accommodation	(8)
Name of course	(9)
Comments about the course	*Computer room busy*
Suggestions for improving the course	(10)

Listen to the dialogue again and fill in the blanks.

THE ACCOMODATION

Characters:
C = Counselor K = Kate L = Luki

C: Hi there, Kate. Come on in. How are you today?

K: Fine thanks.

C: Hi, Luki. How.s things?

L: OK.

C: Well, as I explained on the phone, I'm a _____ here at the Student Services section of the university and _____ interviewing overseas students to help me draw up a guide for new students so _____be grateful if you could tell me a little about your time since you.ve been here in Cambridge.

K: Right.

L: Good idea.

C: Now, Kate let's start with you. OK, um . this is your second semester _____? Could you tell us something about your first impressions of the town when you arrived?

K: Yeah well first of all I was struck by how quiet it is here in the _____.

C: Yes, I suppose Cambridge is a quiet place. Where did you live when you first arrived?

K: Well, I went straight into student accommodation; it was a kind of _____ hostel.

C: Ah right, so you _____ have to worry about doing your own cooking or anything like that?

K: No, but sometimes I wished I had! The food at the hostel was _____.

C: Oh dear. But how were the other students?

K: To be _____ I haven't managed to make many friends even though the place is full. People seem to keep to themselves; they're not really very friendly.

C: Oh I'm sorry to hear that. Well, what about the actual course? You're _____ uh?

K: I'm doing a Masters by coursework in Environmental Studies.

C: Ah, right, and how are you finding that?

K: Yeah, well, it's been pretty good really. I've enjoyed the course, but I feel there hasn't been enough contact with the lecturers. They all seem to be _____ busy. The only chance I've really had to talk to them was on the field trip.

C: Well that's no good. Could anything be done to _____ the course in your opinion?

K: Well … I think it would be helpful to have meetings with lecturers on the course. Say once a fortnight — something like that.

C: Regular meetings. Yes that could certainly help. Now Kate, we'll come back. to you in a minute, but I'd just like to ask Luki some questions.

C: Luki, Where are you from?

L: I am from Indonesia.

C: And how did *you* find _____ when you first arrived?

L: Well, I like it here. I think the city is very beautiful.

C: What about your _____? Was that OK?

L: Yes, **OK.** At first I stayed with a family for three months. They were very kind to me but they had three young children and I found it _____ to study.

C: Right, I see.

L: So after three months I moved out and now I live with two other students in a student house. It's much _____ and we like it there.

C: Good, and what about your studies? What are you studying?

L: I'm doing a Bachelor of Computing.

C: Computing. I see. Um, apart from the _____ difficulties, if you can separate them, how have you found the course? L: OK, but …

C: Yes, go on.

L: Well, the main difficulty for me is getting time on the computers in the computer room. It's always busy and this makes it very hard to do my _____work.

C: Yes, I'm sure it would. Can you reserve time in the computer room?

L: No, you can't … but it would certainly help if we *could* _____ computer time.

Speaking Exercise

Get a partner. You will be Luki and she'll be the counselor to answer Luki's concern at the end of the conversation

MODULE 10

A Spark, a Flint: How Fire Leapt to Life

The control of fire was the first and perhaps greatest of humanity's steps towards a life-enhancing technology.

To early man, fire was a divine gift randomly delivered in the form of lightning, forest fire or burning lava.

Unable to make flame for themselves, the earliest peoples probably stored fire by keeping slow burning logs alight or by carrying charcoal in pots. How and where man learnt how to produce flame at will is unknown. It was probably a secondary invention, accidentally made during tool-making operations with wood or stone. Studies of primitive societies suggest that the earliest method of making fire was through friction. European peasants would insert a wooden drill in a round hole and rotate it briskly between their palms. This process could be speeded up by wrapping a cord around the drill and pulling on each end. The Ancient Greeks used lenses or concave mirrors to concentrate the sun's rays and burning glasses were also used by Mexican Aztecs and the Chinese. Percussion methods of fire lighting date back to Paleolithic times, when some Stone Age tool-makers discovered that chipping flints produced sparks.

The technique became more efficient after the discovery of iron, about 5000 years ago In Arctic North America, the Eskimos produced a slow-burning spark by striking quartz against iron pyrites, a compound that contains sulphur. The Chinese lit their fires by striking porcelain with bamboo. In Europe, the combination of steel, flint and tinder remained the main method of fire lighting until the mid-19th century. Fire-lighting was revolutionized by the discovery of phosphorus, isolated in 1669 by a German alchemist trying to transmute silver into gold. Impressed by the element's combustibility, several 17th century chemists used it to manufacture fire-lighting devices, but the results were dangerously inflammable. With phosphorus costing equivalent of several hundred pounds per ounce, the hrst matches were expensive. The quest for a practical match really began after 1781 when a group of French

chemists came up with the *Phosphoric Candle* or *Ethereal Match*, a sealed glass tube containing a twist of paper tipped with phosphorus. When the tube was broken, air rushed in, causing the phosphorus to self combust. An even more hazardous device, popular in America, was the *Instantaneous Light Box* — a bottle filled with sulphuric acid into which splints treated with chemicals were dipped.

The first matches resembling those used today were made in 1827 by John Walker, an English pharmacist who borrowed the formula from a military rocket-maker called Congreve. Costing a shilling a box, *Congreves* were splints coated with sulphur and tipped with potassium chlorate. To light them, the user drew them quickly through folded glass paper. Walker never patented his invention, and three years later it was copied by a Samuel Jones, who marketed his product as *Lucifers*. About the same time, a French chemistry student called Charles Sauria produced the first "strike-anywhere" match by substituting white phosphorus for the potassium chlorate in the Walker formula. However, since white phosphorus is a deadly poison, from 1845 match-makers exposed to its fumes succumbed to necrosis, a disease that eats away jaw-bones. It wasn't until 1906 that the substance was eventually banned.

That was 62 years after a Swedish chemist called Pasch had discovered non-toxic red or amorphous phosphorus, a development exploited commercially by Pasch's compatriot J E Lundstrom in 1885.Lundstrom's safety matches were safe because the red phosphorus was non-toxic; it was painted on to the striking surface instead of the match tip, which contained potassium chlorate with a relatively high ignition temperature of 182 degrees centigrade. America lagged behind Europe in match technology and safety standards. It wasn't until 1900 that the Diamond Match Company bought a French patent for safety matches — but the formula did not work properly in the different climatic conditions prevailing in America and it was another 11 years before scientists finally adapted the French patent for the US. The Americans, however, can claim several "firsts" in match technology and marketing. In 1892 the Diamond Match Company pioneered book matches. The innovation didn't catch on until after 1896, when a brewery had the novel idea of advertising its product in match books. Today book matches are the most widely used type in the US, with 90 percent handed out free by hotels, restaurants and others. Other American innovations include an anti- afterglow solution to prevent the match from smoldering after it has been blown out; and the waterproof match, which lights after eight hours in water.

Post- Reading Activity

Comprehension Check-up: Complete the summary below. Choose your answers from the box. Number one is done for you.

Note: There are more words than spaces so you will not use them all You may use any of the words more than once.

EARLY FIRE-LIGHTING METHODS

Primitive societies saw fire as a 1.__heavenly____ gift. They tried to 2._____burning logs or charcoal 3._____that they could create fire themselves. It is suspected that the first man-made flames were produced by 4._____. The very first fire-lighting methods involved the creation of 5. _____by, for example, rapidly 6._____. a wooden stick in a round hole. The use of 7._____ or persistent chipping was also widespread in Europe and among other peoples such as the Chinese and 8._____ European practice of this method continued until the 1850s 9. _____the discovery of phosphorus some years earlier.

List of Words

Mexicans	random	rotating	despite	preserve
realizing	sunlight	lacking	heavenly	percussion
chance	friction	unaware	without	make
heating	Eskimos	surprised	until	smoke

Listening Activity

BANANA GROWING

Pre-Listening Exercise: Have you been to a place that you seem to dislike?

Listening Exercise:

Listen to the recording and answer the following questions.

Post-Listening Exercise

Comprehension Check:

1. At first Fiona thinks that Martin's tutorial topic is
   A. inappropriate
   B. dull
   C. interesting
   D. fascinating

2. According to Martin, the banana
   A. has only recently been cultivated
   B. is economical to grow
   C. is good for your health
   D. is his favorite food

3. Fiona listens to Martin because she
   A. wants to know more about bananas
   B. has nothing else to do today
   C. is interested in the economy of Australia
   D. wants to help Martin

4. According to Martin, bananas were introduced into Australia from
   A. India
   B. England
   C. China
   D. Africa

Listen to the dialogue again and fill in the blanks.

BANANA GROWING

Characters:

F = Fiona M = Martin

F: Hi there, Martin. How are you going with your Australian studies tutorial _____?

M: Oh good. I've finished it actually.

F: Lucky you. What did you do it on? I'm still trying to find an _____ topic.

M: Well, after some consideration I decided to look at the history of banana growing in Australia.

F: (surprised) _____ growing!

M: Yes, banana growing.

F: (sarcastically) _____, I'm sure!

M: Well, it's not as boring as you' d think. And I wanted to tie it in to the work I.ve been doing on _____ industries and the economy. Anyway I bet there are a few things you didn't know about bananas!

F: Such as?

M: Such as the fact that bananas were among the first plants ever to be _____.

F: Oh, really?

M: Yes, they're an extremely _____ food.

F: I suppose you.re going to tell me the whole history of banana growing now aren't you?

M: Well, it'd be a good practice run for my tutorial next week. I'll do the same for you some time.

F: OK. Fire away. So where were these bananas first domesticated?

M: According to my research, the Cavendish banana, which is a type of banana and the first type to be cultivated here, actually originated in China but they had a _____ roundabout route before they got to Australia.

F: You mean they didn't go straight from China to Australia?

M: No, they didn't. It seems that in 1826, bananas were taken from South China to England.

F: I suppose they would have made a welcome addition to the English diet.

M: Yes, I'm sure. Well _____ there was an English Duke who was particularly fond of bananas and he used to cultivate them in his hothouse, which is where you have to grow them in England, of course, because of the _____ and they became quite popular in the UK. So he was the one responsible for cultivating the Cavendish banana which was then introduced into _____.

F: I see. And we've been growing them ever since?

M: Yes.

Speaking Exercise

(Group Activity): Share something that you seem a fascinating topic to study or experiment and present it to the class.

MODULE 11

Right and Left-handedness in Humans

Why do humans, virtually alone among all animal species, display a distinct left or right-handedness? Not even our closest relatives among the apes possess such decided lateral asymmetry, as psychologists call it. Yet about 90 percent of every human population that has ever lived appears to have been right-handed. Professor Bryan Turner at Deakin University has studied the research literature on left-handedness and found that handedness goes with sidedness. So nine out of ten people are right-handed and eight are right-footed. He noted that this distinctive asymmetry in the human population is itself systematic. "Humans think in categories: black and white, up and down, left and right. It's a system of signs that enables us to categorize phenomena that are essentially ambiguous.' Research has shown that there is a genetic or inherited element to handedness. But while left-handedness tends to run in families, neither left nor right handers will automatically produce off-spring with the same handedness; in fact about 6 percent of children with two right-handed parents will be left-handed. However, among two left-handed parents, perhaps 40 percent of the children will also be left-handed. With one right and one left-handed parent, 15 to 20 percent of the offspring will be left-handed. Even among identical twins who have exactly the same genes, one in six pairs will differ in their handedness.

What then makes people left-handed if it is not simply genetic? Other factors must be at work and researchers have turned to the brain for clues. In the 1860s the French surgeon and anthropologist, Dr Paul Broca, made the remarkable finding that patients who had lost their powers of speech as a result of a stroke (a blood clot in the brain) had paralysis of the right half of their body. He noted that since the left hemisphere of the brain controls the right half of the body, and vice versa, the brain damage must have been in the brain's left hemisphere.

Psychologists now believe that among right-handed people, probably 95 percent have their language center in the left hemisphere, while 5 percent have right sided language. Left-handers, however, do not show the reverse pattern but instead a majority also have their language

in the left hemisphere. Some 30 per cent have right hemisphere language. Dr Brinkman, a brain researcher at the Australian National University in Canberra, has suggested that evolution of speech went with right-handed preference. According to Brinkman, as the brain evolved, one side became specialized for fine control of movement (necessary for producing speech) and along with this evolution came right hand preference. According to Brinkman, most left-handers have left hemisphere dominance but also some capacity in the right hemisphere. She has observed that if a left-handed person is brain-damaged in the left hemisphere, the recovery of speech is quite often better and this is explained by the fact that left-handers have a more bilateral speech function. In her studies of macaque monkeys, Brinkman has noticed that primates (monkeys) seem to learn a hand preference from their mother in the first year of life but this could be one hand or the other. In humans, however, the specialization in (function of the two hemispheres results in anatomical differences: areas that are involved with the production of speech are usually larger on the left side than on the right. Since monkeys have not acquired the art of speech, one would not expect to see such a variation but Brinkman claims to have discovered a trend in monkeys towards the asymmetry that is evident in the human brain. Two American researchers, Geschwind and Galaburda, studied the brains of human embryos and discovered that the left-right asymmetry exists before birth. But as the brain develops, a number of things can affect it. Every brain is initially female in its organization and it only becomes a male brain when the male fetus begins to secrete hormones. Geschwind and Galaburda knew that different parts of the brain mature at different rates; the right hemisphere develops first, then the left. Moreover, a girl's brain develops somewhat faster than that of a boy. So, if something happens to the brain's development during pregnancy, it is more likely to be affected in a male and the hemisphere more likely to be involved is the left. The brain may become less lateralized and this in turn could result in left-handedness and the development of certain superior skills that have their origins in the left hemisphere such as logic, rationality and abstraction. It should be no surprise then that among mathematicians and architects, left-handers tend to be more common and there are more left-handed males than females.

The results of this research may be some consolation to left-handers who have for centuries lived in a world designed to suit right-handed people. However, what is alarming, according to Mr. Charles Moore, a writer and journalist, is the way the word "right" reinforces its own virtue. Subliminally he says, language tells people to think that anything on the right can be trusted while anything on the left is dangerous or even sinister. We speak of left handed compliments and according to Moore, "it is no coincidence that left handed children, forced to use their right hand, often develop a stammer as they are robbed of their freedom of speech". However, as more research is undertaken on the causes of left-handedness, attitudes towards left-handed people are gradually changing for the better. Indeed when the champion tennis player Ivan Lendl was asked what the single thing was that he would choose in order to improve his game he said he would like to become a lefthander.

Post- Reading Activity

Comprehension Check:

Use the information in the text to match the people (listed A-E) with the opinions (listed 1-7) below. Write the appropriate letter (A-E) in boxes 1-7 on the space provided. Some people match more than one opinion.

A. Dr Broca	**B.** Dr Brinkman	**C.** Geschwind and Galaburda
D.Charles Moore	**E.** Professor Turner	

1. Human beings started to show a preference for right-handedness when they first developed language.
2. Society is prejudiced against left-handed people.
3. Boys are more likely to be left-handed.
4. After a stroke, left-handed people recover their speech more quickly than right-handed people.
5. People who suffer strokes on the left side of the brain usually lose their power of speech.
6. The two sides of the brain develop different functions before birth.
7. Asymmetry is a common feature of the human body.

Listening Activity

HEALTH ISSUES

Pre-Listening Activity: What are the GO, GROW and GLOW foods?

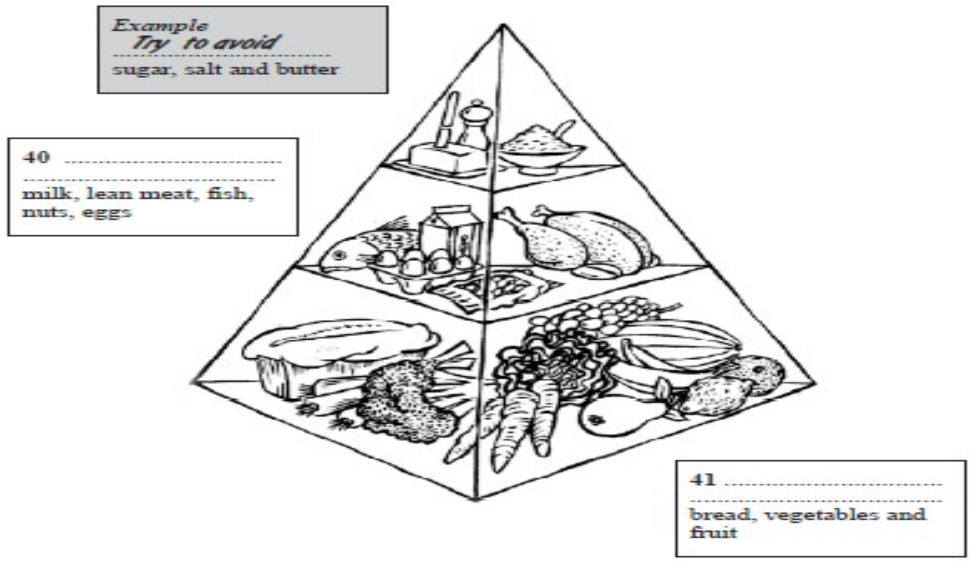
Listening Activity:

Listen to the recording and answer the following questions.

Post-Listening Exercise

Complete the note. Write no more than three words for each answer.

A balanced diet
A balanced diet will give you enough vitamins for normal daily living. Vitamins in food can be lost through **(1)** ..... .
Types of vitamins:
(a) Fat soluble vitamins are stored by the body.
(b) Water soluble vitamins - not stored, so you need a **(2)**.....
Getting enough vitamins
Eat **(3)** ..... of foods. Buy plenty of vegetables and store them in **(4)** .....



Listen to the dialogue again and fill in the blanks with the right words.

HEALTH ISSUES

Characters:
J = John D = Diane Greenbaum

J: Good morning, good morning, everyone, and welcome to our _____ lecture on health issues. This series of lectures is organised by the Students' Union and is part of the union's attempt to help you, the students of this university, to stay _____ while coping with _____ at the same time. So it's a great pleasure for me to welcome back Ms Diane Greenbaum who is a professional _____ and who has been kind enough to give up her time, in what I know is a very hectic schedule, to come along and talk to us today.

D: Thank you. Thank you very much, John. May I say it's a _____ to be back. Now, stresses at university, being away from home and having to look after yourselves, learning your way around the campus all _____ to making it quite hard sometimes to ensure that your diet is adequate. So today I'm going to talk about ways of making sure that you eat well while at the same time staying within your budget. If you have a well _____, then you should be getting all the vitamins that you need for normal daily living. However sometimes we think we're eating the right foods but the vitamins are escaping, perhaps as a result of _____ and anyway we're not getting the full benefit of them. Now, if you lack _____ in any way the solution isn't to rush off and take vitamin pills, though they can sometimes help. No it's far better to look at your diet and how you _____ your food. So what are vitamins? Well, the _____ tells us they are food factors essential in small quantities to_____ life.. Now, there are fat soluble vitamins which can be stored for quite some time by the body and there are water soluble vitamins which are removed more rapidly from the body and so a regular daily _____ of these ones is needed.

OK, so how can you ensure that your diet contains enough of the vitamins you need? Well, first of all, you may have to _____ some new eating habits! No more chips at the canteen, I'm afraid! Now firstly, you must eat a _____ of foods. Then you need to ensure that you eat at least four servings of fruit and _____ daily. Now you'll need to shop two or three times a week to make sure that they're _____, and store your vegetables in the fridge or in a cool dark place. Now let s just refresh our memories by looking at the Healthy Diet _____. OK, can you all see that? Good. Well, now, as you see we.ve got three levels to our pyramid. At the top in the smallest area are the things which we should really be trying to avoid as much as possible. Things like, example yes, _____,_____, _____and all that sort of thing.

Next, on the middle of our pyramid we find the things that we can eat in _____. Not too much though! And that is where we find milk, lean meat, _____,_____,_____. And then at the bottom of the pyramid are the things that you can eat lots of! Because they're the things that are really good for you. And here we have bread, vegetables and fruit. So don't lose _____ of your healthy diet pyramid when you do your shopping.

Speaking Exercise

(Four members in a group)**:** Present a balanced diet using the Food Pyramid in the class.

MODULE 12

Tourism

A Tourism, holidaymaking and travel are these days more significant social phenomena than most commentators have considered. On the face of it, there could not be a more trivial subject for a book. And indeed since social scientists have had considerable difficulty explaining weightier topics, such as work or politics, it might be thought that they would have great difficulties in accounting for more trivial phenomena such as holidaymaking. However, there are interesting parallels with the study of deviance. This involves the investigation of bizarre and idiosyncratic social practices which happen to be defined as deviant in some societies but not necessarily in others. The assumption is that the investigation of deviance can reveal interesting and significant aspects of normal societies. It could be said that a similar analysis can be applied to tourism.

B Tourism is a leisure activity which presupposes its opposite, namely regulated and organised work. It is one manifestation of how work and leisure are organised as separate and regulated spheres of social practice in modern societies. Indeed acting as a tourist is one of the defining characteristics of being 'modern' and the popular concept of tourism is that it is organised within particular places and occurs for regularised periods of time. Tourist relationships arise from a movement of people to, and their stay in, various destinations. This necessarily involves some movement, that is the journey, and a period of stay in a new place or places. 'The journey and the stay' are by definition outside the normal places of residence and work and are of a short term and temporary nature and there is a clear intention to return 'home' within a relatively short period of time.

C A substantial proportion of the population of modern societies engages in such tourist practices new socialised forms of provision have developed in order to cope with the mass character of the gazes of tourists as opposed to the individual character of travel. Places are chosen to be visited and be gazed upon because there is an anticipation especially through daydreaming and fantasy of intense pleasures, either on a different scale or involving different senses from those customarily encountered. Such anticipation is constructed and sustained through a variety of non-tourist practices such as films, TV literature, magazines records and videos which construct and reinforce this daydreaming.

D Tourists tend to visit features of landscape and townscape which separate them off from everyday experience. Such aspects are viewed because they are taken to be in some sense out of the ordinary. The viewing of these tourist sights often involves different forms of social patterning with a much greater sensitivity to visual elements of landscape or townscape than is normally found in everyday life. People linger over these sights in a way that they would not normally do in their home environment and the vision is objectified or captured through photographs postcards films and so on which enable the memory to be endlessly reproduced and recaptured.

E One of the earliest dissertations on the subject of tourism is Boorstins analysis of the pseudo event (1964) where he argues that contemporary. Americans cannot experience reality directly but thrive on pseudo events. Isolated from the host environment and the local people the mass tourist travels in guided groups and finds pleasure in inauthentic contrived attractions gullibly enjoying the pseudo events and disregarding the real world outside. Over time the images generated of different tourist sights come to constitute a closed self-perpetuating system of illusions which provide the tourist with the basis for selecting and evaluating potential places to visit. Such visits are made says Boorstin, within the environmental bubble of the familiar American style hotel which insulates the tourist from the strangeness of the host environment.

F To service the burgeoning tourist industry, an array of professionals has developed who attempt to reproduce ever-new objects for the tourist to look at. These objects or places are located in a complex and changing hierarchy. This depends upon the interplay between, on the one hand, competition between interests involved in the provision of such objects and, on the other hand changing class, gender, and generational distinctions of taste within the potential population of visitors. It has been said that to be a tourist is one of the characteristics of the modern experience. Not to go away is like not possessing a car or a nice house. Travel is a marker of status in modern societies and is also thought to be necessary for good health. The role of the professional, therefore, is to cater for the needs and tastes of the tourists in accordance with their class and overall expectations.

Post- Reading Activity

Comprehension Check: Choose the most suitable heading for each paragraph from the list of headings below Write the appropriate numbers (i-ix) on the space provided.

List of Headings

i The politics of tourism
ii The cost of tourism
iii Justifying the study of tourism
iv Tourism contrasted with travel
v The essence of modern tourism
vi Tourism versus leisure
vii The artificiality of modern tourism
viii The role of modern tour guides
ix Creating an alternative to the everyday experience

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

Listening Activity

PARKING STICKER

Pre-Listening Activity: Tell us what you feel when you are waiting for something that takes time.

Listening Activity:

Listen to the recording and answer the following questions.

Post-Listening Exercise

Complete the application form using no more than three words.

Application for parking sticker

Name **(1)** _____

Address **(2) Flat 13**_____.

Suburb **(3)** _____

Faculty **(4)** _____

Registration number **(5)** _____

Make of car **(6)** _____

7. Cashier's office opens at_____
   - **A.** 12.15
   - **B.** 2.00
   - **C.** 2.15
   - **D.** 4.30
8. Where must the sticker be displayed?

   _____

Listen to the dialog again and fill in the blanks with right words.

PARKING STICKER

C: Good morning, can I help you?
M: Yes, I was told to come over here to get a parking _____. Is this the right place?
C: Yes, it is. Are you a post graduate _____?
M: Yes, I am.
C: OK, well, I'll just need to take some details ... Your name?
M: Richard Lee — that's spelt L double E.
C: Richard ... Lee. And the _____?
M: Flat 13, 30 Enmore Road
C: How do you spell Enmore?
M: E-N-M-0-R-E. And that's in the suburb of Newport: N-E-W-P-0-R-T.
C: Faculty?
M: I beg your _____?
C: Which faculty are you in?
M: Architecture, the Faculty of _____.
C: Right ... and the registration number of your car?
M: Let me see um L X J five oh ... No, sorry, I always get that wrong, it's LJX 058K.
C: _____.
M: No ... _____
C: Ah. And what make is the car?
M: It s a Ford
C: A Ford. Fine! Well, I'll just get you to sign here and when you've _____ the _____ I'll be able to issue you with the sticker.
M: Right. Where do I pay?
C: Just across the corridor in the cashier's office. Oh, but it's 12.30 now and they close at 12.15 for lunch. But they open again at a quarter past two until 4.30
M: Oh .. they're not open till quarter _____?
C: No. When you get your sticker, you must attach it to the front _____ of your car. I m afraid it's not valid if you don't have it stuck on the window.
M: Right, I see. Thanks very much I'll just wait here then.

Speaking Exercise

Get a pair. In a telephone conversation, act out the process of applying a new passport.