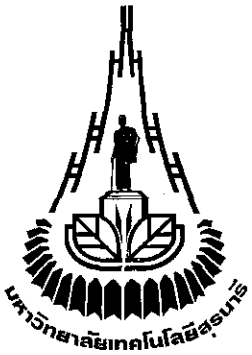

ENGLISH 3: Unit 3

Core English Program: 203203

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Name ..... Number.....

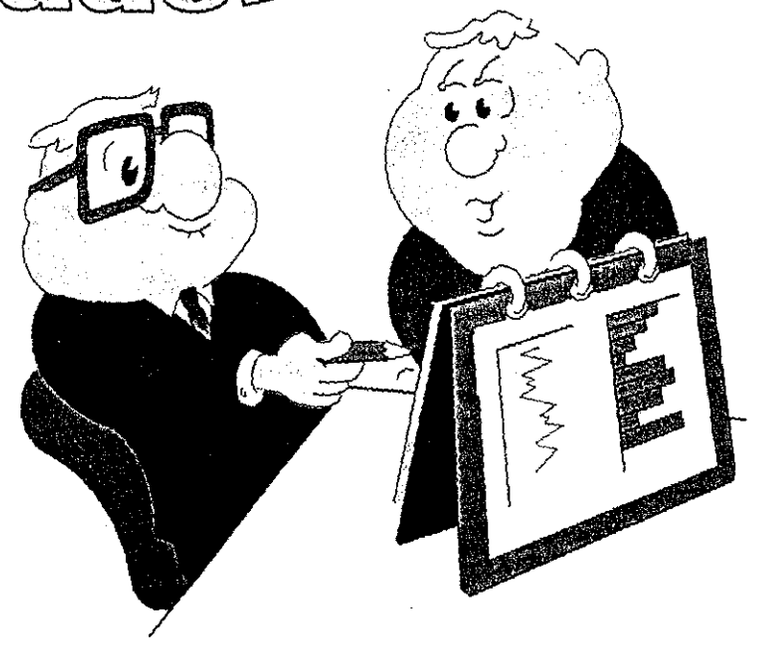
Group..... Number in the group.....

Unit 3
Biology and Biotechnology

In this unit, you will do the following four tasks

- Read academic texts
- Write a cause and effect paragraph
- Listen to introductory remarks, a conversation, and an academic lecture
- Present a verbal summary of a short passage

Task 1: Read academic texts



Text 1: Commercialized Biotechnology

Pre-task 1: Work in pairs to discuss the effects of commercialism on biotechnology.

Positive effects	Negative effects
.....	.....
.....	.....
.....	.....
.....	.....
.....	.....
.....	.....

Pre-task 2: **Vocabulary preview**

Here are some words you will see in the reading text. Work in groups of four to (1) read English meanings of some words and then write their Thai meanings; and (2) find the meanings of some words from their contexts.

Paragraph 1

Words	English meanings	Thai meaning
rush (n)	hurry, haste, speed, swiftness, rapidity, dispatch	.....
astonishing (adj)	amazing, surprising	.....
proportion (n)	A portion, a part, a share, esp. in relation to a whole; a relative amount or number	.....
furious (v)	mad	.....
haste (n)	Quickness or speed of motion or action, esp. as prompted by urgency or pressure	.....
enterprise (n)	A business firm, a company	.....
proceed (v)	Carry on, continue, or resume an activity or action	.....
rapidly (adv)	Moving or capable of moving with great speed; quick-moving, swift	.....
commentary (n)	A comment, a remark, an illustration	.....
dimension (n)	An attribute or status that may be seen as inhering in or characterizing an abstract thing; an aspect	.....
implication (v)	The action of implying; the fact of being implied or involved, without being plainly expressed; a thing implied or involved in something else	.....

Paragraph 1 (continue)

Context clues: Find the meanings of the following words from their contexts.

Words	Meanings	Clues/Types of clues*
headlong (adj) (L1)	.....	.....

Notes.: Types of clues are: (1) Definition; (2) Explanation; (3) Compare or contrast; (4) Illustration; (5) Word parts; and (6) Personal experiences

Paragraph 2

Words	English meanings	Thai meaning
revolution (n)	A period or instance of significant change or radical alteration of a particular condition, state of affairs	.....
decade (n)	A period of ten years	.....
transform (v)	Change the form, shape, or appearance of; alter the character or nature	.....
literally (adv)	In a literal manner, in the literal sense; so as to represent the very words of the original	.....

Context clues: Find the meanings of the following words from their contexts.

Words	Meanings	Clues/Types of clues*
outdistance (adj) (L1)	.....	.....
aspect (n) (L1)	.....	.....

Paragraph 3

Words	English meanings	Thai meaning
broad (adj) (broad base)	Extended in direction from side to side, large across, wide, not narrow; (a specified extent) in breadth	.....
institution(n)	Foundation, establishment, setting up, creation, origination, pioneering	.....
effort (n)	Exertion or striving, physical or mental; a vigorous attempt	.....
Computation (n)	Company, firm, trust, partnership, combine,	.....

Paragraph 4

Words	English meanings	Thai meaning
pale (adj)	White, whitish, white-faced, colorless	.....
visibility (n)	The condition, state, or fact of being seen; ability to be seen.	.....
lumber (v)	The wood of large growing trees able to be used for structural purposes; the trees themselves	.....
injectable (adv)	Able to be drive or force (esp. a fluid, medicine, etc.) into a passage, cavity, or solid material under pressure; introduce by injection	.....

Paragraph 4 (continue)

Words	English meanings	Thai meaning
scent (n)	Fragrance, smell	.....
apply to (v)	Put *to* a special use or purpose	.....
subject to (v)	Make submissive or dependent; subordinate *to*	.....
vagary (n)	An act of wandering or straying from the subject under consideration; a digression	.....
whimsical (adv)	Uncertain, liable to change	.....

Context clues: Find the meanings of the following words from their contexts.

Words	Meanings	Clues/Types of clues*
thoughtless (adj) (L1)	.....	.....
frivolous (adj) (L1)	.....	.....
engineer (v) (L1)	.....	.....
heighten (v) (L1)	.....	.....

Paragraph 5

Words	English meanings	Thai meaning
federal (adj)	Of or pertaining to the central government as distinguished from the separate units constituting it	.....
regulate (v)	control, direct, guide, govern, rule, manage, order, administer, handle, arrange, organize, conduct, run, supervise	.....
coherent (adj)	logical, rational, reasoned, lucid, articulate, systematic, orderly, organized, consistent, comprehensible, intelligible.	.....
range from (v)	Stretch out or stand in a row; extend	.....
artificial (adj)	Not real; imitation, substitute	.....
disturb (v)	Worry, cause anxiety to	.....
engage in (v)	enter into a contract or undertaking (to do; also with an employee or worker)	.....
detach (v)	unfasten, disconnect, unhitch, remove, separate, uncouple, loosen, free, sever, tear off, disengage, disjoin, disunite.	.....
stake (n)	A thing, esp. a sum of money, wagered on the outcome of a game, race, or contest	.....

Paragraph 5 (continue)

Context clues: Find the meanings of the following words from their contexts.

Words	Meanings	Clues/Types of clues*
watchdog (n) (L1)	.....	.....
commerce (adj) (L1)	.....	.....

Paragraph 6

Words	English meanings	Thai meaning
stunning (adj)	Impressive, imposing, remarkable, extraordinary, staggering, incredible, amazing, astonishing, marvelous, splendid	.....
ethical (adj)	moral, honorable, good, honest, just, fair, right, correct, proper	.....
event (n)	Something that happens or is thought of as happening; an occurrence, an incident; now *esp.* one that is significant or noteworthy	.....
enquiry (n)	Investigation, examination	.....
ignore (v)	disregard, pay no attention/heed to, take no notice of	.....
boundary (n)	A thing which serves to mark the limits of something; the limit itself, a dividing line	.....
transitory (n)	short-term, temporary, brief, short	.....
concern (n)	deal with, be connected with, relate to, have to do with, appertain to	.....
Rebel against (v)	Resist, oppose, or be disobedient to a person in authority	.....
secrecy (n)	The quality of being secret or of not revealing secrets; the action, ability, or habit of keeping things secret	.....
frowned on (v)	Knit or furrow the brow in displeasure or thought; express disapproval or anger by a stern look (*at, on, upon*)	.....
patent (v)	license, copyright, registered trade mark	.....
benefit (n)	advantage, good, gain, profit, help, aid, assistance, interest, welfare, well-being, betterment, asset, avail, use, service	.....
generation (n)	Era, epoch, times, days	.....
peculiar(n)	Strange, odd, queer, funny, curious, unusual, abnormal	.....

Paragraph 6 (continue)

Context clues: Find the meanings of the following words from their contexts.

Words	Meanings	Clues/Types of clues*
selfless (adj) (L1)	.....	.....
commerce (adj) (L1)	.....	.....

Paragraph 7

Words	English meanings	Thai meaning
decipher (v)	Find out, discover; detect, make out	.....
hail (v)	Acclaim, applaud, cheer, praise, sound the praises of	.....
triumph (n)	Conquest, victory, win, ascendancy, mastery, success	.....
quest (n)	Any inquiry or investigation; the object of this.	.....
confidently (adv)	Having firm trust or expectation; fully assured, certain	.....
extend to (v)	Increase, enlarge; lengthen, widen, broaden, stretch, stretch out, draw out, elongate	.....
colleague (n)	Associate, partner, team-mate, workmate, fellow-worker, co-worker	.....
enterprise (n)	Business, industry, firm, commercial concern/operation, corporation	.....
entirely (adv)	Whole, complete, total, full	.....
vast (adj)	Immense, extensive, broad, wide, expansive, boundless, limitless, infinite	.....
undertake (v)	Take on, set about, tackle, shoulder, assume, enter upon, begin, start, commence, embark on, venture upon, attempt, try	.....

Paragraph 8

Words	English meanings	Thai meaning
venture capitalist (n)	A supplier of venture capital for investment	.....
approach (v)	A means or way of approaching; a passage, avenue, channel, etc., giving access; (freq. in *pl.*). Also *fig.*, a way of addressing a task, dealing with a subject, etc.; an attitude[1]	.....

Paragraph 8

Words	English meanings	Thai meaning
exploit (v)	Make use of (natural resources); utilize for one's own ends, take advantage of, (a person, esp. an employee, etc.)	.....
splice (v)	Join or insert (a gene or gene fragment)	.....

Paragraph 9

Words	English meanings	Thai meaning
announce (v)	make known/public, give out, declare, intimate, proclaim, report, disclose, reveal, divulge, publicize, broadcast, publish, advertise	.....
flock (v)	Gather, foregather, come together, assemble, group	.....
advisory (adj)	Giving advice; consisting in giving advice	.....
board (n)	Council, panel, directorate, advisory group	.....
firm (n)	A partnership or company for carrying on a business; a group of people working together	.....
equity (adj)	Equitableness, fairness, fair-mindedness, fair play, justness, justice, even-handedness, rightness	.....
consultancy (n)	The work or position of a consultant; a department of consultants (A person who gives professional advice or services in a specialist field.)	.....

Paragraph 10

Words	English meanings	Thai meaning
emphasize (v)	Highlight, give prominence to	.....
significant (adj)	Important, impressive, serious, vital, critical	.....
shift (n)	A movement to do something, a beginning	.....
attitude (n)	Viewpoint, opinion, frame of mind, outlook, perspective, reaction, stance, position, approach	.....
snobbish (adj)	Snobby, arrogant, proud, condescending, haughty	.....
pursuit (n)	Pursuing, chasing, chase, hunt, stalking, tracking; inf. tailing	.....
suit to (v)	Make appropriate or agreeable; adapt, accommodate, make suitable	.....
prestigious (adj)	Reputable, respected, esteemed, eminent, distinguished, of high standing, well-known, celebrated, illustrious, renowned, famous	.....

Paragraph 10 (continue)

Words	English meanings	Thai meaning
appointment (n)	meeting, engagement, date, interview, arrangement	.....
fundamentally (adv)	basic, basal, foundational, rudimentary, elemental, underlying, primary, cardinal, initial, original, prime, first, principal, chief, key, central, structural	.....
critical (adj)	Important, momentous, high-priority, serious, vital, urgent	.....
antagonism (n)	opposition, animosity, antipathy, enmity, rivalry, competition, dissension, friction, conflict	.....
contaminate (v)	Make impure by contact or mixture; pollute, corrupt, infect	.....
debate (v)	Discuss, argue, argue the pros and cons of, dispute, wrangle	.....
available (adj)	Unoccupied, free, untaken, vacant, usable, employable, ready; accessible, obtainable, at hand, convenient	.....

Context clues: Find the meanings of the following words from their contexts.

Words	Meanings	Clues/Types of clues*
applied scientist (n) (L1)	.....	.....
longstanding (adj) (L1)	.....	.....
tie (n) (L1)	.....	.....
issue (n) (L1)	.....	.....

Paragraph 11

Words	English meanings	Thai meaning
affiliation (n)	Adoption by a society etc. of branches; union with a central organization	.....
pace (n)	A step or stage in any process.	.....

Word parts: Write all words with prefix or suffix, or compound nouns that you can find in the text.

Words	Meaning	Words	Meaning
.....	.....	.....	.....
.....	.....	.....	.....
.....	.....	.....	.....

Text 1: Commercialized Biotechnology

(1) The late twentieth century has witnessed a scientific gold rush of astonishing proportions: the headlong and furious haste to commercialize genetic engineering. This enterprise has proceeded so rapidly with so little outside commentary – that its dimensions and implications are hardly understood at all.

(2) Biotechnology promises the greatest revolution in human history. By the end of this decade, it will have outdistanced atomic power and computers in its effect on our everyday lives. In the words of one observer, "Biotechnology is going to transform every aspect of human life: our medical care, our food, our health, our entertainment, our very bodies. Nothing will ever be the same again. It's literally going to change the face of the planet."

The Biotech Revolution

(3) But the biotechnology revolution differs from past scientific transformations. For example, it is broad based. America entered the atomic age through the work of a single research institution, at Los Alamos. It entered the computer age through the efforts of about a dozen companies. But biotechnology research is now carried out in more than two thousand laboratories in America alone. Five hundred corporations spend five billion dollars a year on this technology.

(4) Second, much of the research is thoughtless or frivolous. Efforts to engineer paler trout for better visibility in the stream, square trees for easier lumbering, and injectable scent cells so you'll always smell of your favorite perfume may seem like a joke, but they are not. Indeed, the fact that biotechnology can be applied to the industries traditionally subject to the vagaries of fashion, such as cosmetics and leisure activities, heightens concerns about the whimsical use of this powerful new technology.

(5) Third, the work is uncontrolled. No one supervises it. No federal laws regulate it. There is no coherent government policy, in America or anywhere else in the world. And because the products of biotechnology range from drugs to farm crops to artificial snow, an intelligent policy is difficult. But most disturbing is the fact that no watchdogs are found among scientists themselves. It is remarkable that nearly every scientist in genetics research is also engaged in the commerce of biotechnology. There are no detached observers. Everybody has a stake.

The Commercialization of Biotechnology

(6) The commercialization of molecular biology is the most stunning ethical event in the history of science, and it has happened with astonishing speed. For four hundred years since Galileo, science has always proceeded as a free and open enquiry into the workings of nature. Scientists have always ignored national boundaries, holding themselves above the transitory concerns of politics and even wars. Scientists have always rebelled against secrecy in research, and have even frowned on the idea of patenting their discoveries, seeing themselves as working to the benefit of all mankind. And for many generations, the discoveries of scientists did indeed have a peculiar selfless quality.

(7) When, in 1953, two young researchers in England, James Watson and Francis Crick, deciphered the structure of DNA, their work was hailed as a triumph of the human spirit, of the centuries-old quest to understand the universe in a scientific way. It was confidently expected that their discovery would be selflessly extended to the greater benefit of mankind. Yet that did not happen. Thirty years later, nearly all of Watson and Crick's scientific colleagues were engaged in another sort of enterprise entirely. Research in molecular genetics had become a vast, multibillion-dollar commercial undertaking, and its origins can be traced not to 1953 but to April 1976.

(8) That was the date of a now famous meeting, in which Robert Swanson, a venture capitalist, approached Herbert Boyer, a biochemist, at the University of California. The two men agreed to found a commercial company to exploit Boyer's gene-splicing techniques. Their new company, Genentech, quickly became the largest and most successful of the genetic engineering start-ups.

(9) Suddenly it seemed as if everyone wanted to become rich. New companies were announced almost weekly, and scientists flocked to exploit genetic research. By 1986, at least 362 scientists, including 64 in the National Academy, sat on the advisory boards of biotech firms. The number of those who held equity positions or consultancies was several times greater.

(10) It is necessary to emphasize how significant this shift in attitude actually was. In the past, pure scientists took a snobbish view of business. They saw the pursuit of money as intellectually uninteresting, suited only to shopkeepers. And to do research for industry, even at the prestigious Bell or IBM labs, was only for those who couldn't get a university appointment. Thus the attitude of pure scientists was fundamentally critical toward the work of applied scientists, and to industry in general. Their longstanding antagonisms kept the university scientists free of contaminating industry ties, and whenever debate arose about technological matters disinterested scientists were available to discuss the issues at the highest levels.

(11) But that is no longer true. There are very few molecular biologists and very few research institutions without commercial affiliations. The old days are gone. Genetic research continues, at a more furious pace than ever. But it is done in secret, and in haste, and for profit.

Crichton, M. 1991. Jurassic Park. London: Arrow Books.

Reading-task 1: Survey

Survey the text and fill in Table 1. Try to put a time limit of 3-5 minutes on your surveying.

Table 1

Text	Availability		Details
	Yes	No	
Title			.....
Headings, sub-headings			....
Visual material (pictures, graphs, etc.)			....
Bold or italic letters			....

Reading-task 2: Question

Form questions for the "Analog and Digital" text. Then write them in Table 2.

Table 2

Guidelines	Questions
Turn the title, headings, and/or sub-headings into questions	....
Write the questions you want the text to answer.	....

Reading-task 3: Detailed reading

Read each paragraph and fill in the following tables. The first paragraph has been done for you.

Table 3

The whole text
Topic: Commercialization of biotechnology **Thesis statement:** This enterprise has proceeded so rapidly with so little outside commentary – that its dimensions and implications are hardly understood at all. **The writers purpose:** .....

The 2nd paragraph
Topic: Commercialization of biotechnology **Topic sentence or main idea:** Biotechnology promises the greatest revolution in human history **MJ 1:** ..... **MN 1.1:** .... **MN 1.2:** .... **Concluding sentence:** ..... **Paragraph organization:** ..... **Information type:** .....Fact; .....Opinion

The 3rd paragraph
Topic: ..... **Topic sentence or main idea:** ..... **MJ 1:** For example, it is broad based. **MN 1.1:** ..... **MN 1.2:** ..... **MN 1.3:** ..... **MN 1.4:** ..... **Concluding sentence:** ..... **Paragraph organization:** ..... **Information type:** .....Fact; .....Opinion

The 4th paragraph
Topic: ..... **Topic sentence or main idea:** ..... **MJ 1:** .... **MJ 2:** .... **Concluding sentence:** ..... **Paragraph organization:** ..... **Information type:** .....Fact; .....Opinion

The 5th paragraph

Topic: .....
Topic sentence or main idea: Third, the work is uncontrolled.

MJ 1: No one supervises it.
MN 1.1: .....
MN 1.2: .....

MJ 2: .....
.....

MJ 3: But most disturbing is the fact that no watchdogs are found among scientists themselves.

MN 3.1: .....
MN 3.2: .....
MN 3.3: .....

Concluding sentence: .....
Paragraph organization: .....
Information type: .....Fact; .....Opinion

The 6th paragraph

Topic: .....
Topic sentence or main idea: The commercialization of molecular biology is the most stunning ethical event in the history of science, and it has happened with astonishing speed.

MJ 1: No one supervises it.
MN 1.1: .....
.....
MN 1.2: .....
.....
MN 1.3: .....
.....

Concluding sentence: .....
Paragraph organization: .....
Information type: .....Fact; .....Opinion

The 7th paragraph

Topic: The commercialization of biotechnology
Topic sentence or main idea: .....

MJ 1: When, in 1953, two young researchers in England, James Watson and Francis Crick, deciphered the structure of DNA, their work was hailed as a triumph of the human spirit, of the centuries-old quest to understand the universe in a scientific way.
MN 1.1: .....
.....
MN 1.2: .....
.....
MN 1.3: .....
.....
MN 1.4: .....
.....

Concluding sentence: .....
Paragraph organization: .....
Information type: .....Fact; .....Opinion

The 8th paragraph

Topic: The commercialization of biotechnology
Topic sentence or main idea: none

MJ 1: That was the date of a now famous meeting, in which Robert Swanson, a venture capitalist, approached Herbert Boyer, a biochemist, at the University of California.
MN 1.1: .....
.....
MN 1.2: .....
.....

Concluding sentence: .....
Paragraph organization: .....
Information type: .....Fact; .....Opinion

The 9th paragraph

Topic: The commercialization of biotechnology
Topic sentence or main idea: none

MJ 1: .....
MN 1.1: .....
.....
MN 1.2: .....
.....
MN 1.3: .....
.....

Concluding sentence: .....
Paragraph organization: .....
Information type: .....Fact; .....Opinion

The 10th paragraph

Topic: The commercialization of biotechnology
Topic sentence or main idea: It is necessary to emphasize how significant this shift in attitude actually was.

MJ 1: .....
MN 1.1: .....
.....
MN 1.2: .....
.....
MN 1.3: .....
.....
MN 1.4: .....
.....

Concluding sentence: .....
Paragraph organization: .....
Information type: .....Fact; .....Opinion

The 11th paragraph

Topic: The commercialization of biotechnology
Topic sentence or main idea: But that is no longer true.

MJ 1: .....
MN 1.1: .....
MN 1.2: .....
MN 1.3: .....

Concluding sentence: .....
Paragraph organization: .....
Information type: .....Fact; .....Opinion

Post- task 1: Summarize the text

Work in pairs to summarize the text in the following diagram.

Characteristics of commercialized biotechnology (1st paragraph) →

1. .....
2. .....
3. .....

Biotechnology will effect our (2nd paragraph) →

1. .....
2. .....
3. .....
4. .....
5. .....

Characteristics of biotechnology revolution (3rd, 4th, 5th paragraphs) →

1. .....
2. .....
3. .....

Negative effects of biotechnology on scientists (6th -11th paragraphs) →

1. .....
   .....
   .....
2. .....
   .....
   .....
3. .....
   .....
   .....
4. .....
   .....
   .....

Post-task 2: **Log On**

Read one or two articles on "biotechnology" on the following website:

- http://www.ucs.usa.org/agriculture/world.food.html

Or search on the internet with the key word "biotechnology." Then make a diagram to summarize your reading.

Reading strategy: Context clues

Textbook writers usually know when they must use a word that will be new to their student readers. So they often include other words or phrases to help with the understanding of the new word. These words or phrases are referred to as context clues. They are built into the sentences around the difficult word. If you become more aware of the words around the difficult words you encounter in your reading, you will save your self many trips to the dictionary. You will be able to make logical guesses about the meanings of many words. (http://www.scc.losrios.edu/~langlit/reading/index.html)

There are eight types of context clues:

1. Definition
2. Restatement
3. Examples or illustration
4. Contrast
5. Explanation
6. Cause and effect relationship
7. Modifier
8. Experience or sense of the sentence

Log-in

Study the explanation of context clues in the following websites

- http://learning.ricr.ac.th/Efcass/chapter3_1.htm
- info@allamericareads.org

or search on the internet with the key words " context clues." Then fill in the following table.

Types of clues	Signal words, transitions, or punctuation marks	Examples
1. Definitions and synonym	is, means, refers to, called, commas (,... ,) parentheses (...) between dashes (-... -)	• To **dribble** a ball is to bounce it along with one hand. • The time of the year when days and nights are the same length all over the earth is called the **equinox.** • A ship that can travel under the surface of the ocean is a **submarine**. (From: http://learning.ricr.ac.th/Efcass/chapter3_7.htm)
2. Restatement	or, that is, in other word, that is to say commas (,... ,) parentheses (...) between dashes (-... -)	• **Spontaneously**, that is, without planning, the students lifted the teacher onto their shoulders. • Mrs. Miler loved the **tranquility**, the peace and quietness, after everybody had gone to work. (From: http://learning.ricr.ac.th/Efcass/chapter3_7.htm)
3. Examples or illustration	for examples, for instance, such as, such, include, consist of commas (,... ,) colon (:) semi-colon (:) parentheses (...)	• We are interested in learning to play **string instruments**, like the violin, the banjo, and the harp etc. • Scientists learn about people of the past by studying **artifacts** such as arrowheads, spears, pottery, and tools. • Mr. Wilson is **authority** in language. For example, he is an expert in teaching German. (From: http://learning.ricr.ac.th/Efcass/chapter3_7.htm)
4. Contrast	but, on the other hand, in contrast to, however, though, although, even though, unlike in spite of, despite in contrast, nevertheless on the contrary	• Some students try to help, but some try to **hinder** him. • Mary loves playing cards, but John **despises** it. • Mr. Walker was usually on time; yet this morning he was **tardy.** (From: http://learning.ricr.ac.th/Efcass/chapter3_7.htm)
5. Explanation	This is because, The reason for this is that, The cause of this is that , One of the reason is, This can explain that , It means that, That fact is that	• I have to renew my driving license. This is because it is going to **expire** soon. • The police suspected him, but he had an **alibi**. He was visiting his friends in France when the robbery was committed in Bangkok. • In the last five years we've seen people decorate their bodies with tattoos, nose piercing, tongue piercing, flashy colored hair, and now we have the slightly less painful body decoration which is nail painting. People enjoy having something **weird** to show. (From: http://learning.ricr.ac.th/Efcass/chapter3_7.htm)
6. Cause and effect relationship	because, because of, in order to, in order that, since, so, so that, therefore, as a result, consequently	• Suda got **drenched** during the rainstorm because she left her umbrella at her office. (From: http://learning.ricr.ac.th/Efcass/chapter3_7.htm)

Types of clues	Signal words , transitions, or punctuation marks	Examples
7. Modifier	Modifier means the additional or extra meaning given in the sentence to give a clearer understanding of the unknown word in a sentence. Usually the modifiers are adjective clauses beginning with – who, which, where, what, and that.	• Mr. Smith is a **racist**, who believes his race is better than the others'. (From: http://learning.rlcr.ac.th/Efcass/chapter3_7.htm)
8. Experiences, sense of the sentence, or logic	Sometimes you can understand the meaning of unknown words by using your experiences, sense of the sentence, or logic	• We have to leave the car and walk up because the **incline** was too steep to drive.

Study the following types of context clues then write Thai meaning of each of the underlined words in the above-examples.

Words	Meanings	Words	Meanings
1. dribble		10. despite	
2. equinox		11. tardy	
3. submarine		12. explre	
4. spontaneously		13. alibi	
5. tranquility		14. weird	
6. string instrument		15. drenched	
7. artifact		16. racist	
8. authority		17. incline	
9. hinder			

Language-focus: Pronouns

Native English speakers or writers usually use pronouns to refer to nouns instead of using the same word many times. If you pay attention to pronouns and their references (the noun that each pronoun refers to), you will understand more of English speech and written texts.

A **pronoun** is a word, which may replace a noun or noun phrase. There are five main types of pronouns. There are five main types of pronouns in English: personal, demonstrative, interrogative, indefinite, and relative pronouns. Study the following explanation about each of them.

Types	Functions	Pronouns
Personal pronouns	A personal pronoun refers to a specific person or thing.	Subject : I, you, we, they, he, she, it Object: me, you, them, him, her, it Possessive: mine, yours, theirs, his, hers, its Possessive adjectives : my, your, their, his, her, its Reflexive: myself, yourself, themselves, himself, herself, itself
Demonstrative pronouns	A demonstrative pronoun points to and identifies a noun or a pronoun	this, that, theses, those, such
Interrogative pronouns	An interrogative pronoun is used to ask questions.	who, which, what, whose, whom, when, where, why, how, how many, how much etc.
Indefinite pronouns	An indefinite pronoun refers to something, which is not thought of as definite or particular.	Singular: anybody, anyone, anything, each, either, everybody, everyone, neither, nobody, on one, one, somebody, someone, something, Plural: both, few, many, others, several Singular or plural: all, any, enough, more, most, none, some
Relative pronouns	A relative pronoun relates groups of words to nouns or other pronouns.	who, whom, whose, which, that

Do Quiz 4, underline all the pronouns in the following paragraph, and draw an arrow from each of these pronouns to its referent. The first one has been done for you.

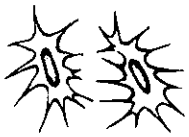
Although they have many features in common, cells vary widely in size and appearance. Epithelial cells which are specialized to cover body surfaces, look like tiny building blocks. Nerve cells have long extensions that receive or transmit message long distances through the body. An extension of the static nerve, for example, may extend from spinal cord to foot. Although such a nerve cell may be more than a meter long, its diameter is so tiny that no part of it can be seen without the aid of a microscope. Certain white blood cells in the body resemble unicellular amoebas in their ability to change shapes as they flow along from one location to another. Plant cells often have large, fluid-filled structures called vacuoles, and these cells may also contain chloroplasts. The largest cells are birds' eggs, which consists largely of yolk that provides nourishment for the developing bird.

Log-in

For more information and exercises on "pronouns" log on to the following websites:

- http://esl.about.com/library/grammar/blgr_relative_non_define.htm
- http://www.southwestern.edu/~carlg/Latin_Web/relativeclauses.html
- http://www.english-zone.com/grammar/adj-clz2.html

Or search on the internet with the key words "pronouns."



Bone Cell

Text 2: Prokaryotic and Eukaryotic Cells

(This text is for a test, do all the Pre- and Post- reading tasks and read the text for homework, you will be tested your understanding of this text in class)

Pre-task 1: Work in pairs to discuss the characteristics of "prokaryotes and eukaryotes" you know.

Prokaryotes	Eukaryotes
.....	.....
.....	.....
.....	.....
.....	.....
.....	.....
.....	.....
.....	.....

Pre-task 2: **Vocabulary preview**

Here are some words you will see in the reading text. Work in groups of four read their English meaning and then write their meanings in Thai.

Paragraph 1

Words	English meanings	Thai meaning
evolution (n)		.....
precede (v)		.....
float (v)		.....
held, hold, hold(v)		.....
exhibit (v)		.....
obvious (adj)		.....
extensive (adj)		.....

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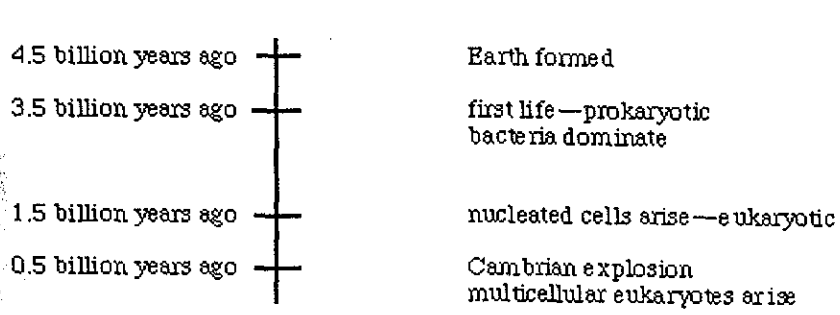
Suranaree University of Technology, Nakhon Ratchasima, Thailand

Prokaryotic and Eukaryotic Cells

There are two general classes of cells: **prokaryotic** and **eukaryotic**. The evolution of prokaryotic cells preceded that of eukaryotic cells by 2 billion years.



- *Streptococcus pyogenes*, the bacterium that causes strep throat, is an example of prokaryotes.
- Yeast, the organism that makes bread rise and beer ferment, is an example of unicellular eukaryotes.
- Humans, of course, are an example of multicellular eukaryotes.

The major similarities between the two types of cells (prokaryote and eukaryote) are:

1. They both have DNA as their genetic material.
2. They are both membrane bound.
3. They both have ribosomes .
4. They have similar basic metabolism .
5. They are both amazingly diverse in forms.

The major and extremely significant difference between prokaryotes and eukaryotes is that eukaryotes have a nucleus and membrane-bound organelles , while prokaryotes do not. The DNA of prokaryotes floats freely around the cell; the DNA of eukaryotes is held within its nucleus. The organelles of eukaryotes allow them to exhibit much higher levels of intracellular division of labor than is possible in prokaryotic cells. Additional obvious differences between prokaryotes and eukaryotes include:

Size

Eukaryotic cells are, on average, ten times the size of prokaryotic cells.

Genomic composition and length

The DNA of eukaryotes is much more complex and therefore much more extnsive than the DNA of prokaryotes.

Cell Wall

Prokaryotes have a cell wall composed of peptidoglycan, a single large polymer of amino acids and sugar . Many types of eukaryotic cells also have cell walls, but none made of peptidoglycan.

"MIT Biology Hypertextbook" http://esg-www.mit.edu:8001/esgbio/cb/prok_euk.html, 17 June. 2002)

Reading-task 1: Survey

Survey the text and fill in Table 1. Try to put a time limit of 3-5 minutes on your surveying.

Table 1

Text	Availability		Details
	Yes	No	
Title			.....
Headings, sub-headings			....
Visual material (pictures, graphs, etc.)			....
Bold or italic letters			....

Reading-task 2: Question

Form questions for the "Analog and Digital" text. Then write them in Table 2.

Table 2

Guidelines	Questions
Turn the title, headings, and/or sub-headings into questions	....
Write the questions you want the text to answer.	....

Post- task 1: Summarize the text

Work in pairs to summarize the similarities and differences between prokaryotes and eukaryotes in the following table.

Similarities	Differences
- DNA :	**- Nucleus:** ....
- Membrane:	**- Size:** ....
- Ribosome:	**- Genomic composition and length:** ....
- Metabolism:	**- Cell wall:** ....
- Forms:	

Post-task 2: **Log On**

Read one or two articles on "prokaryotes and eukaryotes" on the following website:

- http://esg-www.mit.edu:8001/esgbio/cb/prok_euk.html
- http://encarta.msn.com

Or search on the internet with the key words "prokaryotes and eukaryotes." Then make a diagram to summarize your reading.

Checkpoint

1. How much have I understood? (for example, 50%)

   Text 1: .....
   Text 2: .....

2. What were the difficulties?

.....
.....
.....
.....

3. Was my approach effective? Is there anything else I should do for the next time I read?

.....
.....
.....
.....
.....

Task 2: Paragraph writing

Introduction

Throughout our lives we see cause-and-effect relationship, for example we are aware that "actions have consequences." Writing cause and effect paragraphs will not only develop your English writing ability but also develop your critical thinking skills. The following activities will guide you to write a cause and effect paragraph.

Step 1: Explore ideas

Read the article "Jurassic Park." Then summarize the four negative effects of commercialization of biotechnology on scientists. You may arrange them from the most seriously negative effect to the least serious one or vice versa.

1. **The first effect:** .....
2. **The second effect:** .....
3. **The third effect:** .....

Step 2: Make an organizational outline

There are two options for organizing cause and effect paragraphs: **identifying causes** and **predicting effects**. Work in pair to discuss how the two organizational patterns differ.

Identifying causes	Identifying effects
1. Topic sentence 2. The first **cause*** (explain and/or give examples) 3. The second **cause** 4. . 5. . 6. The final **cause** 7. Concluding sentence	1. Topic sentence 2. The first **effect*** (explain and/or give examples) 3. The second **effect** 4. . 5. . 6. The final **effect** 7. Concluding sentence

(Adapted from "Causal analysis (cause and effect)", http//www.osuokc.onenet.net/~engl1113n/causalinfo.htm)

Notes. *You can arrange the causes or effects from the most important one to the least, or from the least to the most important.

Use the information in Step 1 to make an **identifying effects** organizational pattern.

Identifying effects
1. Topic sentence: ..... 2. Effect 1: ..... 3. Effect 2: ..... 4. Effect 3: ..... 5. Concluding sentence: .....

Step 3: Write a paragraph

Use the information from the **identifying effects** organizational pattern you have made in Step 2 to write a paragraph telling the effects of commercialization of biotechnology on scientists. Study the models of cause and effect paragraphs in unit 2 before you start writing.

Step 3.1: Explore language

Grammatical structures, or words that are common and needed for a cause and effect paragraph are:

1. **Present Simple Tense** (see Unit 1, p.)
2. **Past Simple Tense** (see Unit 1, p.)
3. **Present Perfect Tense** (see Unit 1, p.)

4. Conjunctions

Showing results			**Showing sequence**
accordingly as a consequence as a result as a result of because because of this	consequently due to for this/that reason hence If ... then on account of	owing to since so then therefore thus	first second then next later finally

Step 3.2: Write a topic sentence

A topic sentence tells the main idea of the paragraph. It tells readers what the paragraph is about. You topic sentence should tell your readers that you will write about the effects of commercialization of biotechnology on scientists. The following are some patterns you can use to write the topic sentence of an identifying effect paragraph:

There are	... (number) ... **many** **several**	**significant** **main** **different**	**effects of**	*... A ... .*
... A... **has**	... (number) ... **many** **several**	**significant** **main** **different**	**effects on**	*... B... .*

Write a topic sentence for your paragraph.

.....
.....
.....

Step 3.3: Write supporting sentences

Write supporting sentences according to the identifying causes organization you have made in Step 2. Use the cause and effect example paragraphs "Crowded Urban Area" and "My Father's Excellent Health" in Unit 1 as your model. Use the following grammatical structures, words, and phrases:

- Present Simple tense
- Present Perfect tense
- Past Simple tense
- Clear transitional conjunctions

	Subject	Verb	Object or complement
Topic sentence			
Effect 1			
(explanation and/or examples)			
Effect 2			
(explanation and/or examples)			
Effect 3			
(explanation and/or examples)			
Concluding sentence			

Step 3.4: Write a concluding sentence

To write a concluding sentence there are at least three possible options: 1) summarize the paragraph; 2) provide a warning; and 3) call for action. Here are some good examples of concluding sentences for a cause and effect paragraph.

Options	Examples
1. Summarize the paragraph	All these negative effects of commercialization of biotechnology must be considered for the benefit of biotechnology.
2. Provide a warning	If these negative effects are not terminated, they may cause serious damage to biotechnology.
3. Call for action	Scientist should co-operate to terminate all these negative effects of the commercialization of biotechnology.

Write a concluding sentence for your paragraph.

.....
.....
.....

Log-in

For more information and examples about how to write cause and effect paragraphs, log in to the following websites:

- http://lrs.ed.uiuc.edu/students/fwalters/compcont.html
- http://www.georcoll.on.ca/courses/tws/ptptcomp.htm
- http://wwwtc.nhmccd.cc.tx.us/courses/WL1mep/rhet.html
- http//www.osuokc.onenet.net/~engl1113n/causalinfo.htm

Or search on the internet with the key word "cause and effect paragraphs."

Checkpoint

1. How well can I write the paragraph? (i.e.,very well, not so well but I try)
   .....

2. What were the difficulties?
   .....
   .....
   .....
   .....
   .....

3. Was my approach effective? Is there anything else I should do for the next time I write?
   .....
   .....
   .....
   .....
   .....

Task 2 Listen to introductory remarks, a conversation and an academic lecture

Listening Task 1

1. Prediction: In Quiz 1, you will hear the opening remarks in a TV program. Work in pairs to think of information you expect to hear and note it down. The first one has been done for you.

a. Greeting (Good evening)
b. .....
.....
c. .....
.....

2. Vocabulary preview: Here are some words you will hear during the opening remarks. Work in groups of four to match them with their meanings.

Nouns		**Verbs**	
consideration	.....	alter	.....
direction	.....	co-op	.....
dynamic	.....	perceive	.....
genesis	.....	predict	.....
molecular biology	.....	promote	.....
root	.....		.....

Adjectives		**Adverbs**	
directional genetic	.....	certainly	.....
	.....	probably	.....

3. Listen: Read the following questions. Then listen to the talk focus on finding answers for each question.

1. What is the topic of this program? .....
2. What is he going to talk about? .....
3. What will biotechnology certainly do? .....
4. Where does this talk take place? .....
5. What will we learn from this talk? .....

4. Check: Answer the following questions.

1	How much have I understood? (for example, 50%)	.....
2	How many right answers do I get?	.....

5. Practice listening: Listen to the opening remarks and put the following sentences in the right order. The first one has been done for you.

.....	And the business of biotechnology will promote and probably co-opt and likely alter the science of molecular biology.
.....	But it may be more important first to perceive and understand the genesis and dynamics of any directional change.
.....	Good evening ladies and gentlemen.
.....	As we all know biotechnology has its roots in the science of molecular biology.
.....	When it comes to the future we can predict that biotechnology will certainly change the direction of the genetic sciences.
.....	Whether this is good or bad certainly is a question for consideration.
.....	Tonight on the World 2000 TV show we're going to talk about the future of biotechnology

6. Listen again: Listen to the opening remarks again without looking at the script and answer the listening questions in Step 2. Then do Step 4 again and note your answer in the following space.

1	How much have I understood? (for example, 50%)	.....
2	How many right answers do I get?	.....

Listening Task 2

1. Prediction: In Quiz 2, you will hear the opening remarks of a lecturer. Work in pairs to think of information you expect to hear and note it down. The first one has been done for you.

a. Greeting (Good morning class)

b. .....

c. .....

2. Vocabulary preview: Here are some words you will hear during the opening remarks. Work in groups of four to find their meanings.

Nouns		**Verbs**	
basis	.....	discuss	.....
chain	.....	prepare	.....
component	.....		
construction	.....		
growth	.....		
organism	.....		
reproduction	.....		

3. Listen: Read the following questions. Then listen to the talk focus on finding answers for each question.

1. What is the topic of the talk? .....
2. What do we say about the first form of life? .....
3. Where does this talk take place? .....
4. What will we learn from this talk? .....

4. Check: Answer the following questions.

1	How much have I understood? (for example, 50%)	.....
2	How many right answers do I get?	.....

5. Practice listening: Listen to the opening remarks and put the following sentences in the right order. The first one has been done for you.

.....	Do you know what the DNA molecule contains?
.....	Good morning class, welcome back from your winter break.
.....	I hope you're prepared to learn more about biotechnology.
.....	Nucleotides are made of the sugar deoxyribos and four other chemicals called amine, cytosine, wanine, and thymine.
.....	These four chemicals are known as the basis.
.....	I hope you're prepared to learn more about biotechnology.
.....	Today we're going to discuss the DNA molecule.
.....	Watson and Crick found the chemical components of DNA molecules: two chains of chemicals called nucleotides.
.....	You should.
.....	It contains all the information necessary for the construction, growth, and reproduction of living organisms.

6. Listen again: Listen to the opening remarks again without looking at the script and answer the listening questions in Step 2. Then do Step 4 again and note your answer in the following space.

1	How much have I understood? (for example, 50%)	.....
2	How many right answers do I get?	.....

Listening Task 3

1. Prediction: In Quiz 3, you will hear the opening remarks of an lecturer. Work in pairs to think of information you expect to hear and note it down. The first one has been done for you.

a. Greeting (Good morning distinguished participants, ladies, and gentlemen)

b. .....

c. .....

2. Vocabulary preview: Here are some words you will hear during the opening remarks. Work in groups of four to find their meanings.

Nouns

aspect .....
mystery .....
destiny .....

Adjectives

insightful .....
valuable .....

Verbs

shed light on .....

3. Listen: Read the following questions. Then listen to the talk focus on finding answers for each question.

1. What is the topic of this talk? .....
2. What is he going to talk about? .....
3. Where does this talk take place? .....
4. What will we learn from this talk? .....

4. Check: Answer the following questions.

1	How much have I understood? (for example, 50%)	.....
2	How many right answers do I get?	.....

5. Practice listening: Listen to the opening remarks and put the following sentences in the right order. The first one has been done for you.

.....1.....	Good afternoon ladies and gentlemen.
.....	He received his Ph.D. in biotech in 1991 from Massey University in New Zealand.
.....	He's a professor of biotechnology and teaches at Suranaree University of Technology.
.....	He's done research in various aspects of biotechnology.
.....	He's here with us to shed light on the mystery of genes, mind and destiny.
.....	I would like to introduce today's guest speaker, someone who will make the next forty minutes valuable and insightful for you.
.....	Ladies and gentlemen please welcome Professor Sunthorn.

6. Listen again: Listen to the opening remarks again without looking at the script and answer the listening questions in Step 2. Then do Step 4 again and note your answer in the following space.

1	How much have I understood? (for example, 50%)	.....
2	How many right answers do I get?	.....

Listening Task 4

1. Prediction: In Task 4, you will hear a conversation between two students (Pipat and Tony) talking about a lecture they have just attended. Work in pairs to think of information you expect to hear and note it down. The first one has been done for you.

a. Their attitude towards the lecture (How did you like the lecture?)

b. .....

c. .....

2. Vocabulary preview: Here are some words you will hear during the opening remarks. Work in groups of four to find their meanings.

Nouns

definition .....
manufacture .....
manufacturer .....
ear .....

Verbs

create .....
exist .....

Adjectives

original .....
miniature .....

3. Listen: Read the following questions. Then listen to the talk focus on finding answers for each question.

1. What is the topic of this discussion? .....
2. What is Pipat worried about? .....
3. How does Tony explain biotechnology? .....
4. Where does this discussion take place? .....

4. Check: Answer the following questions.

1	How much have I understood? (for example, 50%)	.....
2	How many right answers do I get?	.....

5. Practice listening: Listen to the opening remarks and put the following sentences in the right order. The first one has been done for you.

.....	Ahh...now I have a better understanding of the subject. Thanks for your help.
.....1.....	Hi Pipat, how are you doing?
.....	Just fine Tony, but I'm worried about biotechnology class.
.....	Thanks a lot for your explanation, but is there any other definition of biotechnology? I'm still not clear.
.....	I don't understand a thing. I don't even know the definition of biotechnology, let alone DNA.
.....	Well, as far as I can tell biotechnology means the use of biological organisms, systems or processes in the manufacturing industries and DNA is a short form for Deoxyribonucleic acid.
.....	Yeah, let me put it into my own words.
.....	The food processing industry is just one example of a manufacturer that uses biological organisms like cells or bacteria to create some new type of food that did not exist before.
.....	You know like baby corn.
.....	The original corn plant produced large ears of corn only.
.....	It took biotechnologists to develop a new miniature form of the original food.

6. Listen again: Listen to the opening remarks again without looking at the script and answer the listening questions in Step 2. Then do Step 4 again and note your answer in the following space.

1	How much have I understood? (for example, 50%)	.....
2	How many right answers do I get?	.....

Listening Task 5

1. Prediction: In Tasks 5 you will hear a lecture on "The Molecular Basis of Inheritance." Work in pairs to think information you expect to hear and note it down. The first one has been done for you.

a. What is the molecular basis of inheritance?

b. .....

c. .....

2. Vocabulary preview: Here are some words you will hear during the opening remarks. Work in groups of four to find their meanings.

Nouns

agenda	.....	impact	.....
aspect	.....	influence	.....
attitude	.....	innovation	.....
chance	.....	insight	.....
combination	.....	intellect	.....
conduct	.....	interpretation	.....
contact	.....	logic	.....
craft	.....	manipulation	.....
definition	.....	organism	.....
discovery	.....	potential	.....
dynamic	.....	protection	.....
effect	.....	regulation	.....
effort	.....	relationship	.....
environment	.....	requirement	.....
existence	.....	resource	.....
factor	.....	restriction	.....
force	.....	substance	.....
funding	.....	value	.....
geneticist	.....	variety	.....
happenstance	.....		

Verbs

achieve	.....
alter	.....
anticipate	.....
compete	.....
conduct	.....
construct	.....
examine	.....
influence	.....
involve	.....
owe	.....
provide	.....
provoke	.....
relate	.....
rise/rose/risen	.....

Adjectives

academic	.....
actual	.....
available	.....
capital	.....
commercial	.....
converse	.....
fascinating	.....
fiscal	.....
intellectual	.....
internal	.....
political	.....
wide	.....

Adverbs

rapidly	.....
socially	.....

Conjunctions

according to	.....
on the other hand	.....

3. Listen

3.1 Listen: Read the following questions. Then listen to the talk focus on finding answers for each question.

1. What is the topic of the discussion today? .....
2. What background knowledge do you need to understand the topic? .....
3. What did biotechnology come from? .....
4. What will we learn from this talk? .....

3.2 Listen: Listen to the lecture, then decide whether each of the following statements is true (T) or false (F).

..... 1. Molecular biologists influence biotechnology's development.

..... 2. It is clear that commerce has affected science.

..... 3. Science is socially constructed.

..... 4. Social forces have not affected the substance and process of science.

..... 5. Political factors also influence the actual content of a science.

..... 6. New factors will shape the future of molecular biology.

3.3 Listen: Listen to the lecture and then fill in the blanks.

Is that clear? Any question? O.K. We'll move on to the next aspect of the topic. In what ways, through which 1 ....., might this 2 ..... developing biotechnology 3 ..... the nature of molecular biology? Let me present four possible dynamics: The first one is financial resources. Funding is essential to the 4 ..... of the genetic sciences; biotechnology may provide more funds for basic science, or it may, on the other hand 5 ..... for available dollars. The second thing is that biotechnology 6 ..... regulation, 7 ..... protection, and 8 ..... of information and communication, which is a change from the traditional open attitude to the sharing of scientific research results; these changes in formal and informal 9 ..... communication pattern among genetic scientists might 10 ..... affect the nature of molecular biology. These are the first two possible forces affecting this relationship.

4. Check: Answer the following questions.

1	How much have I understood? (for example, 50%)	.....
2	How many right answers do I get?	.....

5. Practice listening: Listen to the lecture and put the following sentences in the right order. The first one has been done for you.

The first paragraph

.....	Good morning. Welcome to the first class of Biotechnology 103.
.....1.....	In our interpretation, biotechnology rose more or less directly from the insight of molecular biologists and geneticists, who saw the potential for genetic manipulation of a wide variety of organisms.
.....	Our topic for discussion today is "Biotechnology and the process of science."
.....	To be able to understand this topic, you need some background knowledge in molecular biology and other related fields.
.....	With that, let's look into more detail on this fascinating and thought provoking topic.

The second paragraph

..... Biotechnology owes its existence to the influence, intellect, and fiscal resources of molecular biologists.

..... Political, academic, and fiscal factors, as well as the internal working of scientific logic, influence the actual content, problem definition and selection, method, etc. of a science.

..... The converse relationship, the effect of the commercial back on the scientific, is not so clear. Our understanding is that science, as technology, is socially constructed - that its substance as well as its processes is products of a combination of social forces.

..... To anticipate the future of molecular biology, according to this logic, we must examine a new force: the social, intellectual, and capital resources newly arising from or altered by the existence of biotechnology.

The third paragraph

..... Funding is essential to the conduct of the genetic sciences; biotechnology may provide more funds for basic science, or it may, on the other hand compete for available dollars.

..... In what ways, through which dynamics, might this rapidly developing biotechnology alter the nature of molecular biology?

..... Is that clear? Any question? O.K.

..... The first one is financial resources.

..... The second thing is that biotechnology involves regulation, legal protection, and restriction of information and communication, which is a change from the traditional open attitude to the sharing of scientific research results; these changes in formal and informal biology.

..... These are the first two possible forces affecting this relationship.

..... We'll move on to the next aspect of the topic.

The fourth paragraph

..... Now, for the third and the fourth, the history of science is replete with discovery and scientific innovation as the product of happenstance or chance contacts and patterned interaction, but biotechnology introduces new environments in which genetic scientists exercise the craft of science and are rewarded for their efforts.

..... So lucky discovery or random events will be abandoned for purely pragmatic reasons and this will have a major impact on the way science is conducted.

..... And the fourth, and possibly most worrying tend is that, while the process through which problem selection is achieved is crucial to the future of a science.

..... The commercial requirements of biotechnology might alter the agenda and conduct of genetic science by influencing problem selection.

The fourth paragraph (continue)

..... What this means is that because of biotechnology's value to the development of new products or processes, your local everyday scientist may no longer pursue some interesting metabolic process simple because he can learn from it, but will focus attention on those processes of practical or commercial value.

..... You can see that this will change the directions scientific discovery naturally takes.

..... All right, our time is up. We'll discuss some more on this next week. Don't be late. Don't miss the class goodbye.

(Adapted from Darnel E. Chubin & Ellen W. Chu : Science off The Pedestal, 1989)

6. Listen again: Listen to the lecture again without looking at the script and answer the listening questions in 3.1 and 3.2. Then answer the following questions.

1 How much have I understood? (for example, 50%) .....

2 How many right answers do I get? .....

1. How much have I understood? (for example, 50%)

Quiz 1: .....
Quiz 2: .....
Quiz 3: .....
Quiz 4: .....
Lecture: .....

1. What were the difficulties?

.....
.....
.....
.....
.....

2. Was my approach effective? Is there anything else I should do for the next time I listen?

.....
.....
.....
.....
.....

Task 4: Present a verbal summary of a short text

Introduction

Being able to give the summaries of information you have read is an importantly academic skill. The following activities will guide you to practice giving summary of short reading passages.

Step1: Structure of an oral summary

The structure of a verbal summary usually consists of three parts: an opening, a body, and a termination (Kayfetz, J.L. et al,1992). Work in pairs to study each part of a verbal summary in the following table.

Parts	Content	Sample expressions
Opening	In the opening, say the title of the text and name(s) of author(s).	1. The article I would like to summarize is written by _____ and is titled _____. 2. I have chosen to summarize an article by _____ called _____.
	Then, say a sentence telling the topic of the text	1. What _____ says is that _____. The point of this article is to explain _____. 2. In this article (the author) _____ reviews the subject of ____. 3. In this article (the author) _____ says _____.
Body	Summarize the main points of the text one by one. Your summary should focus on the major points not the minor ones. You may also mention examples from the text. Your summary should clearly, concisely, and accurately state the information presented by the author. Do not include your point of view.	1. The author summarizes that _____. An example that explains this clearly is _____. 2. The author argues that _____. The author's best example of this is _____. 3. The author has examined three approaches to ____. The first is _____. The second is _____. The third is _____. 4. There are two main characteristics that need to be understood: first there is _____. And second there is _____. The third is _____.
Conclusion	Conclude you speech by saying the author's position or point of view.	1. The author's point of view is that _____. 2. According to the author, _____. 3. it is clear that the author favors_____. 4. The author found that _____. 5. The author concludes that _____.

(Adapted from (Kayfetz, J.L. et al, 1992, pp 82-84)

Step 2: Explore language

Review the example of an oral summary in Unit 1, page 56.

Step 3: Prepare an oral summary

Work in pairs to find a text about "biotechnology" from the internet, and summarize the text. Then make a plan for an oral summary and note it in the following note-sheet. After that practice it until you satisfy with your performance.

1. **Opening**

.....
.....
.....
.....

2. **Body**

.....
.....
.....
.....
.....
.....
.....
.....

3. **Conclusion**

.....
.....
.....
.....

Step 4: Give your oral summary

Find a new partner and take turn to give your oral summary. Use the following form to give feedback to your partner. Finally, record your summary on a cassette tape for homework and hand it in.

1. **Name of speaker** .....
2. **Name of commentator** .....
3. **Topic** .....

4. **Rate the speaker using the scale of 1-4** (1 = poor, 2 = OK, 3 = good, 4 = excellent).

   a. ..... The title and the author were clearly stated at the beginning.
   b. ..... The topic of the reading was stated clearly and concisely.
   c. ..... The example chosen clearly supported their respect points.
   d. ..... The speaker's pronunciation was clear and evenly paced.

5. **Check the items below that apply to the speaker's presentation.**

   e. ..... The summary was too long.
   f. ..... The speaker used too many examples.
   g. ..... The speaker presented her own ideas or opinions.
   h. ..... The speaker did not use her own words, but lift material from the reading.

6. **Comments: Write any comments that you feel will help the speaker to give better verbal summary in the future.**

.....
.....
.....

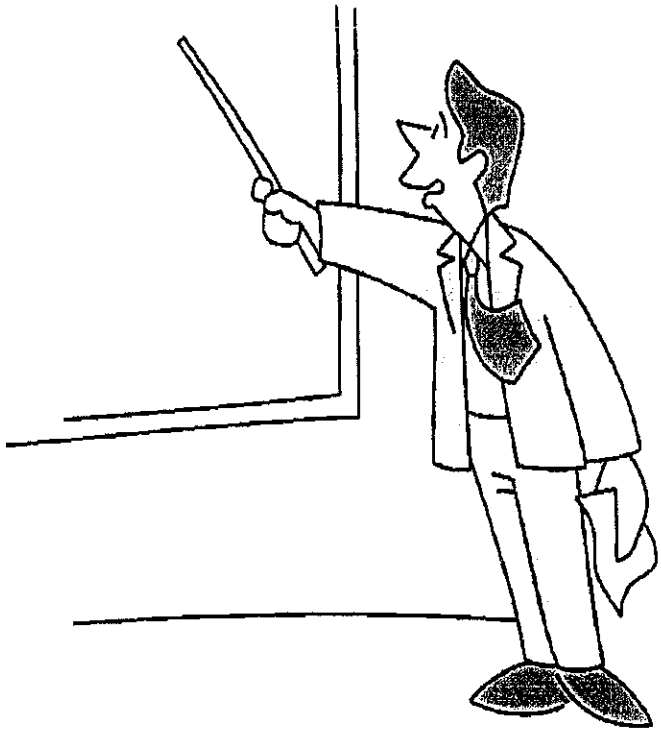
Checkpoint

1. How well can I summary the text?
   (Very well, a little, Not very well but I try)
   .....

2. What were the difficulties?
   .....
   .....
   .....
   .....
   .....

   Was my approach effective? Is there anything else I should do for the next time I orally summarize a text?
   .....
   .....
   .....
   .....

Task 4: Practice vocabulary



Introduction

Vocabulary is an important personal asset that can directly contribute to your success in university and later in your career. Expanding your vocabulary is a relatively simple process and does not require a large investment of time or money. All that is needed is a system for learning new words. To expand your English vocabulary you should:

1. Do the vocabulary exercises in each unit.
2. Review the words in each exercise regularly, such as the next day after doing the exercise, then a week later, then a couple of weeks later.
3. When reviewing the words cover the second to the last part of the table with a piece of paper. Look at each word and say it aloud. Then recall the information concerning:

    a) its stress syllable,
    b) its part of speech,
    c) its meaning, and
    d) a sentence which contains the word.

2. Try to associate the words you are studying, for example group them according to a criteria, or associate them with your experiences.

1. Academic Word List

Look at the following words, circle the ones you do not know their meanings.
Then study them and complete Table 1.

Sublist 3

alternative	coordinate	exclude	link	react	technical
circumstance	core	framework	locate	register	technique
comment	corporate	fund	maximize	rely	technology
compensate	correspond	illustrate	minor	remove	valid
component	criteria	immigrate	negate	scheme	volume
consent	deduce	imply	outcome	sequence	
considerable	demonstrate	initial	partner	sex	
constant	document	instance	philosophy	shift	
constrain	dominate	interact	physical	specify	
contribute	emphasis	justify	proportion	sufficient	
convene	ensure	layer	publish	task	

(Coxhead, 1998. An Academic word list. Wellington: Victoria University of Wellington)

Table 1

Words	Part of Speech	Word meaning	I can use this word in a sentence.
Example: activity	N:.....√..... V: activate Adj: active Adv: actively	-moment, action -something that is done for interest or pleasure - กิจกรรม	- There is not much activity in the playground after lunch - Drawing picture is an activity.
	N: ..... V: ..... Adj: ..... Adv:		
	N: ..... V: ..... Adj: ..... Adv:		
	N: ..... V: ..... Adj: ..... Adv:		
	N: ..... V: ..... Adj: ..... Adv:		

Table 1 (continue)

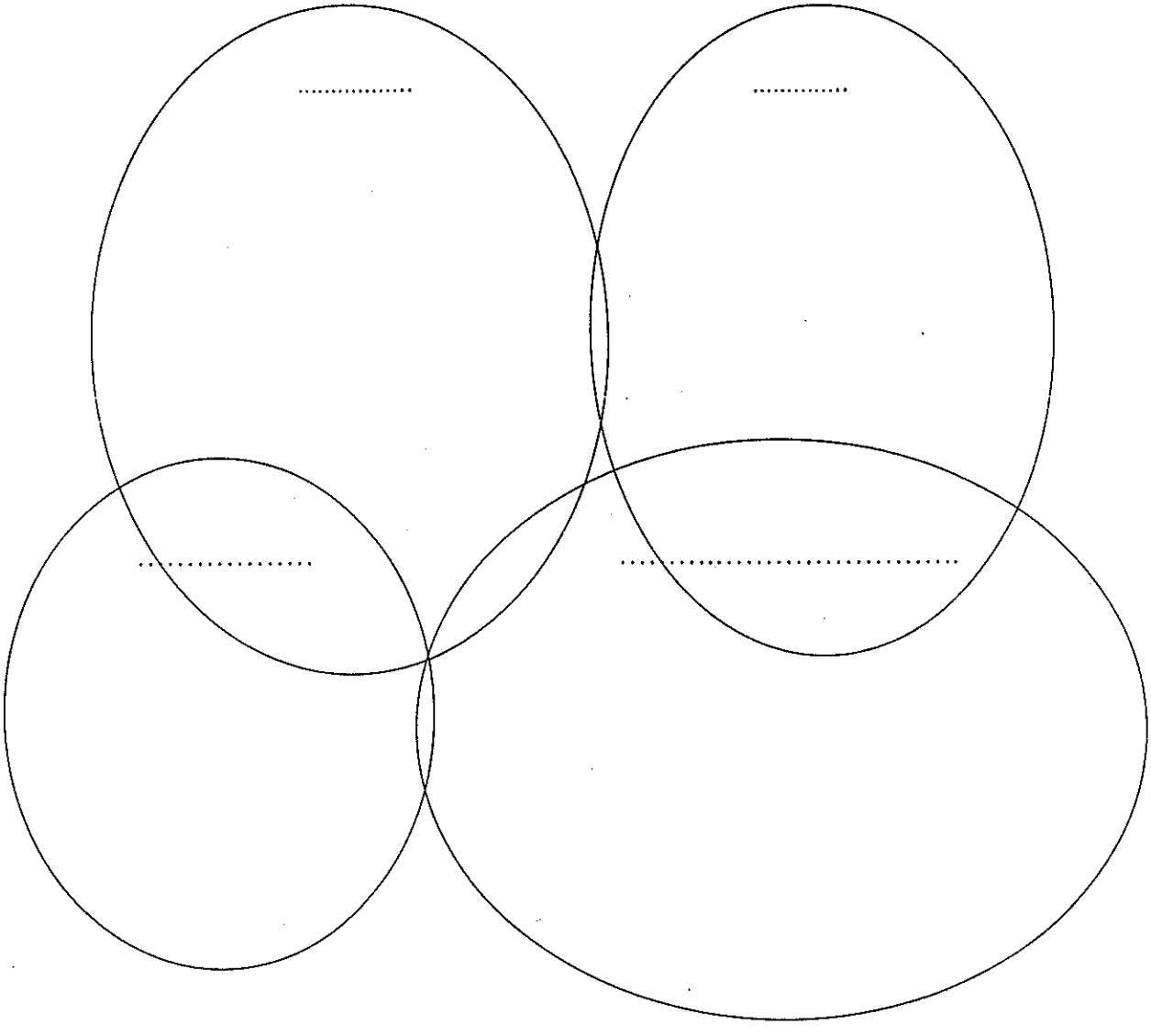
Words	Part of Speech	Word meaning	I can use this word in a sentence.
	N: .... V: .... Adj: .... Adv:		
	N: .... V: .... Adj: .... Adv:		
	N: .... V: .... Adj: .... Adv:		
	N: .... V: .... Adj: .... Adv:		
	N: .... V: .... Adj: .... Adv:		
	N: .... V: .... Adj: .... Adv:		
	N: .... V: .... Adj: .... Adv:		
	N: .... V: .... Adj: .... Adv:		
	N: .... V: .... Adj: .... Adv:		
	N: .... V: .... Adj: .... Adv:		
	N: .... V: .... Adj: .... Adv:		
	N: .... V: .... Adj: .... Adv:		
	N: .... V: .... Adj: .... Adv:		

Table 1 (continue)

Words	Part of Speech	Word meaning	I can use this word in a sentence.
	N: .... V: .... Adj: .... Adv:		
	N: .... V: .... Adj: .... Adv:		
	N: .... V: .... Adj: .... Adv:		
	N: .... V: .... Adj: .... Adv:		
	N: .... V: .... Adj: .... Adv:		
	N: .... V: .... Adj: .... Adv:		
	N: .... V: .... Adj: .... Adv:		
	N: .... V: .... Adj: .... Adv:		
	N: .... V: .... Adj: .... Adv:		
	N: .... V: .... Adj: .... Adv:		
	N: .... V: .... Adj: .... Adv:		
	N: .... V: .... Adj: .... Adv:		
	N: .... V: .... Adj: .... Adv:		

Word association

Divide all the words in Table 1 into groups using your own criteria, and name them. The first one has been done for you.



2. General Service List

Look at the following words, **circle the ones whose meanings you do not know.** Then study them and complete Table 2.

rough	simple	strange	thus	welcome	afraid
round	since	strange	time	well	afternoon
rule	single	stream	to	west	agent
ruler	sir	street	today	what	agriculture
run	sister	strength	together	when	ahead
rush	sit	stretch	too	where	aim
safe	situation	strike	total	whether	airplane
sail	size	strong	touch	which	alike
same	skill	struggle	toward/s	while	alive
save	sky	study	town	white	aloud
saw	sleep	subject	trade	who	altogether
say	slight	substance	train	whose	ambition
scale	slow	succeed	travel	why	amongst
scarce	small	such	tree	wide	amuse
scene	smile	sudden	trouble	wife	angle
school	so	suffer	trust	will	annoy
science	society	suggest	truth	win	anxiety
sea	soft	summer	try	wild	apart
season	soil	sun	turn	wind	apologize
seat	some	supply	type	window	applaud
second	son	support	under	wing	apple
secret	soon	suppose	understand	winter	approve
secretary	sort	sure	union	wise	arch
see	sound	surface	unite	with	argue
seem	south	surprise	university	within	arrange
size	space	surround	unless	without	arrest
sell	speak	sweet	until	woman	arrow
send	special	system	up	wonder	artificial
sense	speed	table	upon	wood	ash
separate	spend	take	use	word	ashamed
serious	spirit	talk	usual	work	aside
serve	spite	taste	valley	world	asleep
set	spot	teach	value	worse	astonish
settle	spread	tear	various	worth	attend
several	spring	teli	very	would	attract
shadow	square	term	view	write	audience
shake	stage	terrible	village	wrong	aunt
shall	stand	test	visit	year	autumn
shape	standard	than	voice	yellow	avenue
share	start	that	Vote	yes	avoid
shave	state	the	wait	yesterday	awake
she	station	their	walk	yet	awkward
shine	stay	them	Wall	you	axe
shoe	steal	then	want	young	baby
shoot	steel	there	war	abroad	bag
shore	step	therefore	warm	absence	baggage
short	stick	these	waste	absolutely	bake
should	still	they	watch	accident	balance
shoulder	stock	thing	water	accuse	band
show	stone	think	wave	accustom	barber
side	stop	this	way	ache	bare
sight	store	though	we	admire	bargain
sign	storm	thought	weak	adventure	barrel
silence	story	through	wear	advertise	basin
silver	straight	throw	week	advice	basket

(Nation, P., 2002, Singapore, SEMEO Reginal Language Center. Managing vocabulary learning.)

Table 2

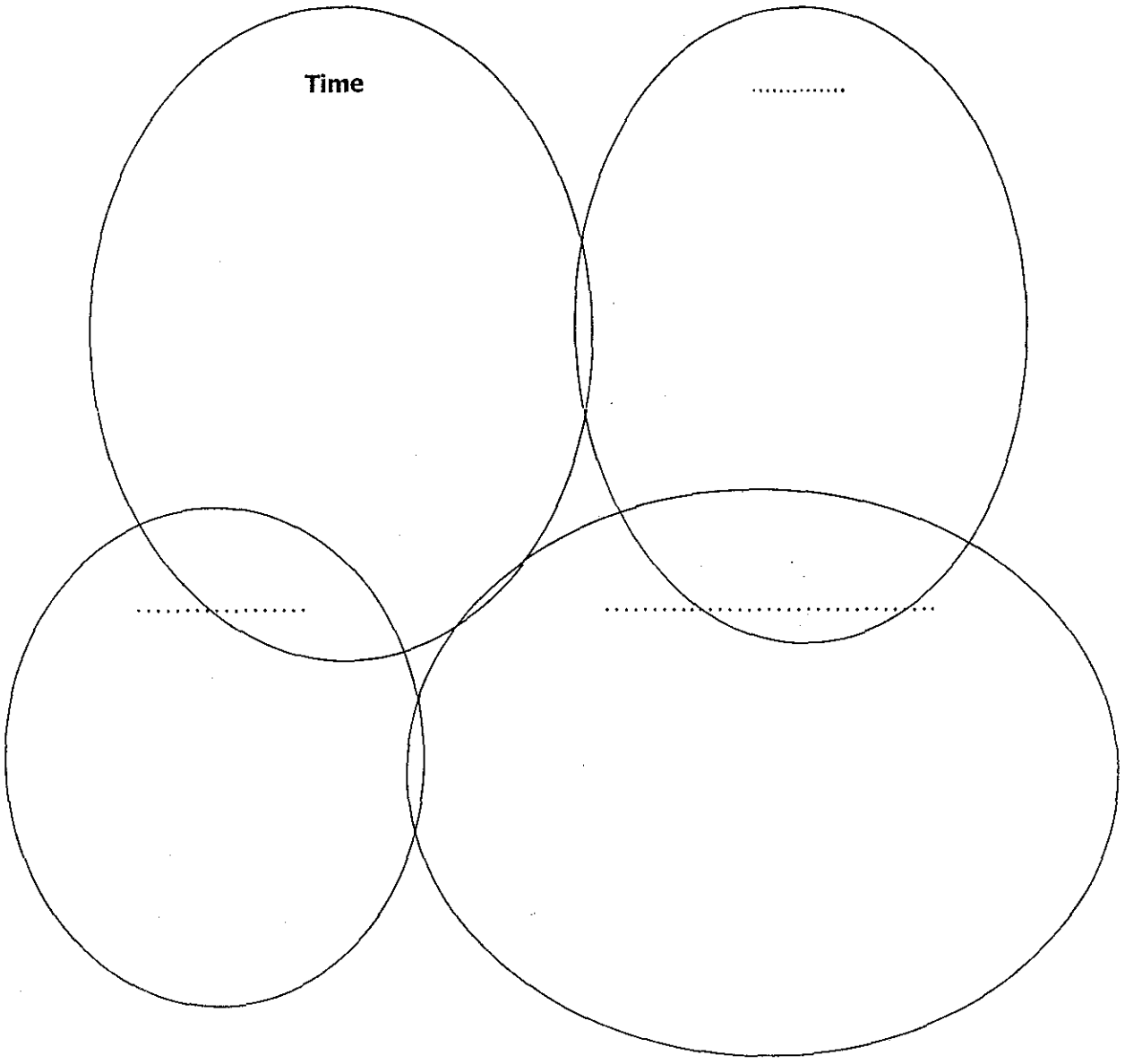
Words	Part of Speech	Word meaning	I can use this word in a sentence.
	N: .... V: .... Adj: .... Adv:		
	N: .... V: .... Adj: .... Adv:		
	N: .... V: .... Adj: .... Adv:		
	N: .... V: .... Adj: .... Adv:		
	N: .... V: .... Adj: .... Adv:		
	N: .... V: .... Adj: .... Adv:		
	N: .... V: .... Adj: .... Adv:		
	N: .... V: .... Adj: .... Adv:		
	N: .... V: .... Adj: .... Adv:		
	N: .... V: .... Adj: .... Adv:		
	N: .... V: .... Adj: .... Adv:		
	N: .... V: .... Adj: .... Adv:		
	N: .... V: .... Adj: .... Adv:		

Table 2 (continue)

Words	Part of Speech	Word meaning	I can use this word in a sentence.
	N: .... V: .... Adj: .... Adv:		
	N: .... V: .... Adj: .... Adv:		
	N: .... V: .... Adj: .... Adv:		
	N: .... V: .... Adj: .... Adv:		
	N: .... V: .... Adj: .... Adv:		
	N: .... V: .... Adj: .... Adv:		
	N: .... V: .... Adj: .... Adv:		
	N: .... V: .... Adj: .... Adv:		
	N: .... V: .... Adj: .... Adv:		
	N: .... V: .... Adj: .... Adv:		
	N: .... V: .... Adj: .... Adv:		
	N: .... V: .... Adj: .... Adv:		
	N: .... V: .... Adj: .... Adv:		

Word association

Divide all the words in Table 2 into groups using your own criteria, and name them. The first one has been done for you.



Checkpoint

1. How often did I practice vocabulary?

.....

2. How many percent of the words in the two lists have I learned?

.....

3. What were the difficulties?

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4. Was my approach effective? Is there anything else I should do for the next time I practice vocabulary?

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