

S.1 Bridging Handbook (Integrated Science)



The course includes the following four elements:

1. Classroom English
2. Vocabulary items: clues to pronunciation, spelling, usage
3. Useful expressions for Science
4. Sentence patterns for conversation and writing

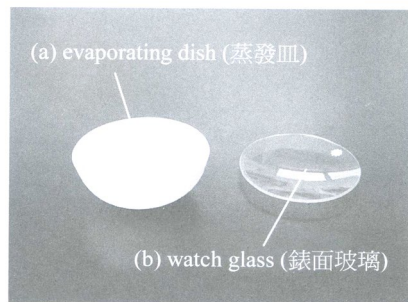
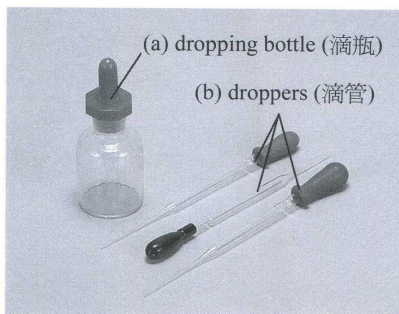
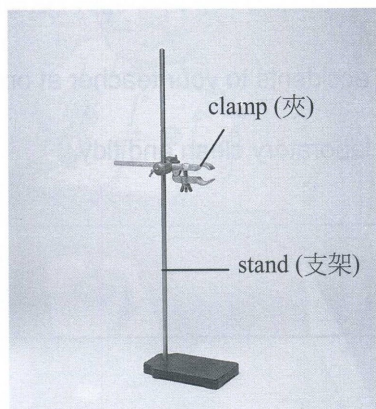
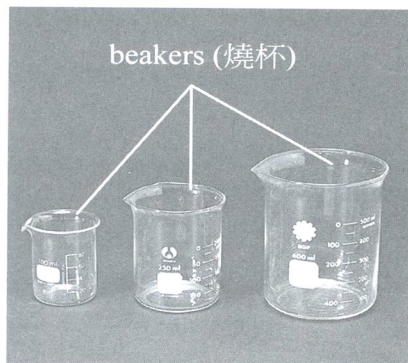
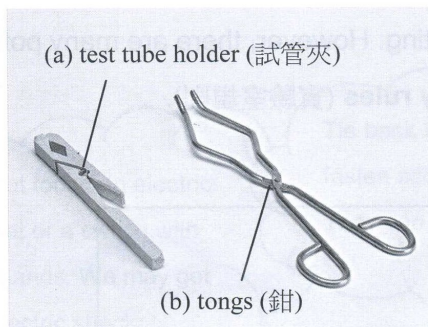
Section A: Classroom English**Instructions given by teachers in laboratory activities**

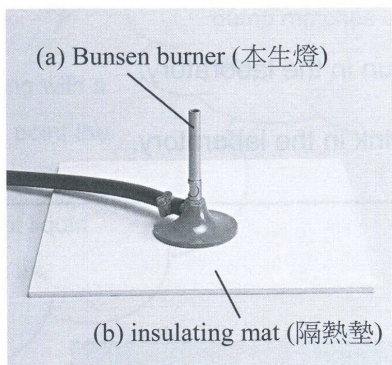
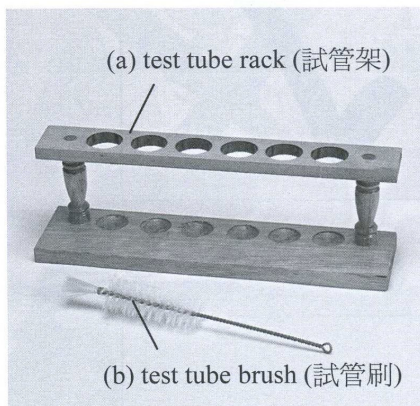
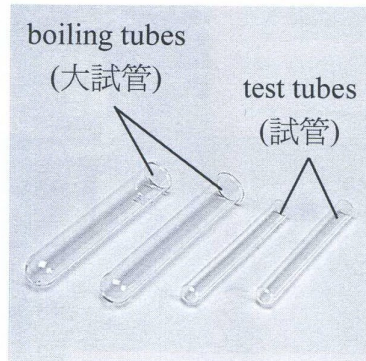
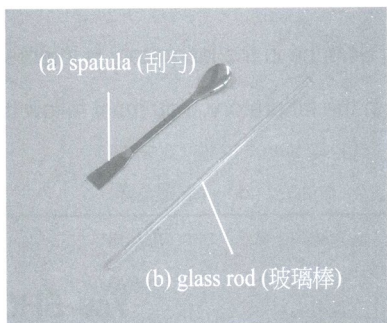
1. Queue up and then go to the laboratory quietly.	排好隊，然後安靜地前往實驗室。
2. Line up first and return to the classroom quietly.	先排好隊，然後安靜地回到課室。
3. Would the group leader come and collect the materials.	組長請出來收集材料。
4. Watch my demonstration carefully.	仔細地觀察我的示範。
5. Please ask the laboratory technician politely to help you.	請有禮貌地找實驗室技術員協助你。
6. Be careful when you are handling this apparatus.	處理這儀器時要小心。
7. You must not do that without my permission.	未經我的准許，你不可以那樣做。
8. Do not start before I tell you to do so.	待我發出這指示後，你們才可以開始。
9. Remember to wear gloves before you do the experiment.	進行這實驗前，謹記要佩戴手套。
10. Clean the apparatus and tidy up.	把儀器清洗乾淨，以及把桌面執拾好。
11. Make sure that the water taps have been turned off.	確保水龍頭已經關上。
12. Wash your hands before you leave the laboratory.	離開實驗室前，必須洗淨雙手。

Sentences commonly used in experiment procedures

1. Add 10 drops of solution B to a test tube.	把十滴溶液 B 加入一個試管。
2. Fill a boiling tube with water to one-third full.	把水加入一個大試管內至三分之一滿。
3. Pour the solution from one test tube into the other.	把一個試管內的溶液倒入另一個試管內。
4. Shake the test tube. Mix the solutions well.	把試管內的溶液搖勻。
5. Stir the water with a glass rod.	使用玻璃棒把水攪拌。
6. Cover the beaker with a watch glass.	使用錶面玻璃把燒杯蓋上。
7. Heat the solution over a Bunsen flame.	在本生燈火焰上加熱溶液。
8. Measure the time with a stop-watch.	使用秒錶量度時間。
9. Hold a thermometer in a beaker of water with a stand and clamp.	使用鐵架連夾把溫度計固定在有水的燒杯中。
10. Set up the apparatus as shown.	依圖所示把儀器準備好。
11. Light a Bunsen burner.	點燃一支本生燈。
12. Light a wooden splint.	點燃一條木條。
13. Observe the slide under the microscope.	在顯微鏡下觀察那塊載玻片。
14. Record the results in the table.	在表格上記錄所得結果。

Common science apparatus





Section B: Vocabulary items

Nouns / Adjectives <antonyms> (plural) → Pronunciation & spelling		
Chapter 1 <ul style="list-style-type: none"> dis.<u>co</u>.ve.ry (dis.<u>co</u>.ve.ries) ex.<u>pe</u>.ri.ment/ ex.pe.ri.<u>men</u>.tal in.<u>ven</u>.tion ob.ser.<u>va</u>.tion/ ob.ser.<u>va</u>.tion.al <u>sci</u>.en.ce/ sci.en.<u>ti</u>.fic (<u>sci</u>.en.ces) <u>sci</u>.en.tist <u>ha</u>.zard <u>war</u>.ning <u>la</u>.bel la.<u>bo</u>.ra.to.ry (la.<u>bo</u>.ra.to.ries) la.<u>bo</u>.ra.to.ry rules <u>mea</u>.sure.ment con.<u>clu</u>.sion fair test hy.<u>po</u>.the.sis/ hy.po.<u>the</u>.ti.cal (hy.<u>po</u>.the.ses) sci.en.<u>ti</u>.fic in.ves.ti.<u>ga</u>.tion 	Chapter 2 <ul style="list-style-type: none"> chlo.ri.<u>na</u>.tion con.den.<u>sa</u>.tion <u>cry</u>.stal <u>dis</u>.til.late dis.til.<u>la</u>.tion e.va.po.<u>ra</u>.tion <u>fil</u>.trate fil.<u>tra</u>.tion fluo.ri.<u>da</u>.tion in.<u>so</u>.lu.ble pol.<u>lu</u>.tant <u>re</u>.si.due sa.tu.<u>ra</u>.ted so.<u>lu</u>.tion <u>se</u>.di.ment se.di.men.<u>ta</u>.tion <u>so</u>.lu.ble <u>so</u>.lute so.<u>lu</u>.tion <u>sol</u>.vent <u>wa</u>.ter <u>cy</u>.cle 	Chapter 3 <ul style="list-style-type: none"> cha.rac.te.<u>ris</u>.tic <u>ha</u>.bi.tat va.ri.<u>a</u>.tion clas.si.fi.<u>ca</u>.tion <u>flo</u>.wer.ing plant in.<u>ver</u>.te.brate <<u>ver</u>.te.brate> key non-<u>flo</u>.wer.ing plant <u>ver</u>.te.brate <in.<u>ver</u>.te.brate> con.ser.<u>va</u>.tion en.<u>dan</u>.ger.ed <u>spe</u>.cies ex.<u>tinc</u>.tion in.ter.de.<u>pen</u>.denc e/ in.ter.de.<u>pen</u>.dent pol.<u>lu</u>.tion/ pol.<u>lu</u>.ted wild.life

Nouns / Adjectives <antonyms> (plural) Pronunciation & spelling		
<u>Chapter 4</u> <ul style="list-style-type: none"> • cell • cell di.vi.sion • mi.cro.scope • se.xual re.pro.duc.tion • em.bry.o • fer.ti.li.za.tion • he.re.di.ty • im.plan.ta.tion • re.pro.duc.tive sys.tem • se.xual in.ter.course • se.xual re.pro.duc.tion • twins • men.strual cy.cle • noc.tur.nal e.mis.sion • pu.ber.ty • se.con.da.ry se.xual cha.rac.te.ris.tics • a.bor.tion • birth con.trol • fa.mi.ly plan.ning • in vi.tro fer.ti.li.za.tion, IVF • preg.nan.cy • se.xual.ly trans.mit.ted di.sease, STD 	<u>Chapter 5</u> <ul style="list-style-type: none"> • air pol.lu.tant • coal • crude oil • die.sel • e.ner.gy con.ver.sion • e.ner.gy con.ver.ter • fos.sil fuel • ge.ne.ra.tor • mo.tor • na.tu.ral gas • non-re.ne.wa.ble e.ner.gy source • pe.trol • re.ne.wa.ble e.ner.gy source • town gas • tur.bine • un.con.trol.led e.ner.gy con.ver.sion 	<u>Chapter 6</u> <ul style="list-style-type: none"> • at.mos.phe.ric pres.sure • a.tom • boil.ing • boil.ing point • Bour.don gauge • Brow.nian mo.tion • con.den.sa.tion • den.si.ty • free.zing • free.zing point • gas pres.sure • gas • li.quid • mat.ter • mel.ting • mel.ting point • par.ti.cle mo.del • par.ti.cle the.o.ry • pas.cal • so.lid • states of mat.ter • ther.mal ex.pan.sion and con.trac.tion • ther.mo.stat

Nouns/ Adjectives <antonyms> (plural) → Revision		
<u>Chapter 1</u> <ul style="list-style-type: none"> • discovery (discoveries) 發現 • experiment/ experimental 實驗 • invention 發明 • observation/ observational 觀察 • science (sciences) 科學 • scientist 科學家 • hazard warning label 危險警告標籤 • laboratory (laboratories) 實驗室 • measurement 量度 • conclusion 結論 • fair test 公平測試 • hypothesis/ hypothetical (hypotheses) 假設 • scientific investigation 科學探究 	<u>Chapter 2</u> <ul style="list-style-type: none"> • chlorination 加氯處理 • condensation 凝結 • crystal (crystals) 晶體 • distillate 餾出物 • distillation 蒸餾法 • evaporation 蒸發 • filtrate 濾液 • filtration 過濾法 • fluoridation 加氟處理 • insoluble 不可溶的 • pollutant 污染物 • residue 殘餘物 • saturated solution 飽和溶液 • sediment 沉積物 • sedimentation 沉積法 • soluble 可溶的 • solute 溶質 • solution 溶液 • solvent 溶劑 • water cycle 水循環 	<u>Chapter 3</u> <ul style="list-style-type: none"> • characteristic 特徵 • habitat 生境 • variation 差異 • classification 分類 • flowering plant 有花植物 • invertebrate <vertebrate> 無脊椎動物 • key 檢索表 • non-flowering plant 無花植物 • vertebrate <invertebrate> 脊椎動物 • conservation 保育 • endangered species 瀕臨物種 • extinction 絕種 • interdependence/ interdependent 互相依賴 • pollution 污染 • wildlife 野生生物

Nouns/ Adjectives <antonyms> (plural) → Revision

Chapter 4

- cell 細胞
- cell division 細胞分裂
- microscope 顯微鏡
- asexual reproduction 無性生殖
- Embryo 胚胎
- Fertilization 受精作用
- Heredity 遺傳
- Implantation 植入
- reproductive system 生殖系統
- sexual intercourse 性交
- sexual reproduction 有性繁殖
- twins 雙生
- menstrual cycle 月經週期
- nocturnal emission 夢遺
- puberty 青春期
- secondary sexual characteristics 第二性徵
- abortion 墮胎
- birth control 節育
- family planning 家庭計劃
- in vitro fertilization, IVF 人工受孕
- Pregnancy 懷孕
- sexually transmitted disease, STD 性傳染病

Chapter 5

- air pollutant 空氣污染物
- coal 煤
- crude oil 原油
- diesel 柴油
- energy conversion 能量轉換
- energy converter 能量轉換器
- fossil fuel 化石燃料
- generator (generators) 電機
- motor (motors) 電動機
- natural gas 天然氣
- non-renewable energy source 非再生能源
- petrol 汽油
- renewable energy source 可再生能源
- town gas 煤氣
- turbine (turbines) 渦輪機
- uncontrolled energy conversion 不受控的能量轉換

Chapter 6

- atmospheric pressure 大氣壓力
- atom/ atomic 原子
- boiling 沸騰
- boiling point 沸點
- Bourdon gauge 布爾登氣壓計
- Brownian motion 布朗運動
- condensation 凝結
- density 密度
- freezing 凝固
- freezing point 凝固點
- gas pressure 氣壓
- gas (gases) 氣體
- liquid (liquids) 液體
- matter 物質
- melting 溶化
- melting point 溶點
- particle model 粒子模型
- particle theory 粒子理論
- pascal 帕斯卡
- solid 固體
- states of matter 物態
- thermal expansion and contraction 熱脹冷縮
- thermostat 恆溫器

Chapter 1

Verbs	Nouns	Examples
adjust	adjustment	<u>Adjust</u> the length of the string to 45 cm.
analyze	analysis	Jenner <u>analyzed</u> the results carefully and checked whether they supported his hypothesis.
compare	comparison	This is not a good question because it does not show clearly what to measure and <u>compare</u> in the investigation.
discover	discovery	This <u>discovery</u> led scientists to invent a special swimsuit called 'fastskin'.
prevent	prevention	We must follow the laboratory rules in the laboratory to <u>prevent</u> accidents.
support	support	He did experiments and the results <u>supported</u> his ideas.
tie back	-	In the laboratory, we should <u>tie back</u> long hair and fasten school ties when doing experiments in order to prevent them from catching fire or dipping into chemicals accidentally.

Chapter 2

Verbs	Nouns	Examples
absorb	absorption	When water is heat up, it <u>absorbs</u> heat energy and evaporates to become water vapour.
condense	condensation	When steam cools down, it <u>condenses</u> to form liquid water.
conserve	conservation	As the population is increasing, the demand for water is also increasing. Please suggest ways to <u>conserve</u> water.
consume	consumption	The graph shows the annual water supply and <u>consumption</u> in Hong Kong from 2001 to 2006.

Verbs	Nouns	Examples
decompose	decomposition	Most of the solid waste does not <u>decompose</u> easily in nature.
dilute	dilution	Thinner can be used to <u>dilute</u> oil paints, but this substance should be handled carefully because it is flammable and harmful.
evaporate	evaporation	When the sweat <u>evaporates</u> , some heat energy is taken away from our body.
filtrate	filtration	<u>Filtration</u> can remove solid impurities in water.
purify	purification	Sedimentation, filtration and distillation are some common methods to <u>purify</u> water.
replace	replacement	We need to drink water or other fluids to <u>replace</u> the water lost from our body.

Chapter 3

Verbs	Nouns	Examples
adapt	adaptation	Living things have special body features and behaviours that help them <u>adapt</u> to their habitats.
appreciate	appreciation	We can <u>appreciate</u> the wonders of nature in parks and learn how to conserve wildlife.
ban	ban	Logging is now <u>banned</u> in the habitats of giant pandas.
compete	competition	The foreign species may <u>compete</u> with the native species for food or even food on the native species.
control	control	Some foreign species are introduced to new areas for <u>controlling</u> pests.
develop	development	With <u>developments</u> in technology and collection of new information about living things, scientists add new groups to the classification system and classify the living things again.

Verbs	Nouns	Examples
distinguish	-	How do we <u>distinguish</u> living things from non-living things?
disturb	disturbance	The loss of any kind of living things in a habitat may result in the loss of other living things. When this happens, the stable system in nature may be <u>disturbed</u> .
emit	emission	Reduce the use of electricity to reduce <u>emission</u> of exhaust fumes from power stations.
estimate	estimation	Scientists <u>estimate</u> that there are 4 million to 12 million kinds of living things on Earth.
excrete	excretion	Living things can <u>excrete</u> .
identify	identification	Scientists often use a key to <u>identify</u> living things.
introduce	introduction	Some foreign species are introduced to new areas for controlling pests.
pollute	pollution	Some human activities produce harmful substances that pollute the environment.
protect	protection	Wildlife protection is important. We should protect wildlife.
recycle	recycling	Recycle used materials to make into new products.
reduce	Reduction	Reduce the use of electricity to reduce emission of exhaust fumes from power stations.
reuse	-	Reuse things (e.g metal cans) to reduce the amount of waste.
stimulate	stimulus	Living things have some common characteristics. They can move, grow, reproduce, react to stimuli and excrete. Also, they need air and food.

Chapter 4

Verbs	Nouns	Examples
accept	acceptance	Teenagers care about being recognized and <u>accepted</u> by friends. They turn to their friends for support and advice.
bleed	bleeding	When our skin is cut, it may <u>bleed</u> .
fertilize	fertilization	<u>Fertilization</u> takes place when a sperm enters/the sperms enter an egg.
invert	-	The image formed in the microscope is <u>magnified</u> and <u>inverted</u> .
magnify	magnification	
rotate	rotation	<u>Rotate</u> the lower-power objective into position.
simulate	simulation	Let us <u>stimulate</u> this example in the activity on the next page.
stain	-	Add a drop of iodine solution to <u>stain</u> the cells of the skin for easier observation.
trap	trap	Make sure no air bubbles are <u>trapped</u> between the slide and the cover slip.

Chapter 5

Verbs	Nouns	Examples
accumulate	accumulation	The town gas which was <u>accumulated</u> under the lift lobby of the building was ignited by a spark, therefore led to an explosion.
consume	consumption	Scientists foresee that the world energy <u>consumption</u> will keep increasing.
damage	damage	Nine people were injured and the buildings nearby were <u>damaged</u> in the explosion.
destroy	destruction	The forest fire <u>destroyed</u> the natural habitats of wildlife.
observe	observer/ observation	What do you <u>observe</u> when you press a spring toy and release it?
pollute	pollution	Burning petrol and diesel gives out a lot of black smoke which <u>pollutes</u> the air.
store	storage	When we compress or stretch an elastic object, the object <u>stores</u> potential energy.

Chapter 6

Verbs	Nouns	Examples
compress	compression	Can you <u>compress</u> the air inside the syringe when you press your finger against its nozzle?
contract	contraction	A substance <u>contracts</u> when cooled.
evidence	evidence	Some Greek philosophers like Democritus believed that matter was made of tiny particles. However, they did not find <u>evidence</u> to support this belief.
expand	expansion	You should have an idea of what thermal <u>expansion</u> and contraction is.
vibrate	vibration	The spaces between particles in solid are small. Each particle <u>vibrates</u> about a fixed position.

Chapter 1

Adjectives	Examples
accurate	A digital stop-watch can measure time <u>accurate</u> up to one hundredth of a second.
flammable	Some chemicals are <u>flammable</u> . They are dangerous.
harmful	Some chemicals are <u>harmful</u> . We should handle them with care.
proper	Many scientific discoveries and inventions have improved our quality of life, but they can be harmful if they are not used <u>properly</u> .
steady	Record the temperature of the water every two minutes in the table below, until the water boils and the temperature becomes <u>steady</u> .
systematic	The knowledge of cloud formation is obtained through scientific study, which is a detailed and <u>systematic</u> process.
toxic	Some chemicals are <u>toxic</u> . Do not get in touch with them or eat them.

Chapter 2

Adjectives	Examples
efficient	Some washing machines and showerheads are designed to help people use water more <u>efficiently</u> .
insoluble	We can observe that pond water is muddy because there are <u>insoluble</u> impurities such as sand and plant debris in the water.
pungent	Chlorine can be added to water to kill micro-organisms. It is a toxic chemical and has <u>pungent</u> smell.
saturated	A solute will not dissolve completely when the solution is <u>saturated</u> .
soluble	Salt is <u>soluble</u> in water.
transparent	If the container is <u>transparent</u> then we can see what is happening in the container more easily

Chapter 3

Adjectives	Examples
alternative	Scientists often use a key to identify living things. The many levels in the key provide two <u>alternative</u> features.
constant	Birds can maintain a <u>constant</u> body temperature.
corresponding	On the graph paper, represent the number of students <u>corresponding</u> to each hand span by a rectangular bar.
excessive	Some animals are being <u>excessively</u> hunted to make commercial or medicinal products.
extinct	Some animals and plants decreased sharply in number in the past 50 years. These animals may soon disappear totally, or become <u>extinct</u> .
interdependent	In a mangrove habitat, mangroves, crabs and seabirds are <u>interdependent</u> for survival.
over-exploited	Some plants become endangered because they are over-exploited for gardening or medicinal purposes.
proportional	When drawing a living thing, we can try to make the size of the animal in the drawing proportional to size of the real animal.
rapid	There are a rapid decrease in the number and kinds of living things recently.
stable	The stable system in nature is disturbed when the loss of any kind of living things in a habitat may results in the loss of other living things.
various	Humans hunt and kill many living things to make various products.
wild	Some wild animals are becoming extinct and are endangered species.

Chapter 4

Adjectives	Examples
reproductive	The <u>reproductive</u> behaviour of many bacteria are fast.
contaminated	Avoid direct contact with <u>contaminated</u> needles.
essential	Sex involves understanding the roles of males and females, handling relationships with the opposite sex and understanding of marriage, it is an <u>essential</u> part of life. / Sex is not an evil matter. It is an <u>essential</u> part of life.
psychological	Many teenagers experience some <u>psychological</u> changes at puberty.
rigid	Plant cells have some common structures. A plant cell is surrounded by a <u>rigid</u> cell wall.
serious	When the problems related to puberty are <u>serious</u> , we can consult a doctor.
sharp	Turn the fine adjustment knob to get a <u>sharper</u> image.
upright	The image formed in the microscope is not <u>upright</u> , it is inverted.

Chapter 5

Adjectives	Examples
controlled	Burning town gas is <u>controlled</u> energy conversion.
household	Some <u>household</u> appliances give out heat energy. For example, hair dryers heaters, and irons.
inconvenient	Kerosene is a better fuel than wood. It is easier to light. However, it is <u>inconvenient</u> to refill kerosene stoves and lamps.
initial	In energy conversion, an <u>initial</u> form of energy may not be changed to the final form directly.
unattended	When we cook at home, we should not leave our cooking <u>unattended</u> .
uncontrolled	Forest fires and landslides are examples of <u>uncontrolled</u> energy conversions which happen in the nature.

Chapter 6

Adjectives	Examples
concentrated	The gas particles are <u>concentrated</u> in the gas jar now. If we remove the plate on the gas jar in this experiment, the gas particles will move in all directions.
freezing	The temperature at which a substance changes from liquid into solid state is called the <u>freezing</u> point of the substance.
melting	What is the <u>melting</u> point of ice?
regular	Particles in solid are arranged in a <u>regular</u> pattern.

Section C: Exercise**Chapter 1**

Look at the following diagrams carefully.

Write the sentence to describe each step.

A.



B.



C.



D.



E.



Chapter 1

溫度計是用來量度溫度的。

.....

溫度計 (thermometer)、量度 (measure)、溫度 (temperature)

安全地進行實驗，我們必須遵守實驗室安全守則。

.....

實驗 (experiments)、安全地 (safely)、
實驗室安全守則 (laboratory safety rules)

當氣孔開啟時，本生燈的心焰是藍色。

.....

氣孔 (air hole)、本生燈 (Bunsen burner)、火焰 (flame)

在公平測試中，我們只可改變要探究的變數。

.....

公平測試 (fair test)、探究的變數 (the variable to be tested)

Chapter 2

大自然的水中含有不同類型的雜質：可溶性雜質、
不可溶性雜質及微生物。

.....

大自然的水 (natural water)、雜質 (impurities)、
可溶性雜質 (soluble impurities)、不可溶性雜質
(insoluble impurities)、微生物 (micro-organisms)

在水中加入氯可以殺死在其中大多數微生物。

.....

加入 (adding)、氯 (chlorine)、微生物 (micro-organisms)

在香港，食水來自東江水和雨水。
.....
.....
食水 (fresh water)、東江 (Dong Jiang)、雨水 (rainwater)

在水中加入氟化物可以幫助防止蛀牙。
.....
.....
氟化物 (fluoride)、蛀牙 (tooth decay)

水的循環包括蒸發，凝結，運輸和降雨。
.....
.....
水的循環 (the water cycle)、蒸發 (evaporation)、 凝結 (condensation)、運輸 (transportation)、降雨 (raining)

水是良好的溶劑，但不可溶解一切。
.....
.....
溶劑 (solvent)、溶解 (dissolve)

當沒有更多的溶質可以在溶劑中溶解，飽和溶液就會形成。
.....
.....
溶質 (solute)、溶劑 (solvent)、飽和溶液 (saturated solution)

Chapter 3

生物可分為動物和植物。
.....
.....
生物 (living things)、動物 (animals)、植物 (plants)

具有脊椎的動物稱為脊椎動物。

.....

.....

動物 (animals)、脊椎 (a backbone)、脊椎動物 (vertebrates)

兩棲動物有濕滑的皮膚。

.....

.....

兩棲動物 (amphibians)、濕滑皮膚 (moist skin)

鳥的體溫不容易受環境影響。

.....

.....

鳥 (a bird)

水質污染破壞了中華白海豚的生境。

.....

.....

水質污染 (water pollution)、生境 (habitats)、
中華白海豚 (Chinese White Dolphin)

Chapter 4

所有生物都是由細胞組成的。

.....

.....

生物 (living things)、細胞 (cells)

透過顯微鏡觀察的影像是放大和倒置的。

.....

.....

觀察的影像 (images observed)、顯微鏡 (microscope)、
放大的 (magnified)、倒置的 (inverted)

輸精管把精子從睪丸輸送到尿道。
.....
輸精管 (sperm ducts)、精子 (sperms)、睪丸 (testes)、 尿道 (urethra)

Chapter 5

能量可以從一種形式轉變到另一種形式。
.....
能量 (energy)、轉變 (change)

燃料儲存大量的化學能。
.....
燃料 (fuel)、化學能 (chemical energy)

電力是常見的能量來源。
.....
電力 (electricity)、能量來源 (energy source)

化石燃料是不可再生的能量來源。
.....
化石燃料 (fossil fuels)、不可再生的 (non-renewable)

燃燒化石燃料釋放出大量的二氧化碳和空氣污染物。
.....
化石燃料 (fossil fuels)、二氧化碳 (carbon dioxide)、 空氣污染物 (air pollutants)

Chapter 6

固體，液體和氣體是物質的三種狀態。

.....

.....

固體 (solid)、液體 (liquid)、氣體 (gas)、狀態 (state)、
物質 (matter)

當溫度變化時，物質可能會改變其狀態。

.....

.....

溫度 (temperature)、物質 (substance)、狀態 (state)

原子是物質的最小單位。

.....

.....

原子 (atoms)、單位 (unit)、物質 (matter)

我們可以使用布爾登氣壓計測量氣壓。

.....

.....

布爾登氣壓計 (the Bourdon gauge)、測量 (measure)、
氣壓 (gas pressure)

一個物體的密度是它的質量除以單位體積。

.....

.....

密度 (density)、物體 (object)、質量 (mass)、
單位體積 (unit volume)

ANSWERS

Chapter 1

溫度計是用來量度溫度的。

A thermometer is used to measure temperature.

溫度計 (*thermometer*)、量度 (*measure*)、溫度 (*temperature*)

安全地進行實驗，我們必須遵守實驗室安全守則。

To do experiments safely, we should follow laboratory safety rules.

實驗 (*experiments*)、安全地 (*safely*)、

實驗室安全守則 (*laboratory safety rules*)

當氣孔開啟時，本生燈的心焰是藍色。

If the air hole is open, the flame of the Bunsen burner is blue.

氣孔 (*air hole*)、本生燈 (*Bunsen burner*)、火焰 (*flame*)

在公平測試中，我們只可改變要探究的變數。

In a fair test, we should only change the variable to be tested.

公平測試 (*fair test*)、探究的變數 (*the variable to be tested*)

Chapter 2

大自然的水中含有不同類型的雜質：可溶性雜質、不可溶性雜質及微生物。

Natural water contains different types of impurities: soluble impurities, insoluble impurities and micro-organisms.

大自然的水 (*natural water*)、雜質 (*impurities*)、

可溶性雜質 (*soluble impurities*)、

不可溶性雜質 (*insoluble impurities*)、微生物 (*micro-organisms*)

在水中加入氯可以殺死在其中大多數微生物。

Adding chlorine to water can kill most micro-organisms.

加入 (*adding*)、氯 (*chlorine*)、微生物 (*micro-organisms*)

在香港，食水來自東江水和雨水。

In Hong Kong, fresh water comes from the Dong Jiang and from rainwater.

食水 (*fresh water*)、東江 (*Dong Jiang*)、雨水 (*rainwater*)

在水中加入氟化物可以幫助防止蛀牙。

Adding fluoride to water can help prevent tooth decay.

氟化物 (fluoride)、蛀牙 (tooth decay)

水的循環包括蒸發，凝結，運輸和降雨。

The water cycle involves evaporation, condensation, transportation and raining.

水的循環 (the water cycle)、蒸發 (evaporation)、
凝結 (condensation)、運輸 (transportation)、降雨 (raining)

水是良好的溶劑，但不可溶解一切。

Water is good solvent but it cannot dissolve everything.

溶劑 (solvent)、溶解 (dissolve)

當沒有更多的溶質可以在溶劑中溶解，飽和溶液就會形成。

When no more solute can dissolve in a solvent, a saturated solution is formed.

溶質 (solute)、溶劑 (solvent)、飽和溶液 (saturated solution)

Chapter 3

生物可分為動物和植物。

Living things can be divided into animals and plants.

生物 (living things)、動物 (animals)、植物 (plants)

具有脊椎的動物稱為脊椎動物。

Animals that have a backbone are called vertebrates.

動物 (animals)、脊椎 (a backbone)、脊椎動物 (vertebrates)

兩棲動物有濕滑的皮膚。

Amphibians have moist skin.

兩棲動物 (amphibians)、濕滑皮膚 (moist skin)

水質污染破壞了中華白海豚的生境。

Water pollution destroys the habitats of the Chinese White Dolphin.

水質污染 (water pollution)、生境 (habitats)、
中華白海豚 (Chinese White Dolphin)

Chapter 4

所有生物都是由細胞組成的。

All living things are made up of cells.

生物 (*living things*)、細胞 (*cells*)

透過顯微鏡觀察的影像是放大和倒置的。

The images observed under a microscope are magnified and inverted.

觀察的影像 (*images observed*)、顯微鏡 (*microscope*)、
放大的 (*magnified*)、倒置的 (*inverted*)

輸精管把精子從睪丸輸送到尿道。

Sperm ducts transport sperms from the testes to the urethra.

輸精管 (*sperm ducts*)、精子 (*sperms*)、睪丸 (*testes*)、尿道
(*urethra*)

Chapter 5

能量可以從一種形式轉變到另一種形式。

Energy can change from one form to another.

能量 (*energy*)

燃料儲存大量的化學能。

Fuels store a large amount of chemical energy.

燃料 (*fuel*)、化學能 (*chemical energy*)

電力是常見的能量來源。

Electricity is the most common energy source used at home today.

電力 (*electricity*)、能量來源 (*energy source*)

化石燃料是不可再生的能量來源。

Fossil fuels are non-renewable sources of energy.

化石燃料 (*fossil fuels*)、不可再生的 (*non-renewable*)

燃燒化石燃料釋放出大量的二氧化碳和空氣污染物。

Burning fossil fuels gives out a lot of carbon dioxide and air pollutants.

化石燃料 (*fossil fuels*)、二氧化碳 (*carbon dioxide*)、空氣污染物
(*air pollutants*)

Chapter 6

固體，液體和氣體是物質的三種狀態。

Solid, liquid and gas are the three states of matter.

固體 (solid)、液體 (liquid)、氣體 (gas)、狀態 (state)、
物質 (matter)

當溫度變化時，物質可能會改變其狀態。

A substance may change its state when its temperature changes.

溫度 (temperature)、物質 (substance)、狀態 (state)

原子是物質的最小單位。

Atoms are the smallest units of matter.

原子 (atoms)、單位 (unit)、物質 (matter)

我們可以使用布爾登氣壓計測量氣壓。

We can measure gas pressure by a Bourdon gauge.

布爾登氣壓計 (the Bourdon gauge)、測量 (measure)、
氣壓 (gas pressure)

一個物體的密度是它的質量除以單位體積。

The density of an object is its mass per unit volume.

密度 (density)、物體 (object)、質量 (mass)、
單位體積 (unit volume)