Life
PRE-INTERMEDIATE
STUDENT'S BOOK
HONG KONG EDITION

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9789887773467

John Hughes
Helen Stephenson
Paul Dummett
Welcome to Life,
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world. Drawing on National Geographic content, Life transforms the
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creation tool
- Show or hide the key
- Show justification for the answers to the reading and listening
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STEAM-related section
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- Technology
- Engineering
- Art
- Math
Listening | Reading | Critical thinking | Speaking | Writing
---|---|---|---|---
someone talking about a documentary about working as a photographer an interview with an engineer | workplace messages with instructions an article about the cost of new jobs to an area an article about modern-day cowboys | the author's opinion | giving directions describing past experiences your opinion of a job | text type: a CV writing skill: action verbs for CVs

a documentary about the importance of technology a science programme about a new invention | an explorer's blog an article about biomimetics | supporting the main argument | problems that inventions solved inventing a new robot planning an expedition using nature to improve designs | text type: a paragraph writing skills: connecting words, topic and supporting sentences

an English teacher talking about working in Japan a radio documentary about learning Kung Fu in China | an article about the history of writing an article about saving languages | fact or opinion | adult education a general knowledge quiz the author's opinion | a general knowledge quiz writing skill: forms writing skill: providing the correct information

an interview with a herpetologist two conversations about problems whilst on holiday an interview with a National Geographic tour guide | an article about tipping in other countries an article about the tunnels in Paris reading between the lines | a holiday or journey you remember planning the holiday of a lifetime a tourist website | a tourist webpage text type: a formal letter writing skill: formal expressions

an historian talking about Scott's hut at the Antarctic an interview with an archaeologist | an article about moments in space history a biography of Jane Goodall | relevance | items for a time capsule how we used to live moments in history reporting an interview an interview for a biography | text type: a biography writing skill: punctuation in direct speech

a nature expert talking about how animals camouflage themselves a documentary about a photographer | an article about storm chasers a profile on Greenland | close reading | promoting your region planning for every possibility predicting your country's future | text type: a press release writing skill: using bullet points

FICTIONAL READING PASSAGES page 176
Unit 8 Technology

Robots and humans working together
Photo by Robert Markowitz and Bill Stafford, NASA

FEAT URES

94 Invention for the eyes
An inventor finds a solution to make the whole world see

96 Technology for explorers
How technology is changing the world of exploration

98 Designs from nature
What we can learn from the design of animals

102 Wind power
A video about how one American school is using this energy source

1 Look at the photo and the caption. How do you think they are going to ‘work together’? In what ways do robots already work with humans?

2.7 Listen to someone talking about the importance of technology in our lives. Answer the questions.

1 What everyday jobs does technology do for humans?
2 Under what circumstances does technology ever make mistakes?
3 Where does the robot in the photo work? What does it do?

3 Which of these comments are true for a robot, a human or both?
- has new ideas
- finds solutions and solves problems
- never gets hungry or tired
- can make a mistake
- doesn’t get bored
- always follows instructions
- makes decisions
- invents things

4 Work in groups. Compare humans and technology. Think of two more advantages or disadvantages for each.

TALK ABOUT
- A NEW INVENTION
- PLANNING AN EXPEDITION
- IMPROVING DESIGN
- HOW SOMETHING WORKS

WRITE
- AN ARGUMENT FOR TECHNOLOGY
8a Invention for the eyes

Speaking
1 Work in pairs. What problems did these famous inventions solve? Check your answers on page 153.

- Braille
- electric light bulb
- microwave oven
- post-it note
- telescope

2 Think of one more invention that solved a problem and tell the class. Compare everyone’s inventions and decide which was the most important in human history.

Listening
3 2.8 This Tibetan man is wearing a new type of glasses. Listen to a science programme about the glasses. Answer the questions.

1. What is a problem for many people in the world?
2. How can the glasses solve this problem?
3. In which parts of the world do people now wear the glasses?

4 2.9 Listen to the first half of the programme again. Number the instructions on the diagram in the correct order (1–4).

- The lens changes shape.
- The wearer turns the wheels on each side.
- The silicone oil moves into the lens.
- The pump pushes the silicone oil through the pipe.

5 2.10 Listen to the second half of the programme again. Are the sentences true (T) or false (F)?

1. Joshua had to do experiments with the glasses before they worked properly.
2. The first man who used the glasses made clothes.
3. The glasses are expensive to produce.
4. Thirty thousand people will have the glasses by 2020.

6 How does Joshua’s invention compare with your list of other inventions in Exercise 2? Does it solve a bigger problem?

Grammar defining relative clauses
7 Look at the sentences (a–c) from the science programme. Answer the questions.

a. These people live in parts of the world where there aren’t many opticians.
b. There is a scientist who has found a solution to the problem.
c. Joshua Silver has invented glasses which don’t need an optician.

1. Which word (where, who or which) do we use to talk about a) a person, b) a place and c) a thing?
2. In sentence a, the highlighted part is called the defining relative clause. It gives essential information to help people identify which person, place or thing we are talking about. Underline the defining relative clause in sentences b and c.
8 Look at the grammar box. Then complete the sentences with who, which or where. Underline the defining relative clause.

1 Einstein was a scientist _______ changed the way we think.
2 The Hubble Telescope in space can see places _______ no one has ever been.
3 Concorde was the first commercial aeroplane _______ flew at supersonic speed.
4 Silicon Valley is a place _______ many successful technology companies like Apple and Microsoft are based.
5 In 1800 Alessandro Volta built a machine _______ was the first battery.
6 Hedy Lamarr was a woman _______ was famous as an actress in the 1940s. She was also the co-inventor of a secret communication system.

9 In which sentences in Exercise 8 can you use that at the beginning of the relative clause?

10 Complete the text on the right about another invention, Lifestraw. Use these phrases and a relative pronoun (who, which or where).

Lifestraw

There are still over one billion people in the world _______ need clean water. They live in regions _______ water supply. Now, some inventors _______ have developed Lifestraw. It’s an invention _______ while you drink. It doesn’t have any moving parts _______ so it lasts a long time and it’s cheap to produce ($2 each). It’s also small and easy to carry to places _______ other sources of water.

Speaking

12 Work in groups. Invent a new kind of robot which helps people. Discuss these questions and draw a simple design of the robot with any important information on a large sheet of paper.

• What is the robot for (e.g. cleaning the house)?
• Who will use it (e.g. busy working people)?
• Where can you use it (e.g. around the office)?

13 Prepare and give a short presentation for the class about your new invention.

Our new invention is a robot which ...
Technology for explorers

People are becoming more tech-savvy these days. Your class is doing a survey on the use of the Internet.

**Vocabulary the Internet**

1. Complete the comments from different people about how they use the Internet with these verbs.

   - do
   - download
   - log on
   - search
   - set up
   - subscribe
   - upload
   - write

1. I _set up_ an account with a social networking site because it’s a good way to keep in touch with old friends.
2. Does anyone buy CDs anymore? I don’t. It’s much easier to _download_ music.
3. I _subscribe_ to a weekly blog with all my family’s news.
4. A lot of my friends _upload_ online gaming but I find it all a bit boring.
5. When I need to find information quickly, the first thing I do is to _search_ the web.
6. I _upload_ to a daily podcast which gives me all the latest news.
7. My friends and family _upload_ and share their photos all the time.
8. Online banking is so easy. You just _log on_ with a password and your account details.

2. Which of the sentences in Exercise 1 are true for you? Change any sentences which are untrue or give more details.

   I write a blog but I don’t write about my family.
   I describe what my friends and I like doing.

**WORDBUILDING verb prefixes**

Many prefixes can change or add new meaning to a verb. For example, the verb _load_ can be _download_, _upload_, _unload_, _overload_, _reload_.

For further information and practice, see Workbook page 67.

**Reading**

Your Information Technology teacher, Mrs Mona, asks you to read a blog about the Internet.

3. Read the blog. Answer the questions.

   1. How does Jay Gifford use the Internet?
   2. Why does he think modern technology is important for explorers?

4. Read the blog again. Which of these things does Jay write about on his social networking sites?
   - where he is
   - what he is doing at the moment
   - his plans for later
   - his recent news
   - his opinions

*NMG BLOGWILD
Kamchatka Project
Posted by Jay Gifford | July 15, 2:55 PM

After travelling round the world for almost half a week and moving through three international airports and nineteen time zones, we finally step off the helicopter. We are at the beginning of the Karimskaya River in the region of Kamchatka. It’s a bright sunny day and in the far distance I can see the Karimski volcano. This is probably the wildest place in Russia but if the weather is this good for the next few days, the expedition will go well.

In the past, when explorers arrived in a strange place, they put up their tents or cooked a meal. But nowadays, when explorers arrive in a new place, they log on to their social networking site using a satellite phone. I write, ‘Just landed. Need to relax for a few hours.’ Explorers in the past wrote about their adventures in books which were published months or years later. Nowadays, I post a message in seconds.

Sites like Facebook and Twitter also help if we have a problem. Someone in our group touched a strange plant and suddenly his skin was red and painful. I asked for advice on Twitter: ‘Hand touched a strange plant. It’s red and hot. Any advice?’ Minutes later, someone who knew the region replied, ‘Probably a Pushki plant. If it is, it’ll hurt but it won’t kill you!’ In the age of the modern explorer, communication like this really helps to make decisions and sometimes it even saves lives.

Continue reading this entry »

Posted by Jay Gifford | Comments (21)
Filed Under: Kamchatka, Karimskaya, Wild, River
Grammar zero and first conditional

You noticed that Jay Gifford used the zero and first conditional in his blog. You want to learn more about these.

5 Look at the sentences (a–c) from the blog in Exercise 3. Answer the questions (1–2).

a If the weather is this good for the next few days, the expedition will go well.
b Sites like Facebook and Twitter also help if we have a problem.
c When explorers arrive in a new place, they log on to their social networking site.

1 Which sentences talk about things that are generally true?
2 Which sentence talks about a possible future situation?

6 2.11 Look at the grammar box. Complete the conversation between two explorers planning a canoeing expedition with the correct form of the verbs. Then listen and check your answers.

A: So, what are we going to take with us?
B: Well, I don’t know what the weather’s going to be like. If it rains, we need all this waterproof clothing.
A: Yes, but if we take all that, there isn’t space for anything else. Anyway, when I go canoeing, I always get wet. Why are you packing that?
B: If we don’t have a map, we probably get lost.
A: Don’t worry. If I bring my GPS, we’ll know exactly where we are at all times. What about food?
B: I normally take tins and packets of food when I go on a trip like this.
A: Good idea. If you carry the food in your canoe, I’ll pack both the tents in mine.
B: Maybe that’s not such a good idea. If something happens to one of us, then the other person either won’t have any food or won’t have a tent.
A: Well, hopefully that won’t happen if we’re careful.

7 Pronunciation intonation in conditional sentences

You and your classmates want to practise using intonation in conditional sentences.

a 2.12 In conditional sentences, when the if/when clause is first, the intonation rises and then falls. Listen and repeat.

If it rains, we’ll need this.

b Work in pairs. Practise reading the conversation in Exercise 6. Pay attention to the rising and falling intonation where necessary.

Vocabulary and speaking

8 Work in groups. You are going to the mountains for two days. The weather forecast is for sun on the first day and rain on the second. Because you are walking and camping, you don’t want to take too many items. You have tents, rucksacks and food. Discuss these other items and choose five others to take. Explain your reasons for taking them.

camera gas cooker GPS hairdryer hat laptop matches mobile phone sun cream sunglasses torch towel umbrella video game player

If we take ..., we won’t need ...

We’ll need ... if it rains ...
8c Designs from nature

To help you prepare for the ‘Be-an-inventor competition’, Mrs Mona gave you an article to read.

Reading

1 Look at the photos at the top of page 99. How is the robot similar to the gecko?

2 Read the first two paragraphs of the article. Answer these questions.
   1 Why are geckos amazing?
   2 What are the scientists interested in?
   3 What is the problem with the robot?
   4 Why do people study plants and animals?

3 Look at the photos (1–4). Inventors and designers studied these plants and animals for the inventions (A–D) at the bottom of the article on page 99. Try to match the animal or plant to the invention. Then check your answers by reading the rest of the article.

Critical thinking supporting the main argument

4 The main argument of this article is that the design of animals can improve the design of our own world. Which of these sentences support or restate the argument?
   1 Scientists want to use the design of a gecko on their own robot.
   2 Animals and plants can teach humans a lot about design and engineering.
   3 Most humans have never seen a whale.
   4 Mercedes Benz is producing a new kind of car.
   5 Engineers in Canada are studying whales’ flippers because they move so effectively through water.

Word focus have

Explore the uses of have, so that you can use it properly in your proposal for the competition.

5 Look at two uses of have (a–b) when it is the main verb (i.e. not an auxiliary verb). Match have in the sentences from the article (1–5) with the two uses.

\[\text{have} /\text{hæv/} \]
   a possessing or owning something (including physical appearance, ideas, illnesses, etc.)
   b actions or experiences

1 It has four feet. a
2 It still has a more difficult time when it tries to walk upside down.
3 When they have a problem, nature often has the answer.
4 Most people have some Velcro on an item of clothing.
5 He had a closer look.

6 We can also use have got instead of have when talking about possessing or owning something (e.g. It's got four feet). Look at these nouns. We can use have with all of them, but which ones can’t use have got?

- a bad cold
- a chat
- a new car
- a rest
- blonde hair
- fun
- a good time

Speaking

7 Work in groups. Read the three pieces of information about different animals. Discuss how these animals could help humans. Which products in our life could they improve?

- Spiders have got silk which is very light and very strong. It’s stronger than many human-made materials, including steel.
- The Abalone is a type of shellfish. It’s got a shell that is much stronger than many types of stone.
- Glow worms have a cold light which is more efficient than a light bulb.
In a room at Stanford University, scientists are studying a small animal called a gecko. It’s an amazing animal because it can move very quickly up and down a tree and it can even walk upside down on ceilings. The scientists are particularly interested in the gecko’s feet. They want to use the same design on their own robot. The metal robot looks very similar to the gecko. It has four feet which can also walk up walls made of glass or plastic. However, it still has a more difficult time when it tries to walk upside down.

Animals and plants can teach humans a lot about design and engineering. As a result, many engineers, scientists and designers spend time studying them. When they have a problem, nature often has the answer. This science is called biomimetics. Bio- means ‘studying living things’ and mimetics means ‘copying the movement of things’. In other words, scientists – or biomimeticists – study animals and plants in order to copy the design.

Take, for example, a whale. Engineers in Canada are studying their flippers because they move so effectively through water. The engineers believe the shape can also improve the movement of wind turbines. Similarly, the boxfish is another animal from the sea which is helping car manufacturers in Germany. Mercedes Benz is using the shape of the fish for one of its new cars. The shape makes it faster and more fuel efficient.

Velcro is probably the most famous example of biomimetics. Most people have some Velcro on an item of clothing. It was invented by the Swiss engineer George de Mestral in 1948. He was walking in the countryside when he pulled a plant’s bur from his trousers. He noticed how the bur stuck so well to his clothes. He worked on his idea and the result was Velcro, which became an affordable alternative to the traditional zip.

In 1982, Wilhelm Bartlott was another inventor who had a great idea when he was studying the leaves of a lotus plant. Bartlett noticed that water always ran off the leaf. When he had a closer look, he also noticed how the leaf cleaned itself. Bartlott copied the leaf’s special surface and now you can find it in specialised paint products where water and dirt never stay on the paint.

In conclusion, biomimetics has helped to design our world and there are many more future possibilities. Unfortunately, it might take a long time to discover all the possibilities. This isn’t really surprising because it’s taken nature thousands of years to design its animals and plants.

flipper (n) /ˈflɪpər/ the flat arm or leg of a sea animal, used for swimming
bur (n) /bɜː/ a seed from a plant
zip (n) /zɪp/ two rows of metal teeth-like parts which come together (e.g. on a coat)
8d Gadgets

Head Torch

- You can 1 push the light forward and backwards.
- 2 and choose three types of lighting (normal / long distance / emergency red).
- 3 the button on the side to 4 an emergency ‘whistle’ signal.
- 5 it into a laptop and 6 its batteries for up to 160 hours.

Vocabulary technology verbs

To enter the competition, you are also required to write an advert for your invention. Mrs Mona advises you to use some technology verbs.

1 Look at the photo of the head torch in the advert above. What is it used for? Would it be useful for you? Would you buy one?

2 Complete the list of features (1–6) for the head torch with these verbs.

plug press push recharge send switch on

Real life asking how something works

Mrs Mona gave you a conversation about a new invention to listen to.

4 2.14 Listen to two people who are going on a camping trip. They talk about the head torch. Tick the features in Exercise 2 that they discuss.

5 2.14 Listen to the conversation again. Tick the questions in the box you hear.

Where do I switch it on?
How did you do that?
What happens if I press this button?
What is this for?
How long does the battery last?
Why do you need to do that?
How do you make it switch on / record?

6 Work with a partner. Take turns to ask and explain how the objects or gadgets in the box below work.

- a mobile phone
- a CD player
- an MP3 player
- a computer
- an interactive whiteboard
- a DVD player
- a vending machine

3 Pronunciation linking

To improve your presentation skills, you and your classmates want to learn more about linking in pronunciation.

a 2.13 A word ending with a consonant sound links to the next word if it starts with a vowel sound. Listen and practise saying these instructions.

1 Switch it on.
2 Plug it into a laptop.
3 Recharge it overnight.
4 Send an email.
5 Click on the link.

b Work with a partner. Think of more items you often use at home or at work and make sentences using the verbs in Exercises 2 and 3a. Pay attention to linking where necessary.

I switch on my mobile in the morning and recharge it overnight.
An argument for technology

You are going to write some pros and cons of technology. Mrs Mona gave you a paragraph about LED lighting to read.

Writing a paragraph

1 Read the paragraph. Where do you think it comes from? Choose the correct option (1–3).
   1 an instruction manual
   2 a report on energy in the workplace
   3 a message to a colleague at work about the lighting

LED lighting is a more effective form of modern lighting technology. Firstly, LED lights last longer than normal lights. For example, a normal light bulb lasts for around 5,000 hours. LED light bulbs last 100,000 hours. Furthermore, LED light bulbs change 80% of electricity into light. Normal bulbs only change 20%. In other words, LED lights need less electricity to produce more light. On the other hand, one disadvantage is that LED lights are more expensive than normal lights. However, they don’t have to be changed every year and they use less energy. As a result, they are cheaper.

Writing skill supporting sentences

The first sentence in the paragraph about LED lighting is the topic sentence. It gives a general introduction to the main idea of the paragraph. Afterwards, all the other sentences support this main idea. Which of these sentences (1–8) are topic sentences (T) and which are supporting sentences (S)?

1 The Internet has completely changed our access to information.
2 Take, for example, how many books and articles you can read online.
3 For example, closed circuit television (CCTV) is on our streets and in public places.
4 There are many different ways to use technology in security.
5 In other words, all your personal information can be put onto one identity card.
6 Firstly, Russia put the first satellite in space in 1957. Now there are thousands in space.
7 Over the last fifty years, there have been many great achievements in space travel and technology.
8 Furthermore, robots have now landed and travelled on Mars.

4 Read these notes for a paragraph about GPS technology. Write the paragraph using the notes and connecting words from Exercise 2.

Main argument:
GPS is a good idea for anyone who travels a lot
Supporting ideas:
1 GPS maps are always up-to-date and accurate
2 more expensive than a normal map but safer to use when driving
3 saves time (and money on petrol)

5 Choose one of these types of technology and prepare to write a paragraph about why it is useful. Write your paragraph with three supporting ideas.

mobile phones   email   wireless technology music downloads your own idea

6 Use these questions to check your paragraph.

• Have you used a topic sentence?
• Have you used three supporting sentences?
• Have you used connecting words?
Wind power

The people of Spirit Lake are using the power of the wind to ensure a better future for everyone.
You signed up for a Technology day camp. You are going to watch a video about wind power with your classmates.

Before you watch

1 Work in groups. Look at the photo and discuss the questions.
   1 Where are the children in the picture?
   2 What technology can you see? What is it for?
   3 How will the children benefit from this technology?

While you watch

2 Watch the video and check your answers from Exercise 1.
3 Watch the video again and answer the questions.
   1 How much money could the wind turbines save the school district in energy costs?
   2 How would the district spend the money?
   3 Why is it very important that the turbines in Spirit Lake can withstand strong winds?
   4 What does the school district do with the energy from the larger turbine?
   5 Why are farmers happy when the wind blows?
   6 What do teachers encourage students to do?

4 Watch the video again. Complete the phrases with the correct number.

6,000 71,000 81,530 130 257 180 2

1 The number of wind turbines in Spirit Lake:
2 The amount of money the smaller turbine has saved the district: $ __________
3 The height of a wind turbine: __________ feet
4 The strength of winds the wind turbines can withstand: __________ mph
5 The amount of money Charles Goodman will make in a year from his wind turbines: $ __________
6 The number of wind turbines in this piece of the Iowa countryside: __________
7 The number of homes in the town of Des Moines: __________

After you watch

5 Roleplay a conversation between a salesperson and a head teacher

Work with a partner.

You: You are a wind turbine salesperson. You are going to visit a school to explain the benefits of wind turbines. Write notes about three or four benefits.

Your partner: You are the head teacher of a school. Read the notes below and prepare questions to ask the salesperson.

• You are interested in wind turbines but are not sure whether to build one for your school. Some parents have complained that wind turbines are very ugly.
• Think of three or four disadvantages of wind turbines.
• Ask the salesperson about the benefits of wind turbines.

Act out the conversation. Then change roles and repeat the conversation.

6 Jan Bolluyt says: ‘So, you know, it’s not just a small thing.’ What is he referring to? Do you agree with him?

7 Work with your partner. Discuss these questions.
   1 What types of alternative energy are used in your country?
   2 What are the advantages and disadvantages of alternative energy compared to fossil fuels?
   3 Where do you think we will get our energy in the future?
UNIT 8 REVIEW

Grammar

1 Make sentences with a relative clause using the words.

1 the invention / has changed the modern world / the Internet
   "The invention which has changed the modern world is the Internet."
2 camping / an activity / I enjoy doing
3 GPS / a gadget / tells you where you are
4 my parents / the people / always happy to see me!
5 the thing / I hate about TV / the adverts
6 the Space Shuttle / the first spacecraft / travel from and to Earth

2 Complete these sentences for you. Then tell your partner why.

   1 Someone who changed my life was …
   2 Something which improved my life was …

3 Complete the sentences with these verbs. Use will (’ll) or won’t where necessary.

   not call  not go  love  press  work

   1 When you ___ this button, the TV comes on.
   2 If you put new batteries in, it ___ again.
   3 When it’s sunny, we ___ to go to the beach.
   4 If he ___ , then he doesn’t want to come with us.
   5 I ___ hiking if you don’t go.

Vocabulary

4 Match the verbs (1–5) with the nouns (a–e).

   1 make  a problem
   2 find  b a decision
   3 solve  c an idea
   4 make  d a solution
   5 have  e mistakes

5 Complete the questions with words from Exercise 4. Then discuss the questions with your partner.

   1 What’s the best ___ you’ve ever had in your life?
   2 What decisions do you ___ in your daily life or at work? How important are they?
   3 What’s the most common mistake you ___ in English?
   4 Do you like to solve a ___ on your own or ___ a solution with others? Why?

6 Match two words (one from each box) and complete the sentences.

   click  
   log  
   plug  
   forward  
   into  
   on (x2)  
   round  
   up

   1 I want to ___ but I’ve forgotten my password.
   2 How do you ___ an online account?
   3 it ___ the wall socket and it’ll recharge.
   4 For maximum volume, ___ the dial ___ to number 10.
   5 You can pull it backwards for reverse or ___ it ___ to go faster.
   6 ___ the icon in the top corner to open the program.

Real life

7 Put these words in the correct order to make questions for asking how something works.

   1 switch / it / where / do / I / on?
   2 you / did / that? / do / how
   3 if / I / happens / button? / press / this / what
   4 the / battery / long / how / does / last?
   5 that? / why / do / do / you / to / need
   6 record? / how / it / do / you / make

8 Match these responses (a–e) with the questions in Exercise 7. One response answers two questions.

   a So you don’t lose any data.
   b Eight hours.
   c There.
   d By pressing this.
   e You turn it off.

   I CAN
   describe people, places and things with extra information
   talk about situations that are generally true and possible in the future

Speaking

9 Work in pairs. Explain to your partner how to use the DVD in the back of this book.