Notes for Photocopiable activity 8.1
Don't say the word!

Game

Language: technology vocabulary

Materials: one copy of the worksheet cut up per group

(Teacher's Book page 138)

- Divide the students into groups of 3 or 4. Explain that they are going to play a vocabulary game.
- Give each group a set of cards which they place face down on the desk.
- Demonstrate the activity by taking a card and describing the word on the top of the card until someone says the word on the card. Don't include the words underneath in your definition/description.
- Explain to students that they are not allowed to say any part of the word they are trying to define. Nor are they allowed to say either of the words underneath it.
- Students take it in turns to take a card and describe the word(s). They mustn't let their partners see the word on the cards.
- Students can do the activity in groups as a competitive game. One person takes a card and describes the word. The first player to guess the word correctly keeps the card. The person with the most cards is the winner.
- An alternative with a stronger group is for pairs or teams to work in competition. In this case, one team describes a word, another team monitors them and checks that they do not say the forbidden words and the other teams compete to guess the word and win the point. Penalties could be given if forbidden words are used!
- If you don't have the time to cut up the cards, cut the worksheet in half and give half each to students working in pairs. They take it in turns to describe a word for their partner to guess.
- NB some of these words are not in the student's book.

icon ~~picture~~ ~~programme~~	desktop ~~icons~~ ~~files~~	minimise ~~small~~ ~~corner~~	scroll ~~move~~ ~~up~~
save ~~finish~~ ~~file~~	menu ~~click~~ ~~find~~	wireless network ~~cable~~ ~~connection~~	mouse ~~click~~ ~~move~~
password ~~secret~~ ~~log in~~	folder ~~files~~ ~~put~~	modem ~~dial~~ ~~connect~~	e-mail ~~send~~ ~~message~~
scanner ~~copy~~ ~~photos~~	printer ~~paper~~ ~~copy~~	monitor ~~picture~~ ~~screen~~	log off ~~switch off~~ ~~exit~~
search engine ~~find~~ ~~Internet~~	download ~~copy~~ ~~hard drive~~	firewall ~~protect~~ ~~security~~	home page ~~first~~ ~~online~~
spam ~~e-mail~~ ~~want~~	backup ~~copy~~ ~~keep~~	crash ~~break down~~ ~~stop~~	attach ~~file~~ ~~join~~

Description Students do a science quiz
Lesson link Use this activity after 4f, page 95
Time 30 minutes
Extra material Print out and photocopy the *Science quiz* worksheet for each group of three or four students

Instructions

a If your students enjoyed the science questions on page 93, here are some more. The quiz has 20 questions, four in each of the areas of science focused on in the Vocabulary and Pronunciation section – chemistry, biology, physics, genetics, and geology.

b Divide your class into teams of three or four, and make it a competitive activity. Either pre-teach vocabulary, or deal with it as it comes up.

c Give each team a copy of the quiz. The teams could do the whole quiz in one go, or they could do it section by section, with you giving the answers and updating the team scores after each section.

Answers

1 salt
2 oxygen
3 hydrogen
4 Ag (Au is gold, S is sulphur, Si is silicon)
5 1859
6 beetles (more than 300,000 species)
7 22 months
8 9,000 years (a spruce tree in Sweden)
9 water
10 340 metres
11 85°C
12 1921
13 a sheep
14 95%
15 peas
16 21,000
17 Indonesia (150 volcanoes)
18 50,000,000 years ago (the impact formed the Himalayas)
19 Australia
20 65 kg

Science Quiz

Chemistry

1 What is NaCl (sodium chloride)?
chalk **sugar** **coal** **salt**

2 Which is the most abundant element on earth?
oxygen **iron** **nitrogen** **carbon**

3 Which of the following is not a greenhouse gas?
ozone **carbon dioxide** **hydrogen** **methane**

4 What is the chemical symbol for silver?
Au **Ag** **S** **Si**

Biology

5 When was Darwin's *The Origin of Species* published?
1809 **1859** **1909** **1959**

6 Which type of insect has the largest number of different species?
flies **ants** **beetles** **moths**

7 How long is an elephant pregnancy?
10 months **16 months** **22 months** **28 months**

8 How old is the oldest tree in the world?
90 years **900 years** **9,000 years** **90,000 years**

Physics

9 Which is the best conductor of electricity?
wood **air** **water** **rubber**

10 How far does sound travel through air in one second?
340 metres **1,340 metres**
2,340 metres **3,340 metres**

11 What's the boiling point of water at 5,000 metres above sea level?
100°C **95°C** **90°C** **85°C**

12 In which year did Einstein win the Nobel Prize for Physics?
1821 **1871** **1921** **1971**

Genetics

13 What was the first mammal to be cloned?
a sheep **a rabbit** **a dog** **a monkey**

14 How much working DNA do humans and mice share?
5% **35%** **65%** **95%**

15 What plant did Gregor Mendel use in his experiments on inheritance?
carrots **tomatoes** **peas** **potatoes**

16 How many genes does a person have?
46 **21,000** **100,000** **31,000,000,000**

Geology

17 Which country has the most volcanoes?
Russia **Ecuador** **Italy** **Indonesia**

18 When did India collide with Asia?
50,000 years ago **500,000 years ago**
5,000,000 years ago **50,000,000 years ago**

19 Which country has most of the world's uranium reserves?
the USA **Australia** **Nigeria** **China**

20 How much did the largest ever gold nugget weigh?
65 g **65 kg** **650 kg** **6.5 tonnes**

It will change our lives

Warm up

1 Ask students what new technologies have developed in the last hundred years. Write them on the board.

2 Tell them to decide with their neighbours which are the most important, and why.

3 Ask for opinions and invite comments. Use this to check or revise language of comparison.

Main activity

1 Tell students they are going to read about technology of the future.

Go around the class telling students they are A, B or C in turn. Put them in groups of three or four, with each group being all the same letter, e.g. AAAA, BBBB, CCCC.

2 Give out the sheets. Tell them to read their text and help their group with anything they do not understand.

3 On the board, write:

1 What will be the main uses of the technology?

2 Which use will bring the biggest benefits and why?

3 What are the most surprising predictions and why?

Ask students to discuss the questions and make notes.

4 While they work, write these questions on the board:

1 Which technology will bring the biggest benefits and why?

2 What is the most surprising prediction and why?

3 Which technology do you like the idea of most?

4 Which technology do you think is the most likely to happen and why?

5 Which technology do you think is the most unlikely to happen and why?

5 Now put students in groups of at least three so that each group has a person who has read each text, e.g. ABC, ABC, ABC, ABC. Show the questions on the board and explain that students should tell each other about their text. They must work from their notes and turn their text face down so they can not read aloud from it.

6 Ask for their opinions and invite comments.

Follow up

- In their groups, students imagine a typical day in the future when all three technologies are in common use. They make notes about the daily routine.
- Students describe their day to the class.
- They vote on which day is:
  - the most interesting
  - the most likely
  - the weirdest

A: VIRTUAL REALITY

Imagine watching a film, but with video goggles that go around the sides of our heads too, so that we can see an image all around us like in real life. We do not watch the film from a distance, we are in it! The film, of course, is a computer image. The goggles are sensitive to the movement of our heads: the image moves when we turn our heads as it does in the real world. Built-in earphones also change the direction that sounds seem to come from as we move past objects. Gloves that can expand to put pressure on our fingers allow us to feel that we are touching objects in the virtual environment. All this already exists, so what is new?

As computer programs get faster and more detailed, much more will be possible. We already have flight simulators for training pilots, but programs will be developed for training in almost anything. We will be able to meet friends or colleagues in virtual environments: luxury conference rooms, exotic landscapes, virtual art galleries or impossible fantasy spaces. Imagine treating phobias by allowing people to meet their fears in a virtual, harmless world. Doctors will be able to attend operations thousands of miles away, and when robot arms are developed, they will be able to actually take part in the operations. This type of remote expertise will be available to many professions.

But there is more. Experts believe that, sooner or later, the technology will be developed to allow us to link computers directly into the brain. Then everything will be possible: sights, sounds, touch, smells, tastes, even emotions. It is even suggested that we can go further still, and input memories to create completely new virtual identities. We can become whoever we want to be. We could have a whole catalogue of parallel lives and personalities. The possibilities are truly endless.

B: ARTIFICIAL INTELLIGENCE

We already have intelligent, automatic lawnmowers that can find their way around the gardens, cut the grass, and then find their way back to the shed and plug themselves in to recharge. There are vacuum cleaners too just as clever. At a more exotic level, there was the Mars Pathfinder robot that did its job without human help.

There are all sorts of other uses for intelligent robots that can operate with little or no human control. Dangerous or unpleasant work, like clearing poisonous waste or landmines, are obvious examples. Research is being done on a car that will drive itself more safely than a person could. It would communicate with the other computerised cars around it and with electronics in the road to avoid accidents. Road deaths will become a nightmare of the past.

It is not just robots that are being considered, but all types of other machines carrying out a wide range of tasks. For example, the intelligent fridge that can read microchips attached to food packaging and warn you when the food needs to be eaten or thrown away. It will also reorder more food over the Internet when needed. Robots for general housework are sure to come. Honda, among other manufacturers, is researching a humanoid robot that can walk and carry things around. Some experts believe that the entire man-made world could be populated with all kinds of intelligent machines by the middle of this century.

In addition to the machines, more intelligent computer programs are predicted: programs that can learn and eventually think for themselves. One idea in education is interactive programs. For example, imagine a history program that would allow you to talk with an artificial expert historian and ask for explanations of anything you did not understand, or a language program that speaks every known human language, and can tell jokes in them too.

C: NANOTECHNOLOGY

Everyone is aware that technology has become able to build machines on an increasingly small scale. Today's desktop computers are more powerful than the room-sized machines of the 1970s. Nanotechnology is a special type of manufacturing technology and, according to the experts, it is the next step. 'Nano' means very small, and nanotechnology aims to build things an atom at a time, exact and perfect. This will give us computers billions of times more powerful than at present, but its other uses are endless. By working with individual atoms, it is possible to make anything. The silicon in microchips is just sand with the atoms rearranged. By rearranging the atoms in coal we can make diamond. Rearranging the atoms in dirt, water and air we get rice.

Working at the level of the atom will also mean we can produce things without the pollution from today's methods. We should be able to recycle all the waste. Manufacturing will be cheaper as a result. It should be possible to build machines that will remove the poisons from the air we breathe or the water we drink, and we can start cleaning up the environment. We should even be able to reverse the centuries of air pollution by taking chemicals out of the atmosphere.

Another advantage of working on the atomic scale is that we can build machines that can go places impossible today. Scientists are dreaming of machines small enough to travel inside the human body. They will find and destroy cancer cells, viruses or bacteria. They could heal wounds, or even replace a missing arm or a damaged heart. Some people suggest that with nano-computers, we could carry complete libraries inside our brain.

Resource 3B
Language practised: vocabulary, reading and speaking
Time: about 20 minutes

You will need one photocopy for each student.

- Briefly review the topic and vocabulary of technology on page 26 of the Students' Book.
- Hand out Resource 3B to each student. Tell them that they're going to do a quiz to see how much technology vocabulary they remember. Reassure them that they don't need to worry if they don't know all the words as they'll see them later in the activity.
- Ask students to fold their papers so that they can't see the words in the box at the bottom of the page. Set a time limit of five minutes. Students complete as many sentences as they can in that time.
- Make pairs. Students compare their answers.
- Ask students to open the papers so that they can see the words in the box. In pairs, students check the sentences that they've completed and try to complete the others.
- Check answers with the class.
- Ask students now to turn over the top part so that they can only see the words in the box at the bottom. In pairs, students take turns to make sentences using the words.

Answers:
2 laptop 3 battery 4 hard drive 5 system
6 wireless 7 high-speed 8 browser 9 engine
10 update 11 upload 12 mini 13 high-definition
14 frame 15 download 16 handheld
17 touch-screen 18 apps

Fold the page so you can't see the words in the box. Complete as many sentences as you can. Then look at the words in the box. Check your answers and complete the other sentences.

1 People who work or study at home usually have a ___desktop___ computer.

2 If you move around a lot, it's better to have a _____ computer.

3 Sometimes this type of computer has a short _____ life.

4 If you keep a lot of information on your computer, you need a big _____ .

5 You also need an operating _____ to be able to use it.

6 If you have a _____ mouse, you need to buy batteries all the time.

7 To access the internet quickly, you need a _____ internet connection.

8 A web _____ is a program that you use to access the internet.

9 You use a search _____ to find information that you're looking for.

10 Most people on social networking sites _____ their profile regularly.

11 You can _____ photos and videos onto the web so others can see them.

12 You can show videos anywhere you are if you have a _____ projector.

13 If you like watching high-quality videos at home, you probably want a _____ TV.

14 To display digital photos without a computer, you need a digital photo _____ .

15 It's illegal to _____ music from the internet without the artist's permission.

16 You can play computer games anywhere with a _____ games console.

17 You don't need to use keys if you have a _____ phone.

18 The latest phones have _____ for listening to music and playing games.

high-speed	frame	mini	hard drive	touch-screen	handheld
download	apps	desktop	upload	engine	browser
high-definition	wireless	battery	system	update	laptop

Resource 3C
Language practised: reading text messages, writing, speaking
Time: about 20 minutes

You will need one photocopy for each student.

- Ask students about their texting habits using questions like *Do you write text messages? Who do you usually write them to? What do you write about? Do you use special symbols when you write messages?*
- Tell them they're going to look at some text language.
- Hand out Resource 3C to each student. Ask them to look at Part 1. Read through the instructions with the class and check they understand what to do. Tell them that to understand the text language, it's best to say the letters and numbers out loud.
- Students do the activity individually.
- Make pairs. Students compare answers before checking with the class.
- In Part 2 students translate the text messages. If you like, you can ask students to write a message in text language and pass it to their partner, who then also replies in text language.
- Make pairs to discuss the questions about text language in Part 3.
- When they have finished, ask students from different pairs to tell the class what they discussed and open the discussion to the class.

Answers:
1
2 b4 3 wan2 4 c u l8r 5 ttyl 6 lol 7 r u
8 2moro 9 b4n 10 btw 11 up2u 12 thx
13 gr8 14 2nite
2
1 How are you? Fine thanks and you? Okay, see you at school tomorrow.
2 Do you want to go to the cinema tonight? Great, see you later.
3 What do you want to do today? It's up to you. Okay, talk to you later. Bye for now.

1 These are popular text message words. Match the words and the meanings.

c u l8r	btw	b4	thx	b4n	2nite	gr8	n u
lol	ttyl	r u	wan2	up 2 u	2moro		

1	and you	*n u*	**8**	tomorrow	
2	before		**9**	bye for now	
3	want to		**10**	by the way	
4	see you later		**11**	it's up to you (you decide)	
5	talk to you later		**12**	thanks	
6	laugh out loud (that's very funny)		**13**	great	
7	are you		**14**	tonight	

2 Now write the messages with correct spelling and punctuation.

1 how r u?

fine thx n u?

ok c u @ skool 2moro

2 wan2 go 2 cinema 2nite?

gr8 c u l8r

3 what do u wan2 do 2day?

up 2 u

ok ttyl bfn

3 In pairs, discuss the questions.

1 Do you think text language is a good or a bad thing?

2 Does it cause students to write with bad spelling and punctuation?

3 Do you think it will change the way we write in the future?

6A *Digital world*

Pascual Pérez Paredes

Type of activity

Vocabulary and reading. Pair work.

Aim

To practise using everyday words in a computer context.

Task

To complete two different texts using the same set of missing words.

Preparation

Make one copy of the worksheet for each student.

Timing

15 minutes

Procedure

1 Explain to the students that they will be given a worksheet with two gapped texts – one in an everyday context, the other in a computer context. They are going to complete both texts using the same set of words.

2 Divide the class into pairs and give each student a copy of the worksheet. Ask the students to fill in the gaps in both texts using the words in the box. Every word occurs once in each text.

3 When most of the students have finished, check the answers with the whole class.

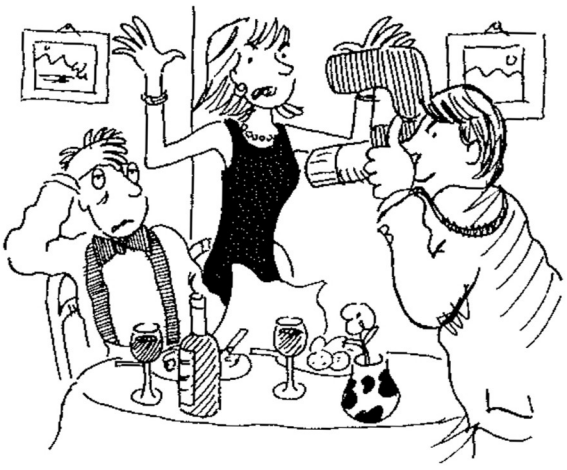
Answers

A		B	
1	virus	1	memory
2	window	2	click
3	menu	3	window
4	notebook	4	crash
5	crash	5	mouse
6	mouse	6	virus
7	bug	7	bug
8	click	8	notebook
9	memory	9	menu

Digital world

bug click crash memory menu mouse notebook virus window

A

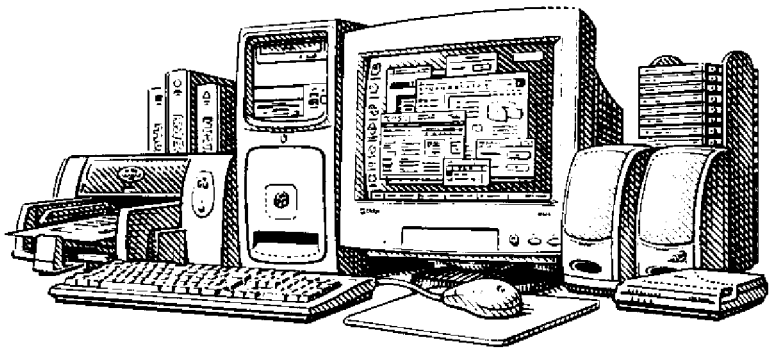


We had a terrible evening. For a start, Peter was coming down with a (1) _____ and he felt awful. We had to wait half an hour for our table, which was in the corner, even though I specifically asked for one next to the (2) _____ and then another half-hour just to get the (3) _____ . The waiter was useless. We had to ask for everything about three times and then he brought the wrong order anyway. I don't know why he didn't just write it down in a little (4) _____ like they usually do. We'd just got the first course, which was actually quite good, when there was this huge (5) _____ from the kitchen and the chef stormed out with a big ladle in his hand and started shouting and swearing at the waiter in front of all the customers. Frankly, I knew how he felt. But for me, the worst thing was just after the first course when we suddenly saw a (6) _____ running across the floor, closely followed by the restaurant cat. Well, that was it for me. I couldn't eat another thing. Peter struggled on until he found a bright green (7) _____ in his tomato salad. Honestly, you should have seen his face! At that precise moment there was a (8) _____ and a flash and I looked up to see a photographer. He'd just taken our picture. 'Something to preserve your (9) _____ of this evening?' he said. I'm not going to tell you what I said!

B

I had a terrible evening. I got home late from work and still had a report to finish. As you know, my computer is really old and slow – I really need to install more (1) _____ . Anyway, when I tried to double-(2) _____ on the file I wanted to work on, a (3) _____ appeared telling me that the file could not be opened. So I decided to try opening it using a different programme but that only made my computer (4) _____ completely. The screen went blank and the (5) _____ froze. By this time, I was tearing my hair out – it was past midnight and I still hadn't started working on that report. I phoned my computer guru friend, Matt, and he told me I probably had a (6) _____ in my system. I must have got it from one of those stupid joke e-mail attachments – you know, like the 'Love (7) _____' one. I had to resort to using my (8) _____ but I hate the keyboard on it – it's too small. At least I got my report finished. Matt's going to send me some software to fix the problem. He also told me in future to go to the applications (9) _____ and launch a good protection programme before opening unknown files. Good advice and better late than never, I suppose.

Computers



a Write the words to match the definitions.

1 the set of keys on a computer _____

2 the programs and other operating material used by a computer _____

3 a piece of equipment for moving around the screen of a computer without touching the keys _____

4 a piece of equipment which allows a computer to be connected to the Internet _____

5 a piece of writing created on a computer _____

6 a page or pages on the Internet which give information _____

7 a piece of equipment used to print information from a computer _____

8 the machinery of a computer _____

b Complete with a verb from the list.

attach download edit enter insert press save scan search

1 _____ the photo from the newspaper.

2 _____ a document to an e-mail.

3 _____ a key to start the program.

4 _____ a document so you don't lose it.

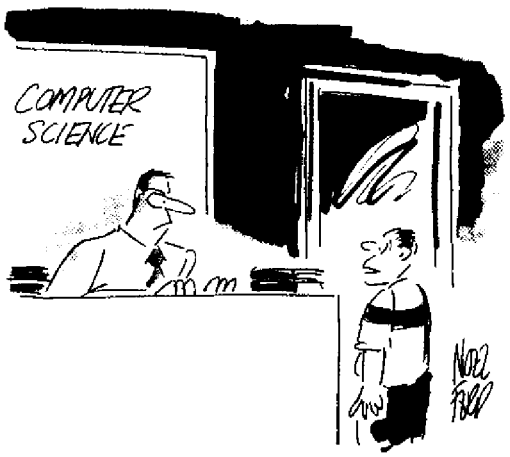
5 _____ your password before you start.

6 _____ for information on the Internet.

7 _____ a document to correct mistakes.

8 _____ information from the Internet onto your own computer

9 _____ a floppy disc into the disk drive.



"A virus ate my homework."

COMPUTERS: SOFTWARE

a Write one noun from the list for each verb. Underline the stress.

a CD-ROM data a document a file/folder information from the Internet a key/button a picture/photo a program software your password

download _____
edit _____
enter _____
insert _____
load _____
open _____
press _____
print _____
run _____
save _____
scan _____
search (for) _____

b How do you say these verbs in your language?

THE INTERNET

a Try to explain the words/phrases like this:

A *What's a **modem**?*
B *It's a (device which) ...*

a modem
the Internet /'ɪntənet/
a virus /'vaɪrəs/
a hacker
surf /sɜ:f/ **the Internet**
send an e-mail /'i:meɪl/
attach a document
a website /'websaɪt/
bookmark (a website)

SCIENCE

Complete the chart.

Abstract noun	Personal noun	Adjective
genetics	geneticist	genetic
science	_____	_____
physics	_____	_____
chemistry	_____	_____
biology	_____	_____
engineering	_____	
research	_____	

Underline the stress. In which two of these word families is the adjective stressed in a different place?

Complete the text with the words/phrases. Practise saying them.

do an experiment /ɪk'sperɪmənt/ **guinea pigs** /'gɪni: pɪgz/
be a failure /'feɪljə/ **laboratory** /lə'bɒrətri/
be a success /sʌk'ses/ **test a theory** /'θɪəri/

When scientists do research they often [1]_____ in a [2]_____ to [3]_____. They may use animals, or [4]_____ (human volunteers). An experiment can [5]_____ or [6]_____.