4 Technological wonders

Glossary

Page	41	4.11	end up (phr v) /end xp/
4.1	wonder (n) /'w∧ndə(r)/ sth that makes you feel surprise and admiration • The Statue of Zeus at Olympia was one of the Seven Wonders of the World. > wonderful (adj), wonder (v) ❖ bionic (adj) /bar'pnɪk/		to find yourself somewhere you didn't want or expect to be • If you don't study harder, you'll end up resitting your exams. �
4.2		4.12	universe (n) /ˈjuːnɪvɜːs/ all of space ● Earth is just a small planet in an enormous universe. ➤ universal (adj)
	technology that causes a non-living object to move ● The bionic dog could walk and bark just like a real one. ❖	4.13	* galaxy (n) /'gæləksi/ a large system of stars in space ● <i>With</i> powerful telescopes, scientists can now observe other galaxies in space. ➤ galactic (adj) *
Kea 4.3	telescope (n) /'telɪskəʊp/ a piece of equipment like a long metal tube you look through to see distant things as if they were closer • The bird's nest was so far	4.14	engineering (n) /ˌendʒɪˈnɪərɪŋ/ planning and building things like roads, bridges or machines • Janet is great at maths and physics so she's studying engineering at university. > engineer (n) &
4.4	away that I had to use a telescope to see it. > telescopic (adj) ❖ solar system (n) /'səʊlə 'sɪstəm/	4.15	construction (n) /kənˈstrʌkʃn/ the process of building ● The construction of the Parthenon was organised by Perikles. > construct (v) ❖
4.5	planets around a sun ● Earth is the only inhabited planet in our solar system. asteroid (n) /ˈæstərɔɪd/	4.16	software (n) /'spftweə(r)/ computer programs • Because she had some trouble with her computer, she had to reinstall all the software. *
4.6	a large rock or small planet that orbits a sun • If a huge asteroid hits Earth, it will cause massive destruction. ❖ float (v) /fləʊt/	4.17 invent (v) /ɪnˈvent. to make or design before ● <i>Telescope</i>	invent (v) /ɪnˈvent/ to make or design sth that has not existed before • Telescopes were invented in the 17th century. ➤ inventor, invention (n),
	to hang in the air as if weightless • The balloon floated in the air and then the wind blew it away. ❖	4.18	inventive (adj) ❖ innovation (n) /ɪnəˈveɪʃn/
4.7	comet (n) /'kpmɪt/ a bright object with a tail that travels around the sun • We looked at the comet through the		a new idea or invention ● <i>I think technological innovations will make life easier in the future.</i> > innovative (adj) ❖
4.8	telescope. ❖ dust (n) /dʌst/ small pieces of soft dirt • He cleaned the dust off the furniture with a cloth. ➤ dust (v), duster (n), dusty (adj) ❖	4.19	achievement (n) /əˈtʃiːvmənt/ sth you succeed in doing ● Raising baby pandas in a zoo is an incredible achievement because it is very hard to do. ➤ achieve (v) ❖
4.9	gas (n) /gæs/ a chemical substance like air that is not liquid or solid ● The smell of poisonous gas rose from the volcano crater. ❖	4.20	complicated (adj) /'kpmplrkertrd/ difficult to understand because it has many different parts • The rules of this game are so complicated! I can't understand them. ➤ complicate (v), complication (n)
4.10	orbit (n) /'ɔːbɪt/ a circular movement around an object like a planet or sun ● The moon is a natural satellite in orbit around the Earth. ➤ orbit (v) ❖	4.21	movement (n) /'mu:vmənt/ going from one place to another • We observed the movements of the cat as it climbed the tree. ➤ move (v, n), movable (adj)

4.00					
4.22	sunshield (n) /'sʌnʃiːld/ a device that protects sth, e.g. a telescope, from the light and heat of the sun ● The space probe needed a sunshield as it had to orbit Mercury. ❖	comet galaxy solar dust innovation spac		search solar system spacesuit	
4.23	pillar (of) (n) /'pɪlə(r) (əv)/ an important part of a group or system ■ Quantum theory is one of the pillars of modern physics. ❖				sunshield universe
4.24 4.25	creation (n) /kri'eɪʃn/ the whole universe and the process of creating it • Humans are the most destructive animals in all creation! ➤ create (v), creative (adj) creation! ➤ create (v), creative (adj)	4.35 calculator (n) /ˈkælkjuleɪtə(r)/ a device or piece of software for doing calculations with numbers • The teacher asked us to solve the maths exercises with			
4.00	a planet which is outside our solar system ■ I wonder if there is any life on exoplanets in other solar systems. ❖ □ □ □ □ □ □ □ □ □ □ □ □ □ □ □ □ □ □	4.36			
4.26	search (v) /s3:tf/ to look for • She searched for information about her ancestors on the internet. > search (n) ❖		a thick wire that carries electricity to a procharger • I must find the charger cable smartphone. The battery is very low.		arger cable for my
4.27	so far (phr) /'səʊ fɑː/ until now ● I've been watching the sky for hours, but I haven't seen the asteroid so far. ❖	4.37	a device computer files ever	hard drive (n) /ɪk, for storing informa r • It's a good idea ry day on an extern thing goes wrong	tion from a to back up nal hard drive in
4.28	confirm (v) /kənˈfɜːm/ to show to be true ● Your weight confirms that you have eaten too much during the holidays. > confirmation (n) ❖	4.38	headpho		onz/ or over your ears
4.29	hold your breath (expr) /həʊld jɔː breθ/ to expect sth to happen ● I think you have a good chance of getting the job, but don't hold your breath as there are so many applicants.	4.39	Please music lat monitor	use your headpho e at night.	ones to listen to
4.30	<pre>\$ sight (n) /sart/ sth that you see • The snow on the mountains was a wonderful sight. ➤ sightseeing (n)</pre> \$		observingThe sesee who		
4.31	light year (n) /laɪt jɪə/ a unit used to measure large distances in space ● The nearest galaxy to ours is over two million light years away. ❖	4.40	an object device is compute	n) /dr'vars/ t with a particular p used to back up thr. ❖	
4.32	exist (v) /ɪgˈzɪst/ to be real ● Does life exist on Mars? > existence (n) ❖	4.41		nn/ He stopped the c running. �	
4.33	component (n) /kəmˈpəʊnənt/ a part of sth ● There are so many components in this smartphone that I have no idea how it works. ❖	4.42	controlled having to	controlled (adj) /rɪ d by using equipmo touch it • Ken wa ontrolled plane in t	ent without s flying his
4.34	source (n) /sɔːs/ where sth comes from ● In the past, the only source of heat was fire. ❖	4.43	a screen a comput	reen (n) /tʌtʃskriːn/ that you touch in c ter, phone, etc. • 7 pesn't have any bu	order to control This touchscreen

4.44	drone (n) /drəʊn/ a small aircraft without a pilot, controlled from the ground and used for taking photos, delivering items, for military purposes, etc. • He almost crashed his drone into the sea	4.55	 activity tracker (n) /æk'tɪvəti trækə(r)/ a device that records your physical movements and other health-related information According to the activity tracker, we've cycled 30 kilometres today.
4.45	### after taking a video of the kayak.	4.56	turn down (phr v) /tɜːn daʊn/ to make quieter ● Dad's always telling me to turn my music down, but I like it loud! ❖
4.46	 The school's wireless connection was a bit slow, so we had to wait for the information to upload. ➤ wireless (n) ❖ smart (adj) /smart/ 	4.57	volume (n) /'vɒljuːm/ the level of noise ● Don't turn the volume up so loud; we won't be able to hear ourselves talking! ❖
	that is operated through computers so that it can work by itself • When you're away, you can control your home central heating, using smart technology. ➤ smartly (adv)	Gra	ammar _{Page} 45
4.47	connect (v) /kə'nekt/ to join together two or more things • If I can connect to the internet, I'll send you some photos. ➤ connection (n), connected (adj) Opp: disconnect	4.58	forecast (n) /'fɔːkɑːst/ a description of how sb says sth will be in the future • The latest forecast warns of heavy rain and stormy weather. •
4.48	podcast (n) /'ppdka:st/ an audio file from the internet that you can play on a computer, smartphone, or other device • I sometimes listen to podcasts from British radio stations to hear different English accents.	4.59	take off (phr v) /teɪk of/ to leave the ground (for planes, etc.) • The plane couldn't take off because of the storm over the airport. ➤ take-off (n) ❖ □ Opp: land
4.49	<pre>post (v) /pəʊst/ to put comments, information or pictures</pre>	4.60	look forward to (phr v) /lʊk 'fɔːwəd tuː/ to be happy waiting for sth good that is going to happen ● I'm looking forward to seeing my relatives from Canada. ❖
4.50	on a website • He never posts personal details on social networking sites. ➤ post (n) * record (v) /re'kɔːd/ to write information down or store it in a	4.61	central heating (n) /'sentrəl 'hiːtɪŋ/ a heating system that heats a whole house or building ● Our house is really cold because the central heating isn't switched on. ❖
4.54	computer so that it can be looked at in the future • The reporter recorded the interview on camera. ➤ recording, record (n) •	4.62	 qualified (adj) /ˈkwɒlɪfaɪd/ having completed the correct training or having the experience for a particular job Sarah spent five years at university to
4.51	update (v) /^pdert/ to add the most recent information to sth • Always update your virus protection so your	4.63	become a qualified architect. ➤ qualififcation (n), qualify (v) ❖ power cut (n) /'paʊə kʌt/
4.52	computer is safe. > update (n) ❖ upload (v) /אף'lਰਹd/ to transfer files from one computer to another through the internet ● Gina uploaded her		a period when the electricity supply stops working • The storm caused power cuts throughout the city and the streets were in darkness. �
4.53	essay for her teacher to correct online.	4.64	accurately (adv) /ˈækjərətli/ correctly • She worked out the total accurately by using a calculator. ➤ accurate (adj), accuracy (n) ❖
4.54	I want to sleep now. Please switch off the lights. ❖	4.65	earthquake (n) /ˈɜːθkweɪk/ the shaking of the ground ● After an earthquake, dogs are often used to find
	a cloth bag filled with sth soft that you use to rest your head on in bed ● Jake rested his head on the pillow and went to sleep. ◆		people in buildings that have fallen down.

4.66	spacesuit (n) /'speissuit/ a special suit worn by astronauts to survive in space ● An astronaut's spacesuit is made of strong but light material. ❖	4.78	petrol (n) /'petrəl/ liquid used to make an engine work ● The car was running out of petrol, so we stopped at a service station. ❖ US Eng:	
4.67	land (v) /lænd/ to arrive on the ground ● The plane landed safely at the airport despite the storm. ➤ landing (n) ❖ ® Opp: take off	4.79	gasoline diesel (n) /'di:zl/ a type of oil used to make an engine work instead of petrol ● The city buses have diesel engines. ❖	
Listening Page 46 4.68 aircraft (n) /eəkra:ft/		4.80	charging point (n) /'tʃɑːdʒɪŋ pɔɪnt/ a place where battery-operated devices or electric cars can be charged • There aren't many charging points for electric cars in our	
4.00	a vehicle that can fly ● The aircraft that took us to London was an Airbus. ❖	4.81	town. * depend (on) (v) /dɪˈpend (ɒn)/ be affected by • Whether wind farms really	
4.69	liquid (n) /ˈlɪkwɪd/ sth that is not solid and can be poured ■ Oil and water are both liquids.		help the environment depends on the production process and where they are installed. ❖	
4.70	image (n) /'ɪmɪdʒ/ a picture ● The satellite took some wonderful images of the Earth from space.	Spe	peaking Page 47	
4.71	memory (n) /'meməri/ the amount of data storage space on a computer, phone, etc. • My phone doesn't have enough memory to download any more	4.82	invention (n) /ɪn'venʃn/ sth created by sb for the first time ● The invention of the plane meant people could travel easily to foreign countries. ➤ invent (v), inventor (n), inventive (adj) ❖	
4.72	apps. ❖ wearable (adj) /'weərəbəl/ which can be worn ● Smartwatches are basically wearable computers. ➤ wear (v) ❖ coffee maker (n) /'kɒfi meɪkə(r)/	4.83	VR headset (n) /ˌviː ˈɑː(r) ˈhedset/ a set of headphones with a screen that you wear over your eyes to see images and hear sounds created by a computer ● It feels like you're in another world when you wear this VR headset to play a video game. ❖ Note: VR = virtual	
	a machine for making cups of coffee ● The first thing she does every morning is to switch on the coffee maker for breakfast. ❖	4.84	reality /ˌvɜːtʃuəl riˈæləti/ driverless (adj) /ˈdraɪvələs/ without a driver • I couldn't believe it when	
4.74	dishwasher (n) /'dɪʃwɒʃə(r)/ a machine for washing dishes ● Don't wash the cups and plates by hand. Just put them into the dishwasher. ❖	4.85	I first saw a driverless bus going around the town. ❖ doorbell (n) /'dɔːbel/ a button that you press outside a building,	
4.75	feature (n) /ˈfiːtʃə(r)/ an important part or a typical quality of sth • A camera is a feature on most smartphones nowadays. ➤ feature (v) ❖		which rings a bell for the people inside to ke you are there • The doorbell rang while I we in the shower. •	
4.76	notification (n) /ˌnəʊtɪfɪˈkeɪʃn/ a formal notice that gives information about	Grammar Page 48		
4.77	sth • She receives a notification on her phone every time a text message arrives. ➤ notify (v) • security (n) /sɪˈkjʊərəti/	4.86	bullet train (n) /ˈbʊlɪt treɪn/ a high-speed railway service in Japan • We got the morning bullet train to Tokyo,	
7.11	a system to warn you when sb enters a place illegally, or when there is danger, etc. • Our hotel room had its own security alarm! •	4.87	which was fast but really expensive. blossom (n) /'blosəm/ a flower on a plant or tree • The air was filled with the lovely smell of orange blossom.	

Use your English Page 49 to connect a machine to an electricity supply You can plug your smartphone in to the PC. 4.88 compete (v) /kəm'pixt/ to try to get people to buy your products and 4.100 set up (phr v) /set $\Lambda p/$ not sb else's • The small shops in the town to get all necessary equipment ready for an centre compete for business. ➤ competition activity • Mum set up my new laptop for me so (n), competitive (adj) ❖ I can use it now. > set-up (n) ❖ _ 4.89 competitive (adj) /kəm'petətɪv/ 4.101 switch on (phr v) /swit('pn/ showing you are trying hard to be more to turn sth on • Let's switch the TV on and successful or better than others • She wants watch the news. � __ to win, so she's a very competitive cyclist. > competitively (adv), compete (v), 4.102 shut down (phr v) /[ʌt daʊn/ competition, competitor (n) . to stop functioning; to stop a machine from working • Remember to back up all your work 4.90 explosion (n) /iks'plอชรุก/ in case there's a power cut that makes the a blast of energy (often from a bomb) • There computer shut down. _ was a loud explosion at the power station and a fire broke out. ➤ explode (v), explosive (adj) 4.103 access (n) /'ækses/ a way to see or use sth, e.g. information on a computer • He can get access to his explosive (adj) /ɪks'pləʊsɪv/ 4.91 bank account online because he has internet which could explode easily • Petrol is a banking. 💠 _ highly explosive liquid. So don't use devices like mobile phones near it. > explode (v), 4.104 network (n) /'netw3:k/ explosion (n) & _ a group of people who are connected in some way • Debbie has a large network of contacts 4.92 attraction (n) /əˈtræk[n/ on social media. 💠 🛚 an activity, feature or place that is interesting or exciting to sb; the feeling of being attracted 4.105 department (n) /dr'partment/ to sb/sth • The cherry blossoms are one of a part of a large business, university, Japan's greatest attractions. ➤ attract (v), organisation, etc. • Liam is a technician in the attractive (adj) . company's IT department. . 4.93 inventive (adj) /in'ventiv/ 4.106 power supply (n) /paʊə sʌˈplaɪ/ able to create new things and ideas • His where power comes from • Plug this appliance grandparents were quite poor, but they were into the power supply in the wall over there. also inventive and found ways to make their own clothes and furniture. > invent (v), 4.107 record (n) /'rekoxd/ invention, inventor (n) official information about people • There are 4.94 inspire (v) /in'spaiə(r)/ few written records of the history of this period. to make sb feel that they want to do sth and > record (v) ❖ _ can do it • He was inspired by Albert Einstein's 4.108 inventor (n) /in'ventə(r)/ work and he decided to become a physicist. sb who creates sth new • Hungarian inventor → inspiration (n), inspirational (adj) Maria Telkes created the first completely solarpowered house. > invent (v), inventive (adj) 4.95 attention (n) /əˈten[n/ * interest in sth • Computers first caught his 4.109 astronomer (n) /əˈstrɒnəmə(r)/ attention in primary school. < a scientist who studies the sun, moon, stars, 4.96 alternative (adj) /ɔxl'tɜxnətɪv/ planets, etc. • Hypatia was the first female that can be used instead of sth else • I think astronomer and her study of maths and your idea is good, but I have an alternative astronomy became well-known in Ancient solution that's better. > alternative (n) Greece. > astronomy (n) ❖ _ 4.110 moreover (adv) /mɔːr'əʊvə(r)/ 4.97 back up (phr v) /bæk Ap/ in addition; as well as that • She's got a make a copy of information stored on a degree in Maths. Moreover, she's studying computer • Luckily, I had backed up my work for a masters in Astrophysics. ❖ before my computer crashed. > back-up (n) Syn: furthermore, what's more 4.111 observe (v) /pb'z3:v/ log in (phr v) /lpg in/ 4.98 to watch sth; to follow what is happening to gain access to a computer • You can • The nurse observed an improvement in the log in to this website with a password. patient's condition. ➤ observer, observation (n) > log-in (n) ❖ .

4.99

plug in (phr v) /plng 'In/

Phrasal verbs

back up plug in take off carry out set up turn down

log in shut down look forward to switch off/on

Writing Pages 50-51

- **4.112** due to (prep) /djuː tuː/
 because of His depression is due to too
 much work and lack of sleep. ❖
- 4.113 nevertheless (adv) /ˌnevəðəˈles/
 despite sth that has just been mentioned
 Sharks don't attack humans often.
 Nevertheless, many people think shark attacks happen every day. ❖
- 4.114 carry out (phr v) /'kæri aʊt/
 to do or complete sth Research is being
 carried out into sleep patterns. ❖
- 4.115 advance (n) /ədvɑːns/
 progress Advances in medical science mean
 that many diseases which were deadly in the
 past can be cured today. ➤ advance (v)
- 4.116 available (adj) /əˈveɪləbl/
 (for things) ready to be used or bought; (for people) ready and with enough time to do sth There were no rooms available at the hotel. ➤ availability (n) ❖ ______
- 4.117 exhibition (n) /ˌeksr'bɪʃn/
 a show of things for people to see, e.g. in a
 museum There was an exhibition of El Greco
 paintings in the museum. ➤ exhibit (v, n),
 exhibitor (n) ❖ ______
- 4.118 regarding (prep) /rɪˈgɑːdɪŋ/
 concerning Regarding space travel for the
 general public, I think it will be too expensive
 for most people. ❖ ______
- 4.119 individual (adj) /ɪndɪˈvɪʤʊəl/
 separate or different from others Our teacher
 writes different comments on each individual
 student's homework. ➤ individual (n)
 ❖
- 4.120 informative (adj) /In¹fɔːmətɪv/
 providing useful facts or ideas This magazine
 has an informative article on space travel.
 > inform (v), information (n) ❖
 ⑤ Opp: uninformative
- 4.121 take an active part in (expr) /teɪk ən ˈæktɪv paːt ɪn/
 to do sth about sth, be involved in sth

 Anna is taking an active part in the fair and this afternoon she's demonstrating her new invention. ❖ ______

- **4.124** user-friendly (adj) /ˌjuːzə ˈfrendli/ easy to use For online lessons, we use an app that was easy to install and is so user-friendly. ❖
- 4.125 function (n) /ˈfʌŋkʃn/
 a program or part of a program on a computer,
 smartphone, etc. that does sth specific

 The program has a 'Search' function.
- 4.126 to my mind (phr) /tʊ maɪ maɪnd/
 in my opinion To my mind, space travel
 for everyone is the most exciting idea of this
 century. ❖ ______
- 4.127 impression (n) /ɪm'preʃn/ the opinion you have about sb/sth because of the way they seem ● The robotics fair made a very good impression as it was so wellorganised. ➤ impress (v), impressive (adj)

Devices and technology

aircraft memory bullet train monitor calculator network central heating power cut charger cable power supply charging point satellite coffee maker security app console server device smart dishwasher telescope doorbell touchscreen drone tracker external hard drive user-friendly fibre optic cable VR headset headphones wireless image the World Wide Web

Video Page 52

- 4.128 server (n) /ˈsɜːvə(r)/
 the main computer that runs a network The company's IT department takes care of any problems with the server. ❖

4.130	via (prep) /ˈvaɪə/ through; using a particular system, person, etc. • They can send you the information via email.	4.134	transmit (v) /trænzˈmɪt/ to pass sth from one person to another ■ A disease can be transmitted through the air, for example when people sneeze.
4.131	console (n) /ˈkɒnsəʊl/		*
	 a device with the controls for a video game We need two video game consoles to play against each other on PlayStation. 	4.135	fibre optic cable (n) /ˌfaɪbər 'ɒptɪk 'keɪbl/ a set of wires that carry internet signals ● Our internet connection is faster now that we have fibre optic cables in the neighbourhood.
4.132	electronic (adj) /ɪˌlek'trɒnɪk/		*
	that has small parts that work through a computer or batteries, etc. ● You can download the book in electronic form. ❖	4.136	speed (n) /spi:d/ how fast sth moves ● This motorbike has a t speed of 220 kilometres per hour. ➤ speed (speedy (adj) ❖
4.133	satellite (n) /'sætəlaɪt/ an object in space that collects and sends information ● Satellites provide signals for worldwide telecommunications. ❖		