

7 SCIENCE AND RESEARCH

STUDENT'S BOOK PAGES 62–63

backing /'bækɪŋ/ Noun

backing for a person or a proposal is support from someone in a position of authority

Collocates: financial backing

with his backing, the project managed to get extra funding | the company received strong financial backing

Verb: back

the government has refused to back the scheme

- suport

breakthrough /'breɪkθruː/ Noun

a breakthrough is an important discovery that is made, especially after a lot of effort

Collocates: a breakthrough in something | make a breakthrough

a major breakthrough in the fight against AIDS | thanks to a recent medical breakthrough, the condition can now be treated

- avenç

breed /briːd/ Verb

when animals breed, they have baby animals. If people breed animals, they keep them and put them together so that they will produce baby animals

scientists have been breeding see-through frogs and fish | the frogs were bred for educational purposes | they bred dairy cows, horses, and pigs

Noun: breeder | Noun: breed

a horse breeder | there are many different breeds of rabbit around the world (many different kinds of rabbit)

- criar

conclusive /kən'kluːsɪv/ Adjective

conclusive evidence is evidence that proves something is definitely true

the evidence is pretty conclusive | there is no conclusive research on this topic yet

Adverb: conclusively | Verb: conclude | Noun: conclusion ||

Opposite – Adjective: inconclusive

a scientific theory is worthless until it has been conclusively proven | the judge arrived at the conclusion that Tyrrell was guilty | the results of the test were inconclusive

- concloent

devise /dɪ'vaɪz/ Verb

if you devise something, you invent something new, or think of a plan for doing something

he has devised a number of vocabulary tests | we devised a plan to keep the hospital open at weekends | students are encouraged to devise their own research methods

- dissenyar

disorder /dɪs'ɔː(r)də(r)/ Noun

a disorder is a medical problem or illness

the genetic disorder was more common than they had realised | our daughter had an eating disorder

- desordre

duplicate /'djuːplɪkət/ Verb

if you duplicate something, you do something that has already been done by you or by someone else

other scientists have yet to duplicate the results | the error was duplicated on both computers, suggesting it was a software issue | there's no reason you can't duplicate your sister's success at university

Noun: duplicate | Adjective: duplicate

he looks like an exact duplicate of his father | a duplicate copy of the contract

- duplicar

extract /ɪk'strækt/ Verb

if you extract something from somewhere, you remove it from there, often with some difficulty

Collocates: extract something from somewhere

they had to extract DNA from a banana | olive oil is extracted by pressing the fruit | salt and other minerals are extracted here

Noun: extraction

the land was sold for oil and gas extraction

- extreure

fragrance /'freɪgrəns/ Noun

a fragrance is a very nice smell. Perfume can also be called fragrance

pineapples have a sweet fragrance when they are ripe | a lovely fragrance filled the room

Adjective: fragrant

the plants were highly fragrant

- fragància

insert /ɪn'sɜ:(r)t/ Verb

if you *insert* something into something else, you put it inside the other thing

Collocates: insert something in/into something

how can I insert my signature into a pdf document? | the doctor inserted a needle into my arm | her hand shook slightly as she inserted the key in the lock

Noun: *insertion* | Noun: *insert*

Collocates: the insertion of something

regular insertion and removal of the plug can make the wires come loose | some advertisers place inserts in the magazine (loose pages carrying advertising)

• *insertar*

pave the way /ˌpeɪv ðə 'weɪ/ Phrase

if something *paves the way*, it creates the right conditions for a later situation to develop

Collocates: pave the way for something | pave the way to something

the findings could pave the way for new techniques | his resignation paved the way for new elections

• *aplanar el camí*

probe /prəʊb/ Noun

a *probe* is a long thin medical instrument that doctors put inside part of someone's body in order to examine it. A *probe* can also be an investigation into something

they stuck probes into the brains of rats | police conducted a probe into the incident

Verb: *probe*

she gently probed the area for any sign of infection

• *sonda*

procedure /prə'si:dʒə(r)/ Noun

a *procedure* is a set of actions that you follow in order to do something correctly. In a hospital, a *procedure* is a particular medical treatment or operation

Collocates: normal/correct/proper procedure

there are concerns about possible negative effects of the procedure | the company's standard procedures for taking on new staff

Adjective: *procedural*

the appeal was dismissed on procedural grounds (because the proper procedure had not been followed)

• *procediment*

shield /ʃi:ld/ Noun

a *shield* is an object that soldiers used to hold in front of themselves for protection when they were fighting. A *shield* is also any object that protects people from a particular danger

Collocates: a shield against something

they want to build a sun shield in space to prevent global warming | police started using riot shields in 1970

Verb: *shield*

he used his hand to shield his eyes from the bright sunlight

• *escut*

slippery slope /slɪpəri 'sləʊp/ Noun

if you say that something is a *slippery slope*, you mean that a situation will become much worse or more extreme and it will be almost impossible to prevent that from happening

to me, the whole experiment is a slippery slope | I agreed to help out at weekends, but I was afraid this was the top of a slippery slope

• *afer relliscós*

stimulus /'stɪmjʊləs/ Noun

a *stimulus* is something which causes a particular reaction or activity

Collocates: a stimulus for something

the workshop is intended to provide a stimulus for creativity | research into how we process visual stimuli

Verb: *stimulate* | Noun: *stimulation*

these toys will stimulate your child's imagination | the main aim is the stimulation of the global economy

• *estímul*

thin end of the wedge /θɪn end əv ðə 'wedʒ/ Phrase

if you say that something is the *thin end of the wedge*, you mean that although it is not seriously bad at the moment, it will certainly lead to a situation becoming much worse

to me, this experiment represents the thin end of the wedge | closing the canteen in the evening is the thin end of the wedge – they'll shut it permanently next

• *la punta de l'iceberg*

undertake /ˌʌndə(r)'teɪk/ Verb

if you *undertake* a task, project, job, etc., you agree that you should do it and you start to do it

researchers undertook the survey to see if there was a link between attitudes and health | you'll need to undertake further training if you want to get ahead in your career

Noun: *undertaking*

building the railway during the winter was an ambitious undertaking

• *emprendre / comprometre's a fer alguna cosa*

STUDENT'S BOOK PAGES 64–65**accelerate** /æk'seləreɪt/ Verb

if something *accelerates*, it starts to move or happen more quickly

the arms race accelerated in the 1950s | the pace of technological change is accelerating | we need to accelerate our progress on this project

- **accelerar**

address /ə'dres/ Verb

if you *address* a problem or difficult situation, you make a serious attempt to understand it and solve it

Collocates: address a problem/issue

I have some personal problems I need to address | many countries still refuse to address the issue of global warming | we help patients address the challenge of living with cancer

- **resoldre**

arms race /'ɑ:(r)mz reɪs/ Noun

an *arms race* is a situation where two countries are each trying to build more weapons than the other

the arms race was accelerating at the time | talks were held to try and slow down the arms race

- **carrera armamentística**

colonial /kə'ləʊniəl/ Adjective

a *colony* is a country that is ruled by another, more powerful country. *Colonial* means relating to a colony or its ruling country

the story had obvious parallels with colonial exploitation | the old colonial powers left Africa in the 1960s | a rebellion against French colonial rule began in Algeria

Noun: *colony*

Georgia became a royal colony in 1752

- **colonial**

devastation /,devə'steɪʃ(ə)n/ Noun uncount

devastation is a lot of destruction and damage over a wide area

it's difficult for us to understand the sheer scale of the devastation | the storm caused widespread devastation across the region

Verb: *devastate* | Adjective: *devastating* |

Adverb: *devastatingly* | Adjective: *devastated*

a bomb devastated the city centre | the utterly devastating power of modern weapons | a devastatingly powerful bomb

- **estrall / destrucció / dalta baix**

hang /hæŋ/ Verb

if something is left *hanging*, it has not been answered or dealt with properly. If people are left *hanging*, they have not been given enough information and are still wondering about something

the film's ending leaves several questions hanging | the last ten pages were missing, and I was left hanging | I can't believe you just left us hanging with no explanation at all

- **pendent**

intent /ɪn'tent/ Adjective

if you are *intent* on doing something, you are concentrating very hard on it and determined to succeed

Collocates: intent on/upon (doing) something

she was intent upon winning the election | he was so intent on finishing his book that he forgot to get off the train

Noun: *intention* | Adjective: *intentional* |

Adverb: *intentionally* | Verb: *intend* | Adjective: *intended* ||

Opposites – Adjective: *unintentional* |

Adverb: *unintentionally* | Adjective: *unintended*

Collocates: intend to do something | intend doing something

it was always my intention to move back to Scotland | I hope his dishonesty was not intentional | Gordon denied that he intentionally left the door open | I don't intend going back to school for another year | the mistake was my fault, but it was unintentional

- **determinat**

lame /leɪm/ Adjective

a *lame* argument, excuse, joke, etc. is one that is very weak and unconvincing

Collocates: a lame argument/excuse/joke

a chilling thriller became a lame comedy | saying your phone was in the other room is a rather lame excuse | the film was full of the lamest jokes imaginable

- **feble**

metaphor /'metəfɔ:(r)/ Noun

metaphor is a way of describing something by calling it something else which you think is the same in some way, though not in all ways. For example, if you say you saw an army of children, you mean there were a lot of them, because an army has a lot of people in it, but you don't mean that the children were soldiers

Collocates: a mixed/extended metaphor

Avatar can be seen as a metaphor for the struggles for control of the Internet | his writing was rich in metaphor

Adjective: *metaphorical* | Adverb: *metaphorically*

Collocates: a metaphorical sense | metaphorically speaking

the plot describes a journey in both a literal and metaphorical sense | Russia is often metaphorically referred to as a bear

- **metàfora**

mutate /mju:'teɪt/ Verb

if a living thing *mutates*, it becomes different from how it was before because of changes in its genes

Collocates: mutate into something

a sea creature that had been mutated by radiation | the two diseases combined and mutated into something much worse | the condition is the result of a number of mutated cells

Noun: *mutation* | Adjective: *mutant*

a genetic mutation that is found in 30% of the population

- *mutar*

plug /plʌg/ Verb

if people *are plugged* into something useful, they know about it and connect with it so that they can benefit from it

the planet is a living network that the natives plug into through fibre-optic cables | several local businesses are already plugged into the scheme

- *promoure / connectar-se*

prompt /prɒmpt/ Verb

if something *prompts* an action or *prompts* someone to do something, it is the reason for the action to start happening or for the person to start doing something

Collocates: prompt someone to do something

the film prompted me to think about what makes sci-fi so great | the decision prompted loud protests from the unions | what he saw in the classroom prompted him to write a textbook

Noun: *prompt*

an on-screen prompt (something on a computer screen that tells you it is ready for the next instruction)

- *motivar / causar*

rebel /rɪ'bel/ Verb

if people *rebel*, they start to fight against or oppose the people who have authority over them

Collocates: rebel against something

they rebelled against the cruelty of their working conditions | when she was told she could not go to university, she openly rebelled

Noun: *rebel* | Adjective: *rebellious* | Noun: *rebellion*

the town was attacked by rebels during the night | rebellious teenagers | the rebellion was quickly crushed

- *rebel·lar-se*

resonate /'rezəneɪt/ Verb

if something *resonates* with people, it seems important to them and has a special meaning for them

Collocates: resonate with someone or something

the film resonated with the political situation at the time | if our message resonates with you, please let us know by liking our videos | the truth and importance of his words still resonate today

Adjective: *resonant* | Noun: *resonance*

his voice was resonant with menace | music of great power and cultural resonance

- *ressonar*

revelation /,revə'leɪʃ(ə)n/ Noun

a *revelation* is surprising information that suddenly becomes known after being secret

what emerged was a shocking revelation of misconduct at the highest levels of government | revelations of an even more extraordinary nature were still to come

Verb: *reveal* | Adjective: *revelatory*

Collocates: reveal that

the article revealed the truth about corruption in the police | travelling across Asia when I was 19 was a revelatory experience

- *revelació*

rouse /raʊz/ Verb

if something *rouses* you, or if you are *roused*, you are made to feel a strong emotion, often with the result that you feel very strongly that you have to take action about something

Collocates: rouse someone to/into (doing) something

fear roused them into action again | he roused himself for a final effort | she was roused to anger by what she saw

- *animar / incitar*

send packing /send 'pækɪŋ/ Phrase

if you *send someone packing*, you tell them very firmly to go away or force them to go away

the invaders were sent packing | he knew she'd send him packing if she found out what he'd done

- *donar el passaport / fer les maletes a algú (sentit figurat)*

strand /strænd/ Noun

a *strand* is one of several parts that make up an idea, plan, or story

the ending leaves a number of plot strands hanging | this is an important strand in current philosophical thinking

- *corrent / tendència*

submit /səb'mɪt/ Verb

if you *submit* to something, you agree to allow it or obey it because you do not have the power or authority to refuse

Collocates: submit to something

I had to submit to a thorough search at the airport | he had been taught to submit to authority | I wasn't prepared to submit to bullying

Noun: *submission* | Adjective: *submissive* |

Adverb: *submissively*

he demanded complete submission to his will | his son was obedient and submissive | he crept submissively out of the room

- **sotmetre's**

test /test/ Noun

a *test* is something that tries to find out how well something works. If something stands a *test*, it is considered to be successful. To *stand the test of time* means to have survived successfully over a long period and still be considered good

Avatar is one story that has stood the test of time | this theory cannot stand the test of serious reasoning

- **examen / prova**

unfold /ʌn'fəʊld/ Verb

if a story *unfolds*, events happen one after the other and more becomes known about it

Collocates: a story/mystery/plot unfolds

reading the letters is like seeing a great mystery unfold | I want to see how the story unfolds | news websites were updated every few minutes as the crisis unfolded

- **desenvolupar-se / desplegar-se**

utter /'ʌtə(r)/ Adjective

you use *utter* to emphasise how bad something is or how strong a particular feeling is

everything you've just said was complete and utter nonsense | I had never experienced such utter despair | Conroy displayed utter contempt for his victims

Adverb: *utterly*

this whole situation is utterly absurd

- **absolut**

wreak /ri:k/ Verb

if something *wreaks* havoc or destruction, it causes a lot of damage or disorder

Collocates: wreak havoc/destruction/devastation, etc. (on something)

the storm wreaked widespread destruction along the coast | a second computer virus wreaked havoc on our systems

- **provocar / causar**

STUDENT'S BOOK PAGES 66–67**anomaly** /ə'nɒməli/ Noun

an *anomaly* is something that looks like a mistake because it is different from what would normally be expected

there appeared to be several anomalies in the accounts | it was several weeks before anyone noticed the anomaly

Adjective: *anomalous*

there was something anomalous about the test results

- **anomalia**

anonymously /ə'nɒnɪməsli/ Adverb

if you do something *anonymously*, you do it without your name being known

it was published anonymously on the Web | you can call this number anonymously and get advice

Adjective: *anonymous* | Noun: *anonymity*

an anonymous caller told the police where to find the body | no need to register, so anonymity is guaranteed

- **de manera anònima**

attribute /ə'trɪbjʊ:t/ Verb

if something *is attributed* to something else, the second thing is considered to be the reason for or cause of the first thing

Collocates: attribute something to something

the deaths were attributed to heart disease | to what do you attribute your success? | problems on the roads were attributed to a combination of fog and ice

- **atribuir**

belief /bɪ'li:f/ Noun

belief is certainty of the truth of something

Collocates: belief in something

contrary to popular belief, crime has been falling (most people think the opposite) | she has a strong belief in God

- **creença**

commission /kə'mɪʃ(ə)n/ Verb

if you *commission* someone, you formally ask them to do an important piece of work, such as write an expert report, paint a portrait, or design a building. A *commission* is the job that has to be done. The group of people who work on preparing such a report are also called a *commission*

who was the report commissioned by? | we've commissioned some research into the matter | in 1998, NPG began commissioning portraits of presidents, starting with George H. W. Bush

Noun: *commission*

she has received several public commissions

- **encarregar**

contract /kən'trækt/ Verb

if you *contract* an illness, you start to have it
there are four common ways of contracting the disease | at least 20 people in the city contracted AIDS last year

- **contreure**
-

counter- /,kaunt(ə)r-/ Prefix

you use *counter-* in front of some adjectives to make an adjective that is the opposite. For example, something that is *counterintuitive* is not what your intuition would expect. Something that is *counterproductive* does not produce the result that was intended

this statistic seems counterintuitive, but only if you ignore the other evidence | too much time in the classroom can be counterproductive

- **prefix de contrari a alguna cosa**
-

dump /dʌmp/ Verb

if you *dump* something somewhere, you throw it there carelessly and untidily. When there is a lot of rain or snow, you can say that it was *dumped*

two feet of snow were dumped on the South of England last night | the storm dumped twice the usual annual snowfall in only three days

- **desfer-se d'alguna cosa / abocar**
-

empowering /ɪm'paʊə(r)ɪŋ/ Adjective

if something is *empowering*, it helps you find the strength and authority to take control of a situation

I found the course empowering and life changing | it was an extremely empowering moment when I realised I could say no

Verb: *empower* | Noun: *empowerment*

the aim is to empower students to work independently | self empowerment has to come from within

- **que dona forces**
-

end /end/ Noun

an *end* is a result that someone wants to achieve, or the purpose of what they are trying to do

the company twisted the figures to suit its own ends | the end justifies the means (if the result is important, it doesn't matter how you achieve it)

- **fi**
-

exhibit /ɪg'zɪbɪt/ Verb

if someone *exhibits* a particular quality, emotion, or behaviour, they are seen to have that quality or emotion, or to behave in that way

those kids who had been kept at home exhibited more aggression | many of them exhibit signs of clinical depression

- **mostrar**
-

flawed /flɔ:d/ Adjective

if something is *flawed*, it has some mistakes

Collocates: *fatally/fundamentally/deeply flawed*

he had a flawed understanding of economics | there was a good deal of flawed reasoning in the article | his argument was deeply flawed

Noun: *flaw*

Collocates: *a fundamental/serious flaw | a minor flaw*

we fixed a few minor flaws in the program

- **defectuós**
-

follow-up /'fɒləʊʌp/ Noun

a *follow-up* is something that is done to add to or to check that earlier work was done properly and successfully

a follow-up visit to the doctor two weeks after the operation

Phrasal verb: *follow up*

all patients were followed up within six weeks

- **seguiment**
-

fundamentally /,fʌndə'ment(ə)li/ Adverb

fundamentally is used to emphasise that you are talking about the very basic and most important aspects of something

the analysis was fundamentally wrong | I fundamentally disagree with him on the topic | social media has fundamentally changed the way our marketing department works

Adjective: *fundamental*

housing has been declared a fundamental human right

- **fonamentalment**
-

grip /grɪp/ Noun

if you have a *grip* on something, you are holding it firmly in your hand. If you have a *grip* on a problem or difficult situation, you are in control of it and able to prevent any problems developing. If you *get to grips* with something, you make a determined effort to understand it or learn how to do it

Collocates: *get/have/take a grip on something | get to grips with something*

I'm finally getting to grips with social media | we need to get to grips with stats

- **subjecció / control**
-

hole /həʊl/ Noun

if there are *holes* in a story, plan, or theory, there are serious weaknesses or faults in it

his account was full of holes | it was an interesting theory, but on closer scrutiny there were holes in it

- **forat / error**
-

inflate /ɪnˈfleɪt/ Verb

if you *inflate* something such as a tyre or balloon, you fill it with air. If you *inflate* the amount or influence of something, you make it bigger or more important than it really is or than it is meant to be

they were accused of inflating the figures | it is alleged that he artificially inflated his fees | hotels inflate their prices over the holiday period

Adjective: *inflated*

he had an inflated sense of his own importance

- ***inflar***

inform /ɪnˈfɔː(r)m/ Verb

if something *informs* a decision or development, it influences it

statistics are used to inform policy development | our decision was informed by a desire to finish the project as soon as possible | lack of resources informed the later strategy

- ***influir en alguna cosa***

lead /liːd/ Verb

if a newspaper or news broadcast *leads* with a story, that is the most important story and is dealt with first

newspapers led with the state visit of the Emperor of Japan | TV news led with the story about flooding in Cumbria

Noun: *lead*

the lead item on the news bulletin

- ***encapçalar***

leap /liːp/ Verb

if a number or quantity *leaps*, it suddenly gets much bigger

the number of injuries leapt suddenly | inflation leapt to 20%

Noun: *leap*

there's been another leap in unemployment

- ***pujar de sobte***

peer /piə(r)/ Noun

your *peers* are people who are the same as you in terms of education, age, and status. If a piece of research is *peer reviewed*, it is examined by several people who are also expert in that field to make sure it is of good quality

Collocates: *peer review | peer pressure*

has the research been peer reviewed? | he started smoking because of peer pressure (because he wanted to be like the other people he was friends with and who smoked)

- ***igual / coetani***

pressure /ˈpreʃə(r)/ Verb

if someone is *pressured* into doing something they do not really want to do, they are forcefully persuaded to do it

Collocates: *pressure someone into doing something | pressure someone to do something*

researchers may get pressured into finding positive results | over 70% of girls in that age group felt pressured to be beautiful | the mayor pressured the police to make a swift arrest

Noun: *pressure*

Collocates: *under pressure | apply pressure | put pressure on someone*

my dad put a lot of pressure on me to get into Oxford

- ***pressionar***

random /ˈrændəm/ Adjective

random things or events happen without being planned or without a known method so you cannot know in advance what is going to happen

Collocates: *at random*

the sample group wasn't chosen at random | these were random events that were out of our control | English spelling often seems quite random

Adverb: *randomly* | Verb: *randomise*

the questions are randomly chosen | each time, the cards appeared in a different randomised order

- ***aleatori***

scrutiny /ˈskruːtɪni/ Noun uncount

scrutiny is careful examination and consideration of something. If something does not *stand up to scrutiny*, faults become apparent when you examine it carefully

the figures don't stand up to scrutiny | their intention was to avoid public scrutiny

Verb: *scrutinise*

the company figures were scrutinised by two independent accountants

- ***escrutini***

time frame /ˈtaɪm freɪm/ Noun

a *time frame* is a limited amount of time that is available for a task to be carried out

the time frame for each lesson is between 30 and 40 minutes | you must send in your application within a two-week time frame

- ***límit de temps / termini***

toss /tos/ Verb

if you *toss* a coin, you throw it in the air and let it fall to the ground, then you look to see which side faces up. The two sides are called heads and tails. You sometimes do this to make a choice between two things. For example, if you can't decide whether to go to the cinema or a gig, you *toss* a coin, and if it's heads you go to the cinema, if it's tails you go to the gig

the probability of tossing a coin twice and getting two heads is 25% | let's toss a coin to see who goes first

Noun: *toss* | Noun: *toss-up*

the referee called the two captains over for the toss (at the start of a football match, to decide which team will kick off) | it's a toss-up where to go for the best food (several places are all equally good)

- *llançar*

trustworthy /ˈtrʌs(t)wɜː(r)ðɪ/ Adjective

someone or something that is *trustworthy* is reliable, truthful, and can be trusted

is the report trustworthy? | you need to appoint a trustworthy person to the job | his memory is not entirely trustworthy

- *confiable*

twist /twɪst/ Verb

if you *twist* something such as the truth or someone's words, you present something in a slightly different and untrue way

the company twisted the figures to suit its own ends | don't twist my words, Jack | most politicians will twist the truth if they think it will win them a few more votes

Adjective: *twisted*

they'll justify what they do with their own twisted logic

- *tergiversar*

variable /ˈveəriəb(ə)l/ Noun

a *variable* is something which is different in different situations

water temperature is another independent variable | an example of a measured variable would be the height of a human being

Adjective: *variable* | Adverb: *variably* | Verb: *vary* |

Opposites – Adjective: *invariable* | Adverb: *invariably*

the colour of the apples is quite variable | the car behaved variably over the 24 hours of the race | the cost varies according to the time of year | he was invariably late for meetings

- *variable*

vested interest /ˌvestɪd ˈɪntrəst/ Noun

if you have a *vested interest* in something, you want it to happen or succeed because you will get a benefit or advantage from it. *Vested interests* are people or groups who will benefit from a particular situation

Collocates: a *vested interest* in (doing) something

they have a vested interest in making sure all the students pass the exam | vested interests are eager for the war to continue so they can sell more weapons

- *interès creat*