

● Science and technology

Topic vocabulary in contrast

see page 187 for definitions

artificial / false	aim / cause / reason	progress / development
natural / physical	estimate / calculate	modern / new
true / accurate	electric / electronic	industry / factory
method / way	invent / discover	award / reward
engine / machine / motor	research / experiment	take place / occur

Phrasal verbs

break down stop working (for a machine, etc)	give off produce sth such as heat or a smell
carry out perform an experiment, etc	narrow down reduce the number of possibilities
come off succeed	plug in connect to the electricity supply
come on develop or make progress	put through connect by phone
come up with think of (an idea, a plan, etc)	turn into change into sth different
cut off stop the supply of sth	turn off stop a machine working
find out discover information, etc	work out find the solution to a problem, etc

Phrases and collocations

attempt	make an attempt (at sth/doing / to do); attempt to do; in an attempt to do
average	on average
beginning	in the beginning; at the beginning (of sth); beginning with
bottom	at/on the bottom (of sth)
cause	(be/find/look for/etc) the cause of sth
conclusion	come to/reach the conclusion (that); in conclusion
experiment	do/perform/carry out an experiment (on sth); experiment with sth/doing
fact	in fact; as a matter of fact; the fact (of the matter) is (that); face the facts
introduction	with the introduction of sth; an introduction to sth/sb
phone call	make/receive/get a phone call
photo(graph)	take a photo (of sth/sb)
research	carry out / do research (on/into sth)

Word patterns

cause sth (to do)	look at/for sth/sb; look forward to sth/doing
consider sth/doing; consider if/whether; consider sb for sth; consider it strange, etc (for sb to do)	manage to do
discuss sth/doing (with sb)	plan sth; plan to do
explain that; explain sth (to sb)	possible (for sb) to do; find sth possible; find it impossible to do
intend to do/doing	result of sth/doing; result in sth; result in (your) doing; result from sth/doing; as a result of sth
know (about) sth/doing; know of sb; be known as sth	wonder about sth/doing; wonder if/whether/why

Word formation

appear appearance, apparently	introduce introduction, introductory	research researcher
build builder, building	invent inventor, invention	revolution revolutionary
discover discovery	observe observer, observation	science scientist, (un)scientific(ally)
explain explanation	possible impossible, (im)possibility, (im)possibly	technology technological(ly), technical(ly); technician, technique
important unimportant, importance, importantly	psychology psychologist, psychological(ly)	wood wooden

Topic vocabulary in contrast**A Choose the correct answer.****Modern science**

It seems entirely (1) to us that there are teams of scientists in universities and other institutions around the world, attempting to (2) the way the world works. However, it hasn't always been that (3) Although the scientific method is now four or five hundred years old, the ancient Greeks, for example, believed that they could work out the (4) of natural events just by the power of thought.

During the 17th century, more and more people began to realise that they could (5) their scientific ideas by designing a relevant (6) and seeing what happened. A lot of (7) was made in this way by individual scientists. These men and women often worked alone, carrying out (8) into many different areas of science, and they often received very little (9) for their hard work. At the start of the 20th century, though, it became (10) that science was becoming more complicated and more expensive. The individual scientist disappeared, to be replaced by highly qualified teams of experts. Modern science was born.

1	A physical	B natural	C typical	D real
2	A create	B invent	C construct	D discover
3	A route	B method	C way	D technique
4	A aims	B reasons	C causes	D impulses
5	A calculate	B estimate	C measure	D test
6	A experiment	B research	C attempt	D analysis
7	A development	B movement	C progress	D evolution
8	A research	B experiment	C discovery	D education
9	A award	B prize	C gift	D reward
10	A clear	B true	C accurate	D actual

B Circle the correct word.

- Many materials have been used for **artificial** / **false** teeth, including wood.
- Be careful! You might give yourself an **electric** / **electronic** shock!
- I'm afraid the problem with your washing machine is the **engine** / **motor**.
- Many employers in the chemicals **industry** / **factory** object to the new law.
- My computing exam is **taking place** / **occurring** next week.
- Technology is a fundamental part of **new** / **modern** life.
- We had our car serviced and it seems there's a problem with the **engine** / **machine**.

Phrasal verbs**C Complete using the correct form of the words in the box.**

plug • turn • carry • narrow • put • work • come • break

- A lorry had down on the motorway and we had to wait for over an hour.
- I have it down to two computer games, but I still can't make up my mind.
- I wish you would the TV off and go outside and get some exercise.
- Scientists are trying to out ways to reduce pollution from aircraft.
- Tomorrow, we will be out an experiment to test this theory.
- Who up with the idea of the ball-point pen?
- I'll just you through to our research department. Please hold on.
- No wonder the vacuum cleaner isn't working. You haven't it in!

D Match to make sentences.

1	Alex's electricity was cut	A	off because she forgot to pay the bill.
2	Wear a mask because these chemicals give	B	metals such as lead into gold.
3	I'm writing an essay and I need to find	C	out who discovered penicillin.
4	I was pleased that our gamble came	D	on in physics over the last year.
5	Alchemists spent years trying to turn	E	off fumes that can be harmful.
6	Your teacher says you've really come	F	off and the experiment was a success.

Phrases and collocations**E** Choose the correct answer.

- 1 I don't think people should be allowed to perform experiments animals.
A for B over C on D to
- 2 There was an explosion in technology the beginning of the 20th century.
A in B at C through D on
- 3 Let's face – we are destroying the environment and we need to do something now.
A truth B facts C things D information
- 4 The distance from the Earth to the Sun is, average, about 149 million kilometres.
A by B on C from D in
- 5 It's amazing that creatures survive the bottom of the ocean.
A in B by C at D to
- 6 Fox Talbot the first photograph in 1835.
A gave B did C drew D took
- 7 Researchers have to the conclusion that your personality is affected by your genes.
A come B got C reached D arrived
- 8 Do you mind if I just a quick phone call from here?
A do B take C have D make
- 9 Many lives were saved the introduction of antibiotics.
A into B at C with D in
- 10 The of the nuclear accident is still unknown.
A reason B cause C base D motive
- 11 My father works at the university, doing research weather control.
A on B to C of D from
- 12 The telescope will photograph distant galaxies, an attempt to understand their past.
A on B for C with D in

Word patterns**F** Find the extra word in each line.**The future**

- 1 We were discussing about the future in class today. Some people were
- 2 wondering it whether we would have to live in space when we destroy
- 3 our own planet. I explained them that the answer lies in technology because
- 4 scientists are intend to develop forms of energy that will not damage the
- 5 environment. The problems caused as being a result of technology will be
- 6 solved by technology. I am look forward to our next discussion.

G Complete each second sentence using the word given, so that it has a similar meaning to the first sentence. Write between two and five words in each gap.

- 1 The mistake by scientists caused a massive explosion. **in**
The mistake by scientists a massive explosion.
- 2 Dr Atherton finally succeeded in discovering the secret formula. **managed**
Dr Atherton finally the secret formula.
- 3 Another name for iron oxide is 'fool's gold'. **as**
Iron oxide 'fool's gold'.
- 4 Many local residents intend to protest about the nuclear power plant. **plan**
Many local residents about the nuclear power plant.
- 5 We are thinking of appointing Dr Knight to the position of Professor. **considering**
We the position of Professor.
- 6 We cannot live in outer space without special equipment. **us**
It to live in outer space without special equipment.

Word formation

H Use the word given in capitals at the end of each line to form a word that fits in the gap in the same line.

Qualcomp Powertop

Qualcomp have just brought out their (1) new handheld computer, the Powertop. It's (2) not to love it, with its smooth, shiny (3) and its bright screen. It might not be the best (4) to handheld computing because it is quite advanced, but you'll find an (5) of all the features in the detailed manual. The Powertop has been (6) designed to fit a lot of computing power in your palm. The (7) of a unique wireless Internet connection means there's a world of (8) just waiting for you. We give the Powertop nine out of ten.

REVOLUTION
POSSIBLE
APPEAR
INTRODUCE
EXPLAIN
SCIENCE
INVENT
DISCOVER

I Complete the sentences by changing the form of the word in capitals when this is necessary.

- 1 Did you know that George Washington had (**WOOD**) teeth?
- 2 The old astronomer patiently made his (**OBSERVE**) and wrote down what he saw.
- 3 (**RESEARCH**) have announced that a major breakthrough has been made.
- 4 I'm planning to train as a (**PSYCHOLOGY**) when I grow up.
- 5 That red (**BUILD**) over there is the Science Department.
- 6 The scientist said she had an announcement of international (**IMPORTANT**).
- 7 *Science Weekly* has a special (**INTRODUCE**) offer – the first issue is free!
- 8 If there are aliens out there, do you think they are much more (**TECHNOLOGY**) advanced than we are?