Science and technology

Topic vocabulary in contrast

see page 199 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.

1 Many materials have been used for **artificial / false** teeth, including wood.
2 Be careful! You might give yourself an **electric / electronic** shock!
3 I'm afraid the problem with your washing machine is the **engine / motor**.
4 Many employers in the chemicals **industry / factory** object to the new law.
5 My computing exam is **taking place / occurring** next week.
6 Technology is a fundamental part of **new / modern** life.
7 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

1 A lorry had ..... down on the motorway and we had to wait for over an hour.
2 I have ..... it down to two computer games, but I still can't make up my mind.
3 I wish you would ..... the TV off and go outside and get some exercise.
4 Scientists are trying to ..... out ways to reduce pollution from aircraft.
5 Tomorrow, we will be ..... out an experiment to test this theory.
6 Who ..... up with the idea of the ball-point pen?
7 I'll just ..... you through to our research department. Please hold on.
8 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	**REVOLUTION**
computer, the Powertop. It's (2) ..... not to love it, with its	**POSSIBLE**
smooth, shiny (3) ..... and its bright screen. It might not be the	**APPEAR**
best (4) ..... to handheld computing because it is quite advanced,	**INTRODUCE**
but you'll find an (5) ..... of all the features in the detailed manual.	**EXPLAIN**
The Powertop has been (6) ..... designed to fit a lot of computing	**SCIENCE**
power in your palm. The (7) ..... of a unique wireless Internet	**INVENT**
connection means there's a world of (8) ..... just waiting for you.	**DISCOVER**
We give the Powertop nine out of ten.	

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?