

English language

Action Pack 12

2017/2018

Reading and Vocabulary / level 3

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Education

reasons	أسباب	features	الميزات
causes	الأسباب	qualities	الصفات
factors	العوامل	characteristics	مميزات
results	النتائج	ways	طرق
effects	تأثيرات	methods	أساليب
consequences	الآثار	procedures	الإجراءات
impacts	الآثار	tips	نصائح
benefits	فوائد	steps	خطوات
advantages	مزايا	aims	أهداف
positive	إيجابي	purposes	المقاصد / أهداف
disadvantages	سلبية	goals	أهداف
negative	سلبي	kinds	أنواع
examples	أمثلة	Forms of	أشكال من
suggest	اقترح	types	أنواع
mention	اذكر	Write down	اكتب

Quote the sentence which shows

اقتبس الجملة التي تظهر

Find a word in the text which means ...

جد كلمة في النص تعني

Find a phrase in the text which means

جد عبارة في النص تعني

What does the underlined word refer to

الى ماذا تشير الكلمة التي تحتها خط

Write down your point of view

اكتب وجهة نظرك

Pronouns :

they, them , their	تشير الى اسم جمع
He, him, his	اسم مفرد مذكر
She, her	اسم مفرد مؤنث
It, its	اسم مفرد غير عاقل
who	عاقل
which	غير عاقل
where	مكان
when	زمن
This, that	مفرد
These, those	جمع

Unite one

calculation	a way of using numbers in order to find out an amount	حساب
computer chip	small piece inside a computer which stores information	رقائق الكمبيوتر
Floppy disk	a flexible, removable magnetic disk that stores computer information	القرص المرن
PC	personal computer, a computer that is used by one person at a time	كمبيوتر شخصي
program	A set of instructions enabling a computer to function	برنامج كمبيوتر
Programme	content which is intended to be listened to on radio or watched on television	برنامج
blog	personal website or web page, usually regularly updated written in an informal style	
social media	Social interaction between people and communities on websites	وسائل التواصل الاجتماعي
whiteboard	a touch screen computer program that enables you to draw sketches, write and present ideas	
access	to find information, especially on a computer	وصول
filter	a program that checks whether certain content on a web page should be displayed to the viewer	تصفية
identity fraud	Illegal actions using the identity of someone else	تزوير الهوية
privacy settings	controls available on social networking sites which let you decide who can see what information	إعدادات الخصوصية
Security settings	controls available on computer programs which let you protect your computer from viruses	إعدادات الأمان
user	a person who uses a product or service,	مستخدم
rely on	to have trust or confidence in something or someone	يعتمد على
post	to put a message or document on the Internet	نشر
communicate	<i>speak to</i>	يتواصل

share	To give your ideas to others	يشارك
compare	how their ideas are similar and different	يقارن
create	To construct a website that doesn't exist	خلق
contribute to	Offer your work to a website	يساهم
research	To find the information you need	يبحث
present	To give the results of your research in a presentation	تقديم
monitor	You know what is happening and you are following the development	رصد
find out	You don't know what is happening and you want to discover it	يجد , يكتشف
give talk to	Prepared speech to people	خطاب
talk to	Informal discussion	يتحدث
show	To show people something	يعرض
send	To send something over internet or by post	يرسل

The History of Computers (SB PAGE 6)

When you are using a computer, think about the technology that is needed for **it (1)** to work. People have been using types of computers for thousands of years. A metal machine was found on the seabed in Greece that was more than 2,000 years old. It is believed that this was the first ever computer.

In the 1940s, technology had developed enough for inventors to make the first generation of modern computers. One such model was so large that **it (2)** needed a room that was 167 square metres to accommodate **it (3)**. During that decade, scientists in England developed the first computer program. It took 25 minutes to complete one calculation. In 1958 CE, the computer chip was developed.

The first computer game was produced in 1962 CE, followed two years later by the computer mouse. In 1971 CE, the floppy disk was invented, which meant that information could be shared between computers. The first PC (personal computer) was produced in 1974 CE, so people could buy computers to use at home.

In 1983 CE, people could buy a laptop for the first time. Then, in 1990 CE, the British scientist Tim Berners-Lee developed the World Wide Web. It was not until 2007 CE that the first smartphones appeared. Today, most people use **their** mobile phones every day. What will happen in the future? You can already buy watches which can do the same as mobile phones. Scientists have also developed glasses that are capable of doing even more than this.

Life in the future is going to see further changes in computer technology. It is likely that all aspects of everyday life will rely on a computer program, from how we travel to how our homes are heated.

Pronouns:

It (1): a computer

It (2) + (3): model

Their: people

1. Find one sentence with each of the following grammatical structures.
A: the present simple passive. B: the past perfect.
2. Write down a sentence which shows that the first modern computers were very large.
3. It is expected that computer technology will likely generate several benefits to transport and travel. Think of this statement and, in two sentences, write down your point of view.
4. When was the first laptop produced?
5. Find a phrasal verb in the text which means “**To have trust or confidence in something**”.
6. In the 1970s computer technology had many important developments. Write down two of them.
7. Quote a sentence which indicates the place where the first ever computer found.
8. We rely more and more on computer technology. Suggest three benefits of computer technology.

Young people love learning, but they like learning even more if they are presented with information in an interesting and challenging way. Today, I am going to give a talk about how you can use technology in Jordanian classrooms.

Here are some ideas:

Many classrooms now use a whiteboard as a computer screen. As a consequence, teachers can show websites on the board in front of the class. Teachers can then use the Internet to show educational programmes, play educational games, music, recordings of languages, and so on.

In some countries, tablet computers are available for students to use in class. Therefore, students can use the tablets to do tasks such as showing photographs, researching information, recording interviews and creating diagrams. Tablets are ideal for pair and group work.

Teachers can perhaps ask **their(1)** students to start writing a blog (an online diary), either about **their(2)** own lives or as if **they(1)** were someone famous. **They(2)** can also create a website for the classroom. Students can contribute to the website, so for example **they(3)** can post work, photos and messages.

Most young people communicate through social media, by **which they(4)** send each other photos and messages via the Internet. Some students like to send messages that are under 140 letters for anyone to read. Teachers can ask students to summarise information about what **they(5)** have learnt in class in the same way. If students learn to summarise quickly, **they(6)** will be able to use this skill in future.

We all like to send emails, don't we? Email exchanges are very useful in the classroom. Teachers can ask students to email what **they(7)** have learnt to students of a similar age at another school. **They(8)** could even email students in another country. As a result, students can then share information and help each **other** with tasks.

Another way of communicating with other schools is through talking to people over the computer. Most computers have cameras, so you can also see the people you are talking to. In this way, students **who** are studying English in Jordan can see what students in England are doing in the classroom while **they(8)** are speaking to **them(1)**. You can also use this system to invite guest speakers to give talks over a computer. For example, scientists or teachers from another country could give a lesson to the class. If you had this type of lesson, the students would be very excited.

Students often use computers at home if **they(9)** have **them(2)**. Students can use social media on **their(3)** computers to help **them(3)** with **their(4)** studies, including asking other students to check and compare **their(5)** work, asking questions and sharing ideas. The teacher must be part of the group, too, to monitor what is happening.

Thank you for listening. Does anyone have any questions?

Pronouns:

their (1)	teachers	they(4)	Young people
their(2,3, 4, 5)	Students	they(5, 6, 7,8 , 9)	students
they(1)	Students	others	students
they(2)	teachers	who	students
they(3)	Students	them(1)	Students in England
which	Social media	them(2)	Computers
		them (3)	students

1. Digital information (the internet) can be used to educate people in a variety of ways. Write down two ways of them.
2. Why do many class rooms now use whiteboards as a computer screen?
3. Nowadays, Tablets can be used to do many tasks in the classrooms. Write down two of them.
4. Tablets are ideal for pair and group work in a classroom. Write down the reason for that.
5. Email exchanges are very useful in the classroom. Write down two benefits of email exchanges.
6. whom can students exchange emails with?
7. According to the text there are many ways of communicating other schools. Write down two ways of them .
8. Students can use social media on their computers to help them with their studies in many ways. Write down two of them.
9. There are many benefits of using social media to help students with their studies. Write down two benefits.
10. Why should teachers be part of students' groups on social media?
11. Write down a sentence which indicates that teachers should take part in students' groups on social media.
12. Is the writer positive about using technology in class? Why?

A what is the ‘ Internet of Things’

Everyone knows that the Internet connects people, but now it(1) does more than that – it(2) connects objects, too. These days, computers often communicate with each other(1); for example, your TV automatically downloads your favourite TV show, or your ‘sat nav’ system tells you where you are. This is known as the ‘Internet of Things’, and there’s a lot more to come.

B An easy life

In just a few years’ time, experts say that billions of machines will be connected to each other (2) and to the Internet. As a consequence, computers will increasingly run our lives for us. For example, your fridge will know when you need more milk and add it (2) to your online shopping list; your windows will close if it is likely to rain; your watch will record your heart rate and email your doctor; and your sofa will tell you when you need to stand up and get some exercise!

C A frightening future

Many people are excited about the ‘Internet of Things’. For them (1), a dream is coming true. They say that our lives will be easier and more comfortable. However, others are not so sure. They want to keep control of their own lives and their own things. In addition, they wonder what would happen if criminals managed to access their passwords and security settings. The dream could easily become a nightmare!

Pronouns :

it (1)	the internet	It (3)	milk
it (2)	the internet	them (1)	people
other (1)	computers	they	people
other (2)	billions of machines		

1. Find a word in the text which has the same meaning as “speak to”.
2. What does the underlined word in the last paragraph “ them” refer to?
3. Find a phrase in the text which means” **the connection between different computers.**”.
4. Why are many people excited about the “Internet of Things”.
5. Some people are worried about the “ Internet of Things”. Write down two reasons for that.
6. Give two examples of the “Internet of Things”.
7. How will the “Internet of Things” help people to keep fit?
8. How will the “Internet of Things” affect travel?
9. Suggest two dangers (disadvantages) of the “ Internet of Things”.

Unit Two : A Healthy Life

acupuncture	A system of complementary medicine in which needles	الوخز بالإبر
ailment	illness	مرض
allergy	A reaction of the immune system when it's sensitive to something	حساسية
arthritis	A disease causing painful inflammation and stiffness to the joints	التهاب المفاصل
herbal remedy	A mixture of a plant used to prevent or cure a disease	العلاج بالإعشاب
homoeopathy	a system of complementary medicine in which illnesses are treated by minute doses of herbs and other natural substances.	لمعالجة المثلية معالجة بالإعشاب أو المواد الطبيعية
Immunization	the process by which an individual's immune system becomes protected against an illness.	التلقيح
malaria	a dangerous disease transmitted by mosquitoes.	ملاريا
migraine	a very bad headache which often comes with a feeling of sickness	صداع الشقيقة
Sanitation	The systems which supply water and deal with human waste	الصرف الصحي
dental	Relating to teeth	طب الأسنان
Infant mortality	Death amongst babies and children	وفيات الأطفال
Work force	The people who are able to work	القوى العاملة
strenuous	Using or needing a lot of effort	
conventional	Having been used for a long time and	تقليدي
complementary medicine	Medical treatment which provides an alternative to scientific medical practices	العلاج التكميلي
viable		قابل للحياة
alien	stranger	غريب
Sceptical	Having doubts	متشكك
Stress		توتر
Controversial		مثير للجدل

Colour idioms

idiom		
the green light	Permission	إعطاء الإذن
red-handed	In the act of doing something wrong	الجرم المشهود
out of the blue	Unexpectedly	مفاجئ / متوقع غير
a white elephant	A useless possession	الفائدة عديمة ملكية
See red	To be angry	يغضب
Feel blue	To feel sad	

cope with	to deal successfully with, or handle a situation.	يتعامل مع
bounce back	to start to be successful again after a difficult time.	التنهوض بعد الفشل
focus on	to direct your attention or effort at something specific.	يركز على

Complementary medicine: is it really a solution?

Most doctors used to be sceptical about the validity of homoeopathy, acupuncture and other forms of complementary medicine. If patients wanted to receive this kind of non-conventional treatment, **they** used to have to consult a private practitioner **who** was likely not to have a medical degree. However, in recent years, the perception of this type of treatment has changed. These days, many family doctors study complementary medicine alongside conventional treatments, and many complementary medicine consultants also have medical degrees.

Whereas critics used to say that there was no scientific evidence that non-conventional treatments actually worked, now it is more common for medical experts to recognise that conventional medicine may not always be the only way to treat an ailment.

At a surgery in London, 70 per cent of patients **who** were offered the choice between a herbal or a conventional medicine for common complaints such as insomnia, arthritis and migraines chose the herbal remedy. Fifty per cent of patients then said that the treatment helped. One doctor said, "**I** now consider homoeopathy to be a viable option for many different conditions, including anxiety, depression and certain allergies. **It** provides another option when conventional medicine does not address the problem adequately."

However, complementary medicine cannot be used for all medical treatments. **It** can never substitute for immunisations as **it** will not produce the antibodies needed to protect against childhood diseases. **It** also cannot be used to protect against malaria.

One doctor said, "**I** will always turn to conventional medical treatment first to ensure that no underlying condition is missed. However, the idea of complementary treatments is no longer an alien concept. In **my** opinion, **it** (1) should work alongside modern medicine, and not against **it** (2)."

Pronouns:

Paragraph one	they	patients
	who	practitioner
Paragraph three	who	patients
	I	One doctor
	It	homoeopathy
Paragraph four	It	complementary medicine
Paragraph five	I	One doctor
	my	One doctor
	It (1)	complementary treatment
	It (2)	modern medicine

1. There are many forms of complementary treatments. Write down two forms of them.
2. The article suggests that people's perception of complementary medicine has changed over time. Why do you think this is the case?
3. At the surgery mentioned in the article, the majority of patients found that the herbal remedy helped them for many diseases. Write down two diseases of them.
4. Quote a sentence which indicates that Complementary medicine can't work as a replacement for all medical treatments.
5. Homoeopathy to be a viable option for many different conditions. Write down two conditions of them.
6. According to the article, Complementary medicine can't work as a replacement for all medical treatments. Is he justified in this. Explain.
7. Complementary medicine can't work as a replacement for all medical treatments. Give two examples.
8. Complementary treatments should work alongside modern medicine, not against it." Explain this statement in two sentences, justifying your answer with examples from the article.

Are happier people healthier – and, if so, why?

It's normal to feel a bit blue from time to time. However, studies show that negative emotions can harm the body.

Anger can also have harmful effects on health. When you see red, your blood pressure is raised and you can suffer from headaches, sleep problems and digestive problems. However, what about positive feelings and attitudes? Until recently, scientists had not investigated whether there is a link between positive feelings and good health.

Then, in a study that had followed more than 6,000 men and women aged 25 to 74 for 20 years, researchers found that positivity reduced the risk of heart disease. Other factors influencing health included a supportive network of family and friends, and an optimistic outlook on life.

The research showed that children **who** were more able to stay focused on a task, and **who** had a more positive attitude to life at age seven, were usually in better health 30 years later.

The study has been controversial. Some health professionals believe that bad lifestyle choices, such as smoking or lack of exercise, are the reason for heart disease and other illnesses, and not an individual's attitude. The researchers, while agreeing, raise the question: why are people making bad lifestyle decisions? Do more optimistic people make better and healthier lifestyle choices?

The researchers appreciate that not everyone's personal circumstances and environment make it possible to live without worry. However, **they** believe that if we teach children to develop positive thinking, and to 'bounce back' after a setback, these qualities will improve **their** overall health in the future.

who	children
they	The researchers
their	children

1. There are many negative consequences of anger and stress on someone's health. Write down two consequences of them.
2. There are many factors that have positive effects on someone's health. Write down two of them.
3. Some health professionals believe that bad lifestyle choices are the reason for several diseases. Write down two bad lifestyle choices.
4. Some researchers believe that some qualities can improve children overall health in the future. Write down two of them.
5. It is believed that more optimistic people make better and healthier lifestyle choices. Think of this statement, in two sentences, write down your point of view.

Health in Jordan: A report

Introduction

Health conditions in Jordan are among the best in the Middle East. This is largely due to the country's commitment to making healthcare for all a top priority. Advances in education, economic conditions, **sanitation**, clean water, diet and housing have made our community healthier.

A Health centres

As a result of careful planning, the number of healthcare services has been increasing rapidly over the past years. More than 800 different kinds of healthcare centres have been built, as well as 188 **dental** clinics. In 2012 CE, 98 per cent of Jordanian children were fully immunised, thanks to **immunisation** teams that had been working towards this goal for several years.

Although there were remote areas of the country **where** people had been without consistent access to electricity and safe water, almost 99 per cent of the country's population now has access.

B Hospitals

Although the country has been focusing mainly on improving **its** primary healthcare facilities, **it** has not neglected **its** advanced medical facilities. The reputation of Jordanian doctors has spread in the region, and now many more patients come to Jordan for open heart surgery. In Jordan, the open heart surgery programme started in 1970 CE in Amman.

C Life expectancy

The life expectancy figures show that Jordan's healthcare system is successful. In 1965 CE, the average Jordanian's life expectancy was age 50. In 2012 CE, this average life expectancy had risen to 73.5.

According to UNICEF statistics, between 1981 CE and 1991 CE, Jordan's **infant mortality** rates declined more rapidly than anywhere else in the world – from 70 deaths per 1,000 births in 1981 CE to only 32 deaths per 1,000 births in 2014 CE.

Conclusion

The low infant mortality rate, as well as the excellent healthcare system, have been contributing factors to Jordan's healthy population growth, which will result in a strong **work force** with economic benefits for the whole country.

1. Is the language formal or informal? How can you tell?

The language is formal. There are no contractions, with relative clauses and the vocabulary is formal.

2. What is the purpose of the sub-headings before different sections?

They tell the reader what the section will be about. They are very useful in helping the reader to find particular information.

3. What is the link between the introduction and the conclusion?

4. Health conditions in Jordan are among the best in the Middle East. Write down two reasons for that.

5. Write down a sentence which indicates that Jordan has started open heart surgery since a long time.

6. The number of healthcare services has been increasing rapidly in Jordan. Give two examples.

7. There are many factors that contributes to Jordan's healthy population growth. Write down two of them.

8. Jordan's healthy population growth will generate many benefits to the society. Write down two benefits of them.

9. Death amongst babies and children has been decreased in Jordan dramatically. Write down two reasons for that.

10. The life expectancy figures show that Jordan's healthcare system is successful. Is he justified in this. Explain.

A growing problem

In many countries, an increasing number of young people and adults are overweight or even obese. One reason for this is the growing popularity of fast food, which didn't use to be as common as **it** is now.

Another big factor is lack of exercise. People would often walk to school or work, but these days many more of us drive. Modern technology has also played **its** part; we spend more and more time focusing on computer screens. Before the Internet was invented, nobody had dreamt of online shopping, but now we can buy almost anything without leaving the sofa.

time to listen

Health experts have been warning about this trend for years, and **their** advice is clear. Adults should aim to exercise for at least two and a half hours every week; for children and teenagers the target should be at least an hour a day. This might not sound very much. However, recent research shows that less than 50% of the British population manages this. (2) School children are less physically active than **they** (1) used to be. Girls in particular often dislike PE. This can lead to serious health problems.

It's good for you

Experts recommend a mixture of activities. **These** should include moderate exercise, such as fast walking, and more *strenuous* exercise, like running. (3) **They** (2) also advise exercise that strengthens the muscles, for example sit-ups. The more muscle we build, the more calories we burn, and the fitter we become. In addition, exercise is a great way to cope with stress. In a recent study, patients **who** had been suffering from depression reported a great improvement after increased physical activity.

Useful tips

Of course this raises a question: how can I manage to fit in all this extra exercise? The best way is to build it into our daily lives so that it becomes a routine. (4) It doesn't have to take much extra time. You could get off the bus one stop earlier than usual, or stand up when you're on the phone! Most importantly, we should find a sport that we enjoy doing. That way, we will all become fitter, healthier and happier.

its	Modern technology
their	Health experts
they (1)	School children
these	activities
they (2)	Experts
who	patients

1. There are many factors which lead to overweight and obese amongst young people and adults. Write down factors of them.
2. According to the article, what are the main reasons for higher rates of obesity?
3. It is believed that modern technology has also played its role in spreading overweight. Explain this statement. Give two examples.
4. Write down a sentence which indicates that most British people don't get enough exercise.
5. There are many benefits of physical exercises. Write down two of them.
6. Experts recommend a mixture of activities. Write two kinds of them.
7. The author suggests some ways of including exercise in our normal lives. Give two examples from the article.
8. Think of some simple ways you and other people you know could increase your physical activity. Suggesting three ideas.

Unit three : *Medical advances*

apparatus	Refers to tools and equipment needed for something technical	المعدات
sponsor	To give money to support	يرعى
appendage	Referring to something attached to something larger	ملحق
fund	To provide money (cost a lot)	يمول
artificial	Made by human beings rather than occurring naturally.	صناعي
limb	legs and arms	الأطراف
prosthetic	artificial body part	عضو صناعي
coma	A state of unconsciousness	غيبوبة
dementia	A mental illness the symptoms of w which are problems with memory	جنون
drug	A medicine	دواء
Implant (v, n)	A piece of tissue, prosthetic device	زرع- نسيج مزروع
Medical trial	Trial to evaluate the effectiveness and safety	علاج تجريبي
radiotherapy	The use of controlled amounts of radiation	علاج بالأشعة
pill	A small piece of medicine	
scanner	A medical instrument that uses radiography	
side effect	Effects of medicine on your body	أثار جانبية
stroke (v, n)	An illness when a blood tube in your brain bursts or blocked	تجلط الدم
symptom	A physical problem that might indicate a disease	عرض
viable	Effective and able to be successful	قابل للنجاح
outpatient	Someone who goes to hospital but doesn't stay	مرضى العيادات الخارجية
sceptical	Having doubts	متشكك
reputation	The common opinion that people have about someone	سمعة
risk	Danger	خطر
ward	A room in a hospital	جناح
tiny	Very small	دقيق
Paediatric	The area of medicine that deals with children	طب الأطفال
The suffix (proof):	to provide protection against.	ضد
Metaphor	The use of a word or phrase to refer to something isn't invoking direct similarity (with out using like or as)	استعارة / مجازي
Simile	is a way of comparing two things using (like,	تشبيه
Onomatopoeia	is the name given to words that sound like noises.	المحاكاة الصوتية
Personification	is giving human characteristics to an objects	التجسيد
sensory descriptions	descriptions that appeal to the five senses.	الوصف الحسي

**Study
the
followin**

g sentence entry and answer the question that follows. Write the answer in your ANSWER BOOKLET.

This inspired Adeeb to invent a waterproof prosthetic leg.

What does the underlined suffix "proof" mean?

Synonym: is a word that means as another word. مترادفات

Apparatus: Refers to tools and equipment needed for something technical	Equipment: refers to tools (more general)	معدات
Appendage: Referring to something attached to something larger ملحق	Limb: legs and arms	أطراف
Prosthetic (adj), prosthesis (n): artificial body part أعضاء اصطناعية	artificial : refer to more many things	صناعي
Sponsor: To give money to support يدعم ماليا	Fund: To provide money (cost a lot)	يمول

Find the synonym of "....." in the text?

collocation	
get an idea	تخطر له فكرة
Spend a time	يمضي الوقت
Catch attention	يلفت الانتباه
Attend course	يشترك في دورة
Take interest	يأخذ الاهتمام

Young Emirati inventor is going to travel the world

Ten-year-old Adeeb al-Balooshi, from Dubai, is going to travel to seven countries on a tour which has been organised and funded by Sheikh Hamdan bin Mohammad, Crown Prince of Dubai.

The boy caught Sheikh Hamdan's attention with **his** invention – a prosthetic limb for **his** father. The Sheikh has taken a special interest in the boy, and hopes the tour that **he** is sponsoring for Adeeb will give the young inventor more self-confidence and inspire other young Emirati inventors.

Adeeb got the idea for a special kind of prosthetic leg while **he** was at the beach with **his** family. **His** father, **who** wears an artificial leg, could not swim in the sea as **he** could not risk getting **his** leg wet. This inspired Adeeb to invent a **waterproof** prosthetic leg.

Adeeb is going to visit the USA, France, the UK, Ireland, Belgium, Italy and Germany, where he will be staying with relatives. However, while he is in Germany, Adeeb will not be spending all **his** time sightseeing. **He** will be working with a specialist doctor to build the appendage. **He** will also be attending a course on prosthetics and learning about different kinds of medical apparatus.

Adeeb has invented several other devices, including a tiny cleaning robot and a heart monitor, which is attached to a car seat belt. In the case of an emergency, rescue services and the driver's family will be automatically connected with the driver through this special checking device. He has also invented a fireproof helmet. This special equipment, which has a built-in camera system, will help rescue workers in emergencies. It is for these reasons that Adeeb rightly deserves his reputation as one of the youngest inventors in the world.

1. Sheikh Hamdan bin Mohammad, Crown Prince of Dubai has taken a special interest in Adeeb and has funded Adeeb's tour for many purposes. Write down two of them.
2. Sheikh Hamdan bin Mohammad offered Adeeb the gift of a world tour. Write down two reasons of that.
3. Write down a sentence which indicates that Sheikh Hamdan has taken a special interest in Adeeb due to Adeeb's invention.
4. Adeeb is going to travel to seven countries on a tour which has been organised and funded by Sheikh Hamdan. Write down two countries of them.
5. Adeeb has invented several devices. Write down two them.
6. Adeeb will be staying with in Germany for many purposes. Write down two of them.
7. According to the text, Adeeb rightly deserves his reputation as one of the youngest inventors in the world. Explain.

In the future

We will be able to have an operation to increase our intelligence.

Scientists have already developed brain implants that improve vision or allow disabled people to use **their** thoughts in order to control prosthetic limbs like arms, legs or hands, or operate a wheelchair. In 2012 CE, research on monkeys showed that a brain **implant** improved **their** decision-making abilities. How will humans benefit from this research? Scientists hope to develop a similar device to help people **who** have been affected by brain damage, which could be caused by **dementia** , a stroke or other brain injuries.

Doctors will be able to communicate with people in a coma.

In 2010 CE, neuroscientists confirmed that it was possible to communicate with some patients in a coma, by using a special brain **scanner** called an MRI.

They suggested that, in the future, more meaningful dialogue with patients in a coma would be possible. Two years later, it has finally happened. The scanner, used on a man **who** has been in a coma for more than twelve years, proves that **he** has a conscious, thinking mind – a fact that had previously been disputed by many. Doctors plan to use similar brain-scanning techniques in the future to find out whether patients are in pain, or what **they** would like to be done in order to improve **their** quality of life.

A new drug will help to treat certain types of cancer almost instantly.

A new cancer drug is being trialled in Plymouth, UK, which doctors hope will extend the lives of cancer patients and reduce **their** symptoms overnight. It is taken as a single **pill** every morning, and so far patients have shown none of the usual **side effects** such as the sickness and hair loss that are experienced when undergoing other forms of cancer treatment. The new treatment works by blocking a protein which causes cancerous cells to grow. It will improve patients' life expectancy and quality of life much more quickly than any other treatment. The patients were interviewed a year after starting the treatment and are fit and well, saying that **they** are definitely going to continue the trial. **They** have every reason to believe the new drug is going to work. Doctors at Plymouth Hospital hope that **it** will help patients from all over the world.

1. Brain implants can help disabled people in several ways. Write down two ways of them.
2. Brain implants allow disabled people to control many things. Write down two of them.
3. Brain could be damaged due to many reasons. Write down two reasons of them.
4. It is expected that we will be able to have an operation to increase our intelligence. Think of this statement, in two sentences write down your point of view.
5. Doctors plan to use brain-scanning techniques for many purposes. Write down two of them.
6. Usual forms of cancer treatment have many side effects . write down two effects of them.
7. What do you think is particularly special about the new cancer drug?
8. It is believed that the new cancer drug is special for many reasons. Write down two of them.
9. Doctors plan to use brain-scanning techniques in the future for many purposes. Write down two of them.
10. What do you think the implications will be for the world if people live longer? Should we be using technology to help us to improve life expectancy?

The King Hussein Cancer Center

The King Hussein Cancer Center (KHCC) is Jordan's only comprehensive cancer treatment centre. **It** treats both adult and paediatric patients. As the population of the country increases, more and more families will rely on the hospital for cancer treatment. Patients come not only from Jordan but also from other countries in the region, as **they** are attracted by its excellent reputation, lower costs, and cultural and language similarities.

In order to cope with the increase in demand for treatment, the KHCC has begun an expansion programme. Building started in 2011 CE. The hospital will have more than doubled **its** capacity by 2016 CE, increasing space for new cancer cases from 3,500 per year to 9,000.

By then, they will have added 182 extra beds, along with bigger units for different departments, including radiotherapy. New adult and pediatric wards will have opened. Additionally, they will have built a special ten-floor outpatients' building, with an education centre **which** will include teaching rooms and a library.

Many cancer patients live far away from Amman, **where** the KHCC is located, and the journey to and from the hospital is often difficult. For this reason, there are plans to extend cancer care facilities to other parts of Jordan. In the near future, King Abdullah University Hospital in Irbid hopes to set up radiotherapy machines, so that cancer patients from northern Jordan will not have to go to Amman for radiotherapy treatment.

1. Many people from the neighbouring countries visit The King Hussein Cancer Center for many reasons. Write down three of them.
2. The King Hussein Cancer needs to expand for many reasons. Write down two reasons.
3. The King Hussein Cancer will expand in many ways. Write down two of them.
4. There are many plans for increasing cancer care facilities in other parts of Jordan. Give one example.
5. What is one of the disadvantages of the KHCC for patients who live far from Amman?
6. What do you think is particularly special about ten-floor outpatients' building?
7. It is expected that the increase in population will affect Jordan's health facilities. Think of this statement . Suggesting two ways cope with this increase in population.
8. Write down a sentence which shows that new wards for children will be opened in the future.
9. There are plans to extend cancer care facilities to other parts of Jordan. Write down the reason.

(Activity book page 17)

Scientists have successfully invented a prosthetic hand with a sense of touch. **It** is an exciting new invention, which **they** plan to develop. It is possible that, in the not-too-distant future, similar artificial arms and legs will have taken the place of today's prosthetic limbs.

Dennis Sorensen, a 39-year-old from Denmark, was the first person to try out the new invention. After losing his left hand in an accident, he had been using a standard prosthetic hand for nine years. The new hand, which was developed by Swiss and Italian scientists, was a huge improvement. With **it**, Sorensen could not only pick up and manipulate objects, but **he** could also feel them. 'When **I** held an object, **I** could feel if **it** was soft or hard, round or square,' **he** explained. **He** said that the sensations were almost the same as the ones **he** felt with **his** other hand.

Unfortunately, Sorensen was only taking part in trials, and the equipment is not ready for general use yet. **He** was only allowed to wear **it** for a month, for safety reasons. So now **he** has **his** old artificial hand back. However, **he** hopes that soon **he** will be wearing the new type of hand again. He is looking forward to the time when similar artificial limbs are available for the thousands of people **who** need them. **He** will have helped to transform **their** lives.

1. Find a word that is the opposite of 'natural' in the first and third paragraphs.
2. Who invented the new prosthetic hand?
3. What do you think is particularly special about the new prosthetic hand?
4. Quote a sentence which indicates that the new prosthetic hand will replace the old one in the near future.
5. Write down a sentence which indicates who invented the new prosthetic hand.
6. In what ways the new prosthetic hand is from the ordinary prosthetic hand?
7. With the new prosthetic hand Dennis Sorensen was able to do many things. Write down two of them.

Unit Four : Success Stories

zero-waste	producing no waste, or having parts that can be reused	بلا نفايات
arithmetic	the branch of mathematics concerned with numerical calculations	علم الحساب
geometry	branch of mathematics concerned with the properties, relationships and measurement of points, lines, curves	علم الهندسة
mathematician	Person who studies Mathematics to a very complex level	عالم رياضيات
philosopher	someone who studies and writes philosophy	فيلسوف
algebra	a type of mathematics system where letters and symbols are used to represent numbers	علم الجبر
grid	a system of wires through which electricity is connected	شبكة كهربائية
physician	someone qualified to practise medicine	الطبيب المعالج
polymath	someone who has a lot of knowledge about many different subjects	متعدد جوانب الثقافة
sustainability	the state of being able to continue forever,	الاستدامة
revolutionise	to completely change the way people do something or think about something	ثورة
minaret	the tall, thin tower of a mosque	منذنة
megaproject	a very large, expensive, ambitious business project	مشروع عملاق
irrigate	to supply land with water so that crops and plants will grow	سقى
inheritance	money or things that you get from someone after they die	وراثة
hanging	a large piece of cloth that is hung on a wall as a decoration	معلق
ground-breaking	new, innovative	يفتح أفقا جديدة
fountain pen	a pen which needs ink cartridge refills and the nib of which takes ink from these cartridges to write	قلم حبر
desalination	the process of removing salt from sea water	تحليه المياه
demonstration	an act of explaining and showing how to do	شرح
pedestrian	Someone who is walking, especially along a street	مشاة
carbon-neutral	not affecting the total amount of carbon dioxide	محايد الكربون
musical harmony	A pleasant sound in music,	التناغم الموسيقي
breathtaking	wonderful, awe-inspiring	مثير
camera obscura	Latin for 'dark room'; an optical device that led to photography and the invention of the camera	كاميرا مظلمة
urban planning	التخطيط العمراني	
public transport	المواصلات العامة	
biological waste	النفايات البيولوجية	
carbon footprint	أثار الكربون	
negative effect	تأثير سلبي	
economic growth	النمو الاقتصادي	
renewable	قابل للتجديد	
windmills	طواحين الهواء	
blueprint	مخطط عمل	

The importance of Islamic achievements in history

Jabir ibn Hayyan (born 722 CE, died 815 CE)

The Arab world has many famous chemists in **its** history, but the person **who** is known as the founder of chemistry is probably Jabir ibn Hayyan. **He** is most well known for the beginning of the production of sulphuric acid. **He** also built a set of scales which changed the way in **which** chemists weighed items in a laboratory: **his** scales could weigh items over 6,000 times smaller than a kilogram.

Ali ibn Nafi ' (Ziryab) (born 789 CE, died 857 CE)

Ali ibn Nafi ' is also known as 'Ziryab' (or 'Blackbird', because of **his** beautiful voice). **He** was a gifted pupil of a famous musician from Baghdad, and **it** was his talent for music that led **him** to Cordoba in the ninth century CE. **He** was the guest of the Umayyad ruler there. **He** is the person **who** established the first music school in the world in Cordoba, Al-Andalus, teaching musical harmony and composition. **He** revolutionised musical theory, and is also the person **who** introduced the oud to Europe.

Fatima al-Fihri (born early 9th century, died 880 CE)

Fatima al-Fihri was the daughter of a wealthy businessman. **She** used **her** father's inheritance to build a learning centre in Fez, Morocco. This learning centre became Morocco's top university, and **it** is **where** many students from all over the world come to study. Moreover, it was Fatima's sister, Mariam, who supervised the building of the Andalus Mosque, **which** was not far from the learning centre.

Al-Kindi (born around 801 CE, died 873 CE)

Al-Kindi was a physician, philosopher, mathematician, chemist, musician and astronomer – a true polymath. **He** made **ground-breaking** discoveries in many of these fields, but it is probably his work in arithmetic and geometry that has made him most famous.

1. Jabir ibn Hayyan is famous for many achievements. Write down two of them.
2. Ali ibn Nafi ' was called 'Blackbird'. Write down the reason for that.
3. Ali ibn Nafi ' is famous for many achievements. Write down two of them.
4. Al-Kindi was an expert in many scientific fields. Write down two of them.
5. Al-Kindi is particularly famous for his work in many subjects. Write down two of them.
6. It is believed that it was more difficult in the past to reach high levels of achievement in comparison with the present day. Think of this statement, in two sentences , write down your point of view.
7. Al-Kindi was particularly well known for his achievements in two fields of study. Write them down.
8. What was Fatima al-Fihri's greatest achievement?

Masdar City – a positive step?

Megaprojects are extremely large investment projects, which are designed to encourage economic growth and bring new benefits to cities. Although megaprojects vary in terms of size and cost, they are all, by definition, expensive, public projects that attract a high level of interest and media coverage. Projects range from motorways, airports, stations, tunnels, bridges, etc. to entire city complexes.

The concept of a megaproject is always based on the benefits it brings to a community. However, many megaprojects have been criticised because of their negative effects on a community or the environment. This essay will look at these issues with regard to Masdar City, a megaproject in Abu Dhabi.

Masdar City, which began its development in 2006 CE, will be the world's first carbon-neutral, zerowaste artificially-created city. Covering an area of six square kilometres, when it is completed in 2025 CE, it is expected to house more than 40,000 residents, 50,000 commuters, and 1,500 businesses involved in mainly environmentally-friendly products.

The city will run entirely on renewable energy sources. It is built on an advanced energy grid which monitors exactly how much electricity is being used by every outlet in the complex. Furthermore, in order to reduce its carbon footprint, Masdar City will be a car-free zone, designed to be pedestrian and cycle-friendly. Electric, driverless cars will operate as public transport vehicles, and the city will be connected to other locations by a network of roads and railways.

Energy will be provided by solar power and wind farms, and there are also plans to build the world's largest hydrogen plant. A desalination plant will be used to provide the city's water, with 80% of water used being recycled. Biological waste will be used as an energy source too, and industrial waste will be recycled. The current residents of Masdar City are all students at the Masdar Institute of Science and Technology, a university whose students are fully committed to finding solutions to the world's energy problems.

While the project has the support of many global, environmental and conservation organisations, there is some criticism of it. It is felt that, instead of building an artificial sustainable city, sustainability should be made a priority of existing cities.

In conclusion, the benefits of Masdar City for the community and the environment greatly outweigh any disadvantages. If the aims of the developers are realised, Masdar City will be a blueprint for future urban planning that will inspire similar megaprojects in other countries.

1. There are some benefits of megaprojects. Write down two benefits of them.
2. There are several characteristics of megaprojects. Write down two characteristics of them.
3. Write down two examples of megaprojects are provided in the text.
4. Many megaprojects have many disadvantages. Write down two disadvantages of them.
5. Masdar City will reduce its carbon footprint in many ways. Write down two of them.
6. Masdar City will be provided by renewable energy resources. Write down two resources of them.
7. There is some criticism of Masdar City. Write down the reason for that.
8. Write down a sentence which indicates that people can't drive cars in Masdar city.
9. All waste created by Masdar City will be recycled. Give two examples.
10. It is believed that Masdar City is beneficial project. Think of this statement. Giving two reasons.
11. Quote the sentence which states that the idea of building Masdar City was criticized by many.
12. Masdar City is going to be a car-free zone, so people are going to use some other means of transport. Write down two of these means.
12. The writer states that some people say that sustainability should be made a priority of existing cities. Explain this statement, suggesting three ways by which our existing cities can achieve some kind of sustainability.
13. A megaproject can sometimes have negative effects on both people and environment. Think of this statement and, in two sentences, write down your point of view.

A founding father of farming

A founding father of farming Ibn Bassal was a writer, a scientist and an engineer who lived in Al-Andalus in the eleventh century CE. He worked in the court of Al-Ma'mun, who was the King of Toledo. His great passions were botany, which is the study of plants, and agriculture. Although he was a great scholar, he was also a practical man and all of his writing came from his own 'hands-on' experience of working the land.

One of the many things which Ibn Bassal achieved was A Book of Agriculture. The book consisted of sixteen chapters which explain how best to grow trees, fruit and vegetables, as well as herbs and sweet-smelling flowers; perhaps the most famous chapter of all was the one that described how to treat different types of soil. Ibn Bassal also worked out how to irrigate the land by finding underground water and digging wells. He designed water pumps and irrigation systems. All of these things were passed on through his writing.

The influence of Ibn Bassal's book was enormous. As farmers down the generations followed his instructions and advice, the land became wonderfully fertile and produced more than enough food for the fast-growing population. The irrigation systems that he and his followers put in place are still in evidence in Spain. Although his name is not widely known, Ibn Bassal's legacy to the world has been great.

1. There are many achievements of Bassal mentioned in the text. Write down two of them?
2. Find a verb in the second paragraph that means 'supply land with water'.
3. Guess the meaning of '**fertile land**' in the third paragraph. Which part of the text illustrates its meaning?
agriculturally productive; 'produced more than enough food' ارض خصبة
4. Guess the meaning of '**legacy**' in the third paragraph. What does the author suggest is Ibn Bassal's legacy to the world?

Legacy : what someone leaves to the world after their death. Ibn Bassal's legacy is his agricultural instructions and advice. ميراث

5. The writer states that Ibn Bassal was a polymath. Explain this. Give examples of his areas of knowledge.
6. Why do you think the area around Toledo had a 'fast-growing population'?

Unit Five The art s

Ceramics	the art of producing something made from clay or porcelain	سيراميك
Conservatory	a school where people are trained in music or acting	المعهد الموسيقي
Performing arts	a type of art that can combine acting, dance and film to express an idea	الفنون المسرحية
Showcase	to exhibit (or display)	عرض
Textiles	types of cloth (or woven fabric)	المنسوجات
Translation	the process of converting documents from one language to another	ترجمة
Underline	to emphasise (to highlight)	التأكيد
Visual arts	art such as painting that you look at (as opposed to literature or music)	فنون بصرية
Craftsman	someone who is very skilled at a particular a job (or an activity)	حرفي
Demonstration	an act of displaying and showing how to do something	شرح
Glassblowing	the art of shaping a piece of hot, melted glass by blowing air into it	نفخ الزجاج
Furnace	a large enclosed container in which you burn fuels (oven)	فرن
Fine	very thin and narrow;	خط رفيع
Solidifying	to make solid	تصلب
Transparent	clear or thin enough to see through	شفافية
Simi opaque	not completely impossible to see through	شبه معتم
semi	Half	نصف
opaque	difficult to see through	معتم
Cobalt	a metal which gives a dark blue colour to the glass	الكوبالت
Turquoise	a sea green colour	لون فيروزي

The arts in Jordan

Jordan has a very rich cultural heritage thanks to the support of the Department of Culture and the Arts, which was founded in 1966 CE. Since then, the department has built up an exciting, ongoing programme of cultural activities related to all the arts: music, visual arts, performing arts and the written word.

In 1979 CE, the Royal Society of Fine Arts (RSFA) was established to promote visual arts in Jordan and other countries in the region. It has links with major art galleries around the world in order to encourage artists from different cultures to learn from each other.

The Jordan National Gallery of Fine Arts is one of the most important art museums in the Middle East. The collection includes over 2,000 works of art, including paintings, sculptures, photographs, installations, textiles and ceramics, by more than 800 artists from 59 countries. In 2013 CE, it held Jordan's largest art exhibition called '70 Years of Contemporary Jordanian Art'.

Until the 1990s, most Jordanian literature was only available in Arabic. However, thanks to PROTA (the Project of Translation from Arabic), many Jordanian plays, novels, short stories and poems are now translated into English, and people all over the world are able to read and appreciate them.

Every year, the United Nations Educational, Scientific and Cultural Organization (UNESCO) chooses a different Arab city as the Arab Cultural Capital. In 2002 CE, the city of Amman was awarded this title.

Jordan has a centuries-old musical heritage. The National Music Conservatory (NMC) opened in 1986 CE, making it possible for more Jordanian students to study music seriously. In 1987 CE, the National Centre for Culture and Arts was created, which showcases theatre and dance in Jordan and in the region.

Realising the value of art and culture, Jordan decided to offer Jordanians and the world an annual arts festival. In 1981 CE, the Jerash Festival for Culture and Arts was founded. This three-week-long summer programme is one of the largest cultural activities in the region. It takes place in the important archaeological site of Jerash, which underlines the close relationship between the arts and Jordan's cultural history.

1. The Royal Society of Fine Arts show its support for the arts in Jordan by many ways. Write down two of them.
2. Quote a sentence from the text which shows the time when the Department of Culture and the Arts was established.
3. The Department of Culture and the Arts has designed programme of cultural activities related to all the arts.
4. The Royal Society of Fine Arts has links with major art galleries worldwide. Write down the reason for that.
5. The Department of Culture and the Arts has set up a programme of several cultural activities. Write down two of these activities.
6. The artistic collection found in the Jordan National Gallery of Fine Arts includes a big number of works of art. Write down two of these artistic works.
7. Several Jordanian literary works were translated by PROTA. Write down two of these literary works.
8. The National Centre for Culture and Arts shows two types of arts. Write them down.
9. Quote the sentence which states the date in which the biggest exhibition in Jordan took place.
10. Write down the sentence which states that many people all over the world were not able to read Jordanian literary works until the late 20th century.
11. Quote the sentence which states the date in which Amman became a cultural capital of the Arab world.
12. Quote the sentence which indicates the significance of the place in which Jerash festival takes place.
13. To truly understand a country's culture, you have to understand its artistic heritage. Think of this statement and, in two sentences, write down your point of view.
14. What is the significance of the location of the annual Jerash Festival?
15. How has translation helped Jordanian literature?
16. What makes The Jordan National Gallery of Fine Arts a major institution in the world of art?

Adnan, a professional craftsman

Adnan, a professional craftsman, is at work in his studio. With the oven at 1,400 degrees Centigrade, 20 hours a day, a glass-making studio isn't the most comfortable place to be. For Adnan, however, this is more than just a job. 'My family has been blowing glass for around 700 years,' he says. 'My father learnt the craft from his father, and he taught it to me when I was a child.'

Adnan is passionate about this ancient craft, and regularly gives demonstrations and workshops to teach young people the skills of glassblowing.

He strongly believes that unless we interest more young people in learning the craft, nobody will know how to make hand-blown glass in the future. 'These days, young people don't always want to follow their parents' professions, and, added to that, glassblowing isn't an easy job. It has to be an obsession, as it is for me!'

Adnan still uses the technique that was first developed by the Phoenicians some 2,000 years ago. First, he pushes a thin metal blowpipe into the boiling hot furnace. Secondly, he lifts out the liquid sand and lays it on a metal plate. After that, he blows the red-hot glass until it becomes more flexible. Then he pulls and bends the glass into shape. He has to work extremely quickly because the liquid sand is already solidifying into glass. Adnan is making a delicate swan. Through the semi-opaque glass, you can see fine lines of turquoise, green and blue.

'The sand gives us transparent, or "white", glass,' Adnan explains. 'We get this beautiful dark, cobalt blue by adding the metal cobalt to the melted glass. Then, this blue becomes a lighter, sea-green turquoise after adding copper. Finally, we decorate the glass by hand.'

'These days we recycle broken glass. We also use commercially produced colours instead of using natural ingredients as in the past. Apart from that, nothing else about this craft has changed through the centuries. You can't use a machine to do this work,' he says. 'The old ways are still the best.'

1. A glass-making studio is not a comfortable place for two reasons. Write them down.
2. Adnan faces many difficulties in his glass-making studio. Write down two difficulties of them.
3. Adnan believes that blowing glass is more than just a job. Think of this statement in two sentences write down your point of view.
4. Making a piece of glass in the traditional way requires some steps. Mention two of these steps.
5. The sand naturally gives glass of two colours. Name these two colours.
6. According to Adnan's point of view, it is not easy to interest young people in glassblowing for two reasons. Write these two reasons down.
7. Why does Adnan run workshops and give demonstrations?
8. Why does a glassblower have to work very fast?
9. Traditional crafts should be preserved. Suggest two ways to preserve them.
10. New technology has changes the way of making traditional crafts. Suggest three benefits of using new technology.