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ИНСТИТУТ ФИЛОЛОГИИ И МЕЖКУЛЬТУРНОЙ КОММУНИКАЦИИ

Кафедра теория и практика преподавния иностранных языков

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This textbook was designed to help *IT (Information Technology) students* overcome the challenges they face in learning English. We believe that the student who limits his 'learning' to inside the classroom will make very little real progress.

'A good student has some responsibility outside the class, but they have to be guided.' These are some of the reasons that motivated us to design this textbook. The textbook covers a variety of themes on *Information Technology* divided into speaking, reading, listening and writing sections enabling the students to enjoy the lessons. We created interactive topics related to information technology to help students maintain the status quo. As such, all the texts are extracted from scientific articles and refer to their spezialization. The recordings for listening and videos are extracted from interviews with representatives of such organizations as Technology Entertainment Design (TED).

CONTENT

I. TECHNOLOGY ON THE HORIZON

1. Warming-up.

   a. What could be the most important technological advance of all time? Give a reason why you think it's important.

   b. Do you get excited by new technology? What kinds of technology interest you?

   c. Is technology developing faster than it used to? Are you worried about being left behind?

d. Advances in medical technology mean people are living longer. What are some of the downsides of this?

e. How old do you hope to live?

f. Which electronics brands do you trust most? Are you loyal to one brand?

g. Is there an electronic product you want these days? What is it? How will it make your life better?

2. Read the article Top 7 Latest Technological Innovations. Try to define the words in bold in context. Think of the synonyms if necessary.

1. AI coming of age is coming!

AI has been on the receiving end of massive financial investment over the last few years. According to Forbes, 80% of enterprises are now investing in it or are planning to **expand** AI investment if they already are.

This **influx** of money has given rise to some serious innovation in deep learning. With all this cash flowing around, many tech experts believe AI will really "come of age" within the next few years.

Internet at the speed of lightning

The appetite for faster and faster internet connection is really pushing the technology forward. Businesses and private users are constantly demanding ever quicker response times and the industry is responding.

With lightning-fast internet speeds just **around the corner**, it should be transformative for many aspects of our lives. Should it be achieved, it will increase the efficiency of workers and will provide reliable communication tools for companies that rely on remote workers. This is where 5G might be able to change the world as much as our "regular" internet did several decades ago.

Brain-computer interface is almost here

Innovations like Elon Musk's Neuralink could make the mouse and keyboard **obsolete** in the future. Work in this area is continuing apace and promises to allow us to control computers just by thinking.

Swallowable medical devices are on the way

Small, **swallowable** devices are currently being developed that can capture images of your guts without the need for anesthetic. They can even be used in infants and children. Once fully developed these little medical devices will revolutionize how medical professionals diagnose and monitor some very serious diseases. This will be an incredibly powerful tool for things like cancer and intestinal disorders like environmental enteric dysfunction.

Custom cancer vaccines could be a reality soon

Thanks to scientific developments like the Human Genome Project, personalized medicines and vaccines could be just around the corner. One interesting application for this is the possibility of developing personalized cancer vaccines.

This might sound a little **far-fetched**, but it is hoped that medical professionals could soon train your immune system to identify and destroy cancer cells. This, if achieved, could make cancer a thing of the past.

An end to sewers is on the way (hopefully)

Developments are afoot to push forward with "eco-friendly" toilets that do not need a connection to a sewer system and can treat waste on the spot. Not only will this be revolutionary for cities of the future, but it will bring much-needed sanitation to many parts of the world that currently lack this "luxury".

Philanthropists Bill Gates has been running a competition called "Reinvent the Toilet Challenge" to find suitable, **viable** prototypes for this. Many submissions are actually quite promising and once self-contained, self-waste metabolizing systems will benefit mankind and the environment for the better.

GANs - Generative Adversarial Networks are on the way

GANs, or Generative **Adversarial** Networks is one of the latest developments in neural networks could be the future. Invented by Ian Goodfellow, this class of machine learning basically sets two neural networks against each other to solve a problem.

Given a set starting condition, the two networks battle it out in a usually non-zero-sum game to find a solution to something. These have been described by some as "the coolest idea in machine learning in the last twenty years." Applications for this technology include generating artificial images, modeling things, improving computer games and many more.

Which area of the development from the article is the most important and influential nowadays? Why?

3. Vocabulary Review. Match the words and phrases from the left with their meanings from the right.

1. to expand	a. coming very soon
2. influx	b. a large pipe, usually underground, that is used for carrying waste water and human waste away from buildings to a place where they can be safely got rid of
3. around the corner	c. to increase in size, number, or importance, or to make something increase in this way
4. obsolete	d. able to exist, perform as intended, or succeed
5. swallowable	e. very unlikely to be true, and difficult to believe

|	
6. far-fetched	f. able to move from your mouth into your stomach by using the muscles of your throat
7. sewer	g. an arrival of a large number of people or things at the same time
8. viable	h. involving opposition or disagreement
9. adversarial	i. not in use any more, having been replaced by something newer and better or more fashionable

4. **Work in pairs or small groups. Choose one technological area from the article and look up some recent invention or discovery in this field. Check how effective and helpful this might be. Think about its advantages and disadvantages. Describe it to the class.**

5. Debate Time.

a. Are you an early adopter? Do you like to have cutting edge technology? Are there any disadvantages to buying the latest product?

b. Some people dislike or fear technology. Do you know anyone like this?
 Some people prefer to live with less technology in their lives.

c. Can you understand the desire to live a simpler life?

d. Are there some things that never should have been invented? What are they and why?

e. What do you think of today's technology? Do we use it the right way?
 What crazy future technology are you looking forward to? For example, flying cars or personal robots.

f. Many science fiction movies present a dark vision of the future. Are you optimistic or pessimistic about the future of humanity?

II. DIGITAL TECHNOLOGY USE
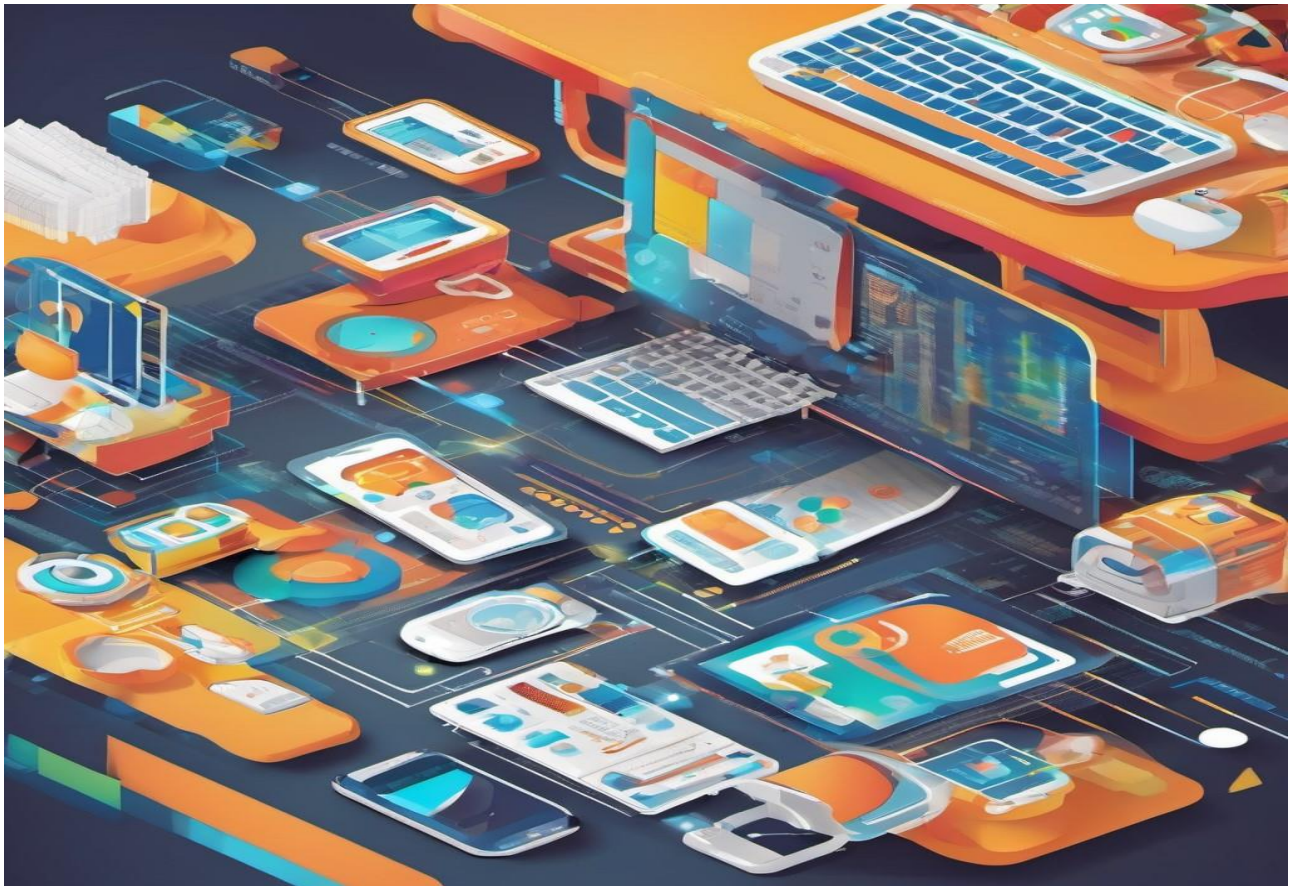
1. Read the article about digital technology in use. Then, answer the questions below.

Digital technology use is an umbrella term that encompasses various devices, services, and types of use. Most adolescent digital technology use nowadays takes place on mobile devices. Offering the functions and affordances of several other media, smartphones play a pivotal role in adolescent media use and are thus considered a "meta medium." Smartphones and other digital devices can host a vast range of different services. A representative survey of teens in the US showed that the most used digital services are YouTube (85%), closely followed by the social media Instagram (72%), and Snapchat (69%). Notably, there exist two different

types of social media: *social networking sites* such as Instagram or TikTok and *instant messengers* such as WhatsApp or Signal.

All devices and services offer different functionalities and affordances, which result in different *types of use*. When on social media, adolescents can chat with others, post, like, or share. Such uses are generally considered *active*. In contrast, adolescents can also engage in *passive* use, merely lurking and watching the content of others. The binary distinction between active and passive use does not yet address whether behavior is considered as procrastination or goal directed. For example, chatting with others can be considered procrastination if it means delaying work on a more important task. Observing, but not interacting with others' content can be goal-directed if the goal is to stay up to date with the lives of friends. Finally, there is another important distinction between different types of use: whether use is social or nonsocial. Social use captures all kinds of active interpersonal communication, such as chatting and texting, but also liking photos or sharing posts. Nonsocial use includes (specific types of) reading and playing, but also listening to music or watching videos.

When conceptualizing and measuring these different types of digital technology use, there are several challenges. Collapsing all digital behaviors into a single predictor of well-being will inevitably decrease precision, both conceptually and empirically. Conceptually, subsuming all these activities and types of use under one umbrella term fails to acknowledge that they serve different functions and show different effects. Understanding digital technology use as a general behavior neglects the many forms such behavior can take. Therefore, when asking about the impact of digital technology use on adolescent well-being, we need to be aware that digital technology use is not a monolithic concept.

Empirically, a lack of validated measures of technology use adds to this imprecision. Most work relies on self-reports of technology use. Self-reports, however, have been

shown to be imprecise and of low validity because they correlate poorly with objective measures of technology use. In the case of smartphones, self-reported duration of use correlated moderately, at best, with objectively logged use. These findings are mirrored when comparing self-reports of general internet use with objectively measured use. Taken together, in addition to losing precision by subsuming all types of technology use under one behavioral category, the measurement of this category contributes to a lack of precision. To gain precision, it is necessary that we look at effects for different types of use, ideally objectively measured.

2. Comprehension questions

1. "What is an umbrella term that encompasses various devices, services, and types of use?
2. "Where does most adolescent digital technology use nowadays?"
3. "What are smartphones considered to play a pivotal role in adolescent media use?"
4. "What types of devices can host a vast range of different services?"
5. "What is the most commonly used digital service in the US?"
6. "How many different types of social media social networking sites exist?"
7. "What type of use does digital technology use?"

8. "What type of use are adolescents generally considered when on social media?"
9. "What type of use can adolescents engage in?",
10. "What does the binary distinction between active and passive use not address?

3. Debate Time.

1. The general effects of digital technology use on well-being are likely in the negative spectrum, but very small—potentially too small to matter. **Do you agree or disagree with this statement?**

2. No screen time is created equal; different uses will lead to different effects. **Do you agree or disagree with this statement?**

3. Digital technology use is more likely to affect short-term positive or negative affect than long-term life satisfaction. **Do you agree or disagree with this statement?**

4. The dose makes the poison; it appears that both low and excessive use are related to decreased well-being, whereas moderate use is related to increased well-being. **Do you agree or disagree with this statement?**

5. Adolescents are likely more vulnerable to effects of digital technology use on well-being, but it is important not to patronize adolescents—effects are comparable and adolescents not powerless. **Do you agree or disagree with this statement?**

III. THE INFO-REVOLUTION

Multiple choice questions

FOR QUESTIONS 1-10, READ THE TEXT BELOW AND DECIDE WHICH ANSWER (A, B, C OR D) BEST FITS EACH GAP.

We have all seen an enormous increase in the role of the mass (1) …….in people's lives. First, the growth of the (2) …………., of both serious and (3) ………. newspapers, has been tremendous. Public (4) …………is influenced by powerful (5) ……. who not only own our newspapers which often have a (6) ……. of millions, but who also own television and radio (7) …….in many different countries. The huge quantity of (8) ………that people must deal with has rocketed with the advent of satellite and cable television. At the same time, more and more people have (9) …….to (10) ………. computers. information available at home via the Internet is infinite.

1. A) messages   B) medium   C) mediums   D) media
2. A) printing   B) press   C) interest   D) information
3. A) cheap   B) people   C) popular   D) public
4. A) opinion   B) health   C) views   D) services
5. A) managers   B) writers   C) celebrities   D) editors
6. A) profit   B) readers   C) circulation   D) popularity
7. A) networks   B) users   C) sets   D) ports
8. A) correspondence   B) details   C) information   D) reporters
9. A) control   B) ownership   C) contact   D) access
10. A) electronic   B) Personal   C) large   D ROM

IV. SPACE EXPLORATION.

1. Warming-up.

a. What is space? How could you explain this term to the person who has no idea about it?

b. What do you think about the value of space exploration?

c. Have you ever used a telescope? What did you look at?

d. Would you like to be an astronaut? Why or why not?

e. Do you think governments spend too much money on space programs? Why or why not?

f. In what ways would the world be different if there were no satellites in orbit around the earth?

g. Can you think of any inventions or benefits that have resulted from space exploration?

h. What can we learn about the earth from studying other planets?

2. Vocabulary Preview. Match the words from the left with their meanings from the right.

1. fossil fuels	a. an increase in the size, number, or importance of something
2. beyond	b. to form opinions about something without having the necessary information or facts; to make guesses
3. to settle	c. fuels, such as gas, coal, and oil, that were formed underground from plant and animal remains millions of years ago
4. expansion	d. an area of interest or activity
5. matter	e. in a way that is severe and sudden or has very noticeable effects
6. drastically	f. to use a material to cover or go around the surface of something in order to prevent heat, electricity, etc., from escaping or entering
7. realm	g. farther away in the distance than something
8. vapor	h. the sun and the group of planets that move around it, or a similar system somewhere else in the universe
9. to insulate	i. physical substance in the universe
10. solar system	j. to go and live somewhere, especially permanently
11. to speculate	k. a gas that escapes from a liquid or solid, esp. as a result of heating

3. Watch the video Could we harness the power of a black hole? and answer the questions below.

1. Civilization on the third and final stage on the Kardashev scale would require an energy supply comparable to

a. the energy generated by our Sun.

b. the energy generated by all the stars in our Galaxy.

c. the energy generated during the Big Bang.

d. nothing in the Universe. The third stage is impossible to achieve.

2. What is the origin of the energy radiated by the accretion disk of a black hole?

a. The photons escaping the event horizon via Hawking's radiation.

b. The energy extracted from another Universe via a wormhole.

c. Wait, what? Of course, the accretion disk cannot radiate energy!

d. The gravitational potential energy of the infalling matter.

3. What is the approximate fraction of mass that is transformed into energy by a rotating black hole?

a. 32/100

b. 0.08/100

c. 150/100.

d. 0.

4. Why a Dyson's ring, and not a full sphere, is a more realistic design for a megastructure around a black hole (two answers are acceptable)?

a. Because black holes need a mass influx to release energy.

b. Because a ring is more similar to the famous "photon ring" seen around black holes.

c. Because black holes are often characterized by very powerful jets.

d. Both A and C are correct

5. What could happen if the Dyson's ring is built with a radius comparable to the radius of the accretion disk?

a. The structure would not be able to harvest enough energy.

b. The ring cannot orbit around a black hole, under any conditions.

c. The structure of the ring could melt because of the radiation.

d. The ring would collect 100% of the energy emitted by the accretion disk.

6. Can you describe in your own words why the availability of energy is the most important requirement for the expansion of humanity outside our planet?

7. Black holes come in a variety of sizes, from small to super-giant ones. Do you think that building a Dyson's ring would be easier around a small black hole or a massive one? Why?

8. **Freeman Dyson theorized the concept of the Dyson's sphere back in the 1960s. Do you think that studying these models is important, even if it would likely take centuries or millennia to actually build them? Why?**

An American astronomer Tabetha S. Boyajian at Yale University discovered a peculiar star, nowadays named Tabby's star. This star shows very unusual fluctuations of its brightness, which are very challenging to explain with current models of stellar variability. Although it is very likely that the origin of these fluctuations is completely natural, it was suggested that this star could be surrounded by an alien megastructure, which would at times eclipse the light coming from the star. What are the pros and the cons of this theoretical explanation?

4. Watch the video There may be extraterrestrial life in our solar system and answer the questions below.

1. Enceladus is known as a(n) _____ world.

a. Terrestrial

b. Hot

c. Space

d. Ocean
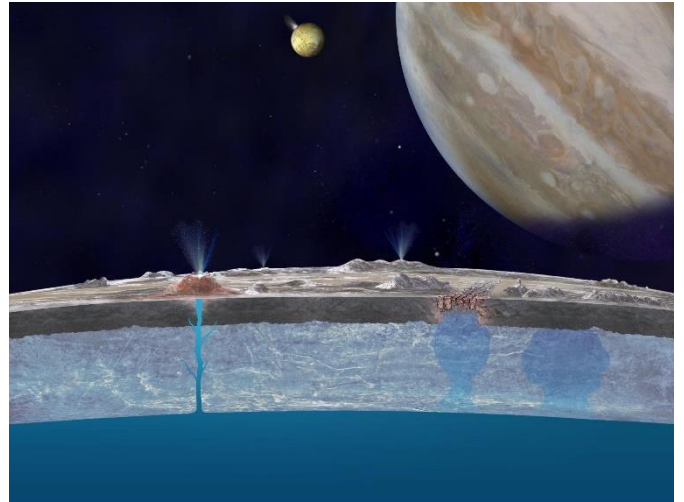
2. Life requires the formation of _____.

a. Complex molecules

b. Atomic nuclei

c. Impermeable membranes

d. Ice particles

3. Liquid water allows chemical compounds to _____.

a. Stay dry

b. Produce energy

c. Remain in suspension

d. Sink to the bottom

4. Which space probe helped in determining the salt content of Europa's ocean?

a. Discovery

b. Voyager 2

c. Galileo

d. Cassini

5. Titan has lakes and seas made of _____ on its surface.

a. Water

b. Methane

c. Nitrogen

d. Lava

6. Why are Europa, Enceladus and Titan potentially habitable?

The discovery of extraterrestrial life (even microscopic life in our solar system) would be perhaps the most important discovery made by humans. What implications would such a discovery have for humankind?

5. Debate Time.

a. Nowadays space tourism is just starting up. How would you feel if you won a trip to the international space station?

b. If signs of ancient life were to be found on Mars, how would that change our understanding of the cosmos?

c. What do you think of the idea that we could escape into space if (or when) the earth becomes uninhabitable for whatever reason?

d. Do you believe there is "intelligent life" elsewhere in the universe? If so, do you think that such life would be exploring space and visiting other planets?

e. Do you think that any potential alien species would share our moral values? Our sense of right and wrong? Why?

f. Some conspiracy theorists claim that governments are hiding evidence of alien contact. Why should governments want to hide this information?

V. INFORMATION TECHNOLOGY.

1. Warming-up.

a. What is a "technology"?

b. What devices do you use most often?

c. What piece of technology can you not live without?

d. How has technology changed in your lifetime? What do you expect to see next?

e. What examples of technology do you know that has made the world a worse place to live? Why?

f. What famous inventors in the sphere of technology can you name? What have they invented?

g. When do you think we will create human-like artificial intelligence? Would you use one?

h. How will computers develop in the future?

VOCABULARY.

1. Work in pairs. Discuss the questions below.

a. Do you have: a mobile phone, a laptop, a portable music device, an email address?

b. How long have you had it/them?

c. If you need to connect to the Internet, what do you use? How long does it take you?

d. How would you describe the technology you use?
   - Up-to-date
   - Dated
   - State-of-the-art

e. How do you prefer to stay in touch with people?
   - By post
   - By email
   - By phone (in any way)

3. **Look at the definitions in the table below. Complete them with suitable words from the audio.**

1.	easy to use
2.	open a computer file
3.	move up or down on a screen
4.	work a machine
5.	the keys on a computer, typewriter or piano
6.	an action or purpose something is designed for
7.	show on a screen
8.	have specific tools
9.	save or keep safe
10.	the part of a computer that stores information
11.	information

4. What mobile phone do you have? Can you describe its functions and benefits using vocabulary from previous exercises?

COMPUTERS AND TECHNOLOGY.

1. Read the article below.

Has the present lived up to the expectations of the past? Throughout the ages people have tried to predict what life in the twenty-first century would be like. Many science-fiction writers did manage to predict the influence the computer would have on our world. Some even imagined that it would take over our lives, develop a personality, and turn on its creators. To some extent they were right, especially when it comes to children and **cyber** addiction. One constant prediction was that, thanks to computers and machines, the time devoted to labour would diminish. Even in 1971, in his book Future Shock, Alvin Toffler envisaged a society awash with 'free time'. The author noted that time at work had been cut in half since the turn of the previous century and wrongly **speculated** that it would be cut in half again by 2000.

However, our **gadget**-filled homes are a tribute to the various visions of the future: the microwave oven, internet fridges with ice-cube dispensers, freezers, video **monitors**, climate control, dishwashers, washing machines, personal computers, wireless connections and cupboards full of instant food. These may no longer be considered **cutting-edge** but they have matched, if not **surpassed**, visions of how we would live. The domestic robot never quite happened, but if you can phone ahead to set the heating and use a remote control to operate the garage door, they may as well be redundant.

The car, of course, has failed to live up to our expectations. It has been given turbo engines, DVD players and automatic windows, but its tyres stick stubbornly to the road. Why doesn't it take off? The past promised us a flying car in various guises. In 1947 a **prototype** circled San Diego for more than an hour but later crashed in the desert. Some 30 patents for flying cars were registered in the US patent office last century but none of these ideas has been transformed into a commercially available vehicle.

At least communication technology in this **digital** age hasn't let us down. Even in the most remote areas people have access to some form of communication **device**. The introduction of the telephone last century changed our world, but today's mobile phones and the **virtual** world of the Internet have revolutionised it.

2. Look at the statements below. Mark them *Yes* or *No* (if the statement agrees with the opinions in the text or contradicts them).

a. A modern problem proves that computers are dominating our lives in some way.

b. Alan Toffler's predictions have been proven true.

c. Household gadgets today have been a disappointment.

d. We have enough gadgets now to make robots unnecessary in the home.

e. Today's cars have fulfilled all predictions.

f. The mobile phone and the internet have changed our world for the better.

3. Match the definitions below with the words in bold from the article.

1. guessed

2. a machine invented for a specific purpose (x2)

3. the first working example of a machine

4. almost real

5. very modern

6. be greater than expected

7. relating to computers

8. a screen that images can be seen on

9. an adjective used to describe anything related to computers

4. Match a word from *Box A* with a word from *Box B* to make compound nouns. Then complete the sentences below with these compounds' nouns.

A

automatic   cyber   labor   remote   silicon

wireless

B chip   connection   control   pilot   saving

space

1. I can access the internet from anywhere in my house because my laptop has a

    _____.

2. The invention of the _____ made watching TV an

    even more passive experience.

3. In my view, the dishwasher is one of the greatest _____

    devices.

4. People often talk about emails and text messages being lost in

_____ as if it were a real place.

5. Even flying a plane has been automated now. The _____

is used for most of the flight.

6. The invention of the _____ meant that computers could

be much smaller.

5. Correct the mistakes in the words in Italics below. Use ONE word only. Words like state-of-the-art count as one word.

Today's *advance* technology has brought many benefits. For example, nowadays we have many *small tools* that can save time at home and, if you have access *with* a computer and an internet *connect* then you can work almost anywhere you choose. What is more, modern software *programs* are so user-friendly that you don't even need a great deal of computer knowledge to be able to *play* them. However, there are some disadvantages to the *technology* era. For example, people today want to have the very *last* technology but, as new technology dates very quickly, an increasing amount of computer hardware is being dumped. This adds to our already serious pollution problems. Furthermore, *computerize* has led to fewer jobs and less human contact as many everyday transactions are now done *with* computer rather than manually.

What other advantages and disadvantages of modern technologies can you think of?

EXTRA VOCABULARY.

IDIOMS.

1. **Match the idioms from the left with their meanings from the right.**

1. bells and whistles	a. having a good understanding of someone or something
2. to hit the panic button	b. to have a different understanding of the same situation; to be confused
3. in tune with someone/something	c. special features that are added to a product or system to attract more buyers
4. well-oiled	d. to stop something from continuing
5. to pull the plug	e. working easily and effectively:
6. to get one's wires crossed	f. to react to a situation with fear and confusion

2. **Make up your own sentences with the idioms from ex.1.**

SPEAKOUT.

Work in pairs or small groups. Surf the internet and find some new inventions in information technology. Find about:

1. **When this was invented and by whom**

2. **Its benefits**

3. **Its drawbacks**

4. **Whether it's popular or it will be popular soon in the future**

5. **Possible developments of this invention**

6. **Impact on the sphere of information technology**

Share then this information with the rest of the class.

VI. VIRTUAL REALITY.

1. Warming up.

- Do you get excited by new technology? What kinds of technology interest you? Why?

- Is technology developing faster than it used to? Are you worried about being left behind?

- Some people dislike or fear technology. Do you know anyone like this?

- Some people prefer to live with less technology in their lives. Can you understand the desire to live a simpler life?

- Is there an electronic product you want these days? What is it? How will it make your life better?

- Do you play computer games? What do you say to people who believe they are a waste of time?

- What do you know about Virtual Reality?

- Have you ever had an experience with VR? If yes, what was that like? If no, would you like to try?

2. Read the article *The Future Of Virtual Reality*. Try to define the words in bold.

VR in education and training

VR is already making great inroads into education, with a large number of startups and established companies offering packaged experiences and services aimed at schools. Engage's platform is used by the likes of Facebook, HTC, and the European Commission to enable remote learning. And one study published in 2019 found that medical students trained using VR were able to carry out certain procedures quicker and more accurately than peers trained using traditional methods.

These new methods of teaching and learning will become increasingly effective as new technologies **emerge**. One that is likely to make waves is the *Teslasuit*, which uses a fullbody suit to offer **haptic** feedback, enhancing the immersion through the sense of touch. It also offers an **array** of biometric sensors enabling the user's heartbeat, perspiration, and other stress indicators to be measured. The suit is already used in NASA astronaut training, but its potential uses are unlimited.

For training, it could be used to safely simulate any number of hazardous or stressful conditions and monitor the way we respond to them. For example, Walmart has used it to train retail staff to work in Black Friday situations, instructing them on how to best to operate in busy shop environments with long queues of customers.

As well as training us for dangerous situations, it will also drastically reduce the financial risks involved with letting students and inexperienced recruits loose with expensive tools and machinery in any industry.

VR in industry and work

The pandemic has changed many things about the way we work, including the **wholesale** shift to home working for large numbers of employees. This brings challenges, including the need to retain an environment that fosters cooperative activity and the building of company culture. Solutions involving VR are quickly emerging to help handle these. Spatial, which creates a tool best described as a VR version of *Zoom*, reported a 1,000% increase in the use of its platform since March 2020. In total, the value of the market for VR business equipment is forecast to grow from $829 million in 2018 to $4.26 billion by 2023. Communication giant Ericsson (which has provided Oculus VR headsets to employees working from home during the pandemic for VR meetings) has talked about creating the "*Internet of Senses*." This involves developing projects involving simulating touch, taste and smell, and sensations such as hot or cold. It predicts that by 2030, we will be able to enter digital environments that appear completely real to all of our five senses simultaneously. This will lead to the **advent** of what it calls the "dematerialized office" – where the office effectively vanishes from our lives, as we're able to create entirely interactive and collaborative working environments wherever we

are in the world, simply by slipping on a headset and whatever other devices are needed for the task at hand.

VR in socializing

There are already a number of VR-based social platforms, that allow friends or strangers to meet up and chat or play in virtual environments, such as *VR Chat*, *Altspace VR*, and *Rec Room*. As with VR in other fields, the growing level of **immersion** that is possible thanks to new technological developments will make them more useful and more attractive to mainstream audiences throughout the coming decade.

This year Facebook, which has long had a stake in VR due to its acquisition of headset manufacturer Oculus, unveiled its *Horizon platform*. Currently, in beta, it allows people to build and share collaborative online worlds where they can hang out, play games, or work together on collaborative projects.

While we will always make time for meeting up with friends and loved ones in the real world, as our working and school lives become increasingly remote, it's likely that more of our social interaction will move into the online **realm**, too. Just as we are no longer barred from careers or educational opportunities due to an increasingly virtualized world, we will have more meaningful ways to connect with other humans as technology improves in this area.

VR in games and entertainment

The "killer app" for VR is gaming, and the reason the technology is developing at the pace it is, is due to the large market of people willing to spend money on the most impressive and immersive entertainment experiences.

Sandbox VR operates real-world VR centers where equipment that it simply wouldn't be practical or affordable to use in our homes offer some of the most immersive experiences yet created.

Using full-body haptic feedback suits, they offer five games – one licensed from Star Trek – that let groups cooperate or battle it out in deep space, aboard ghostly pirate ships, or through a zombie infestation.

CEO Steve Zhao describes the experience his company has created as a "minimal viable Matrix or holodeck." In a recent conversation that you can see here, he said, "the outcome is that you believe in the world – it's very real, and in order to progress, you and your friends have to communicate and work together. One of the best ways to describe it is that you are the stars inside your own movie – that's basically what we created." It makes sense in many ways that there could be two markets for consuming VR entertainment – at least in its early days. While the most immersive and impressive tech is big, expensive, and requires technical skill to operate, it's more viable to offer it at dedicated venues rather than as an in-home experience. As with movies, the stay-at-home offerings will provide something perhaps a little less spectacular but more convenient – at least until we get to the point where we can have full-size Star Trek holodecks in our own homes!

3. Vocabulary Review. Match the words from the left with their meanings from the right.

1. to emerge	a. relating to the sense of touch
2. haptic	b. an area of interest or activity
3. array	c. the beginning of an event, the invention of something, or the arrival of a person
4. advent	d. the place where a public event or meeting happens
5. immersion	e. a result or effect of an action, situation, etc.
6. realm	f. to appear by coming out of something or out from behind something

7. viable	g. of or for the selling of goods in large amounts at low prices to shops and businesses, rather than the selling of goods in shops to customers
8. outcome	h. the fact of becoming completely involved in something
9. venue	i. able to exist, perform as intended, or succeed
10. wholesale	j. a large group of things or people, especially one that is attractive or causes admiration or has been positioned in a particular way

4. Comprehension. Complete the sentences below using the information from the article.

1. The *Teslasuit* uses a _____ to offer haptic feedback enhancing the immersion through the _____. It also measures the user's _____.

2. The *Teslasuit* will also _____ involved with letting students and inexperienced recruits loose with expensive tools and machinery in any industry.

3. The "*Internet of Senses*" involves developing projects with simulating _____, and sensations such as _____.

4. In beta version of *Horizon platform* by Facebook, it allows people to _____ where they can hang out, play games, or work together on collaborative projects.

5. *Sandbox VR* offer five games that let groups _____ in deep space, aboard ghostly pirate ships, or through a zombie infestation.

6. While the most immersive and impressive tech is big, expensive, and

_____, it's more viable to offer it at dedicated venues rather than as an _____ experience.

7. The _____ offerings will provide something perhaps a little less spectacular but more _____.

5. Debate Time.

a. What crazy future technology are you looking forward to?

b. What modern technologies are you concerned about? Why?

c. What do you think the future of VR is?

d. What other technological advances do you think will be there in the future?

e. What about the future of robotic technology? What will it be like? Try to predict or imagine.

f. Many science fiction movies present a dark vision of the future. Are you optimistic or pessimistic about the future of the whole humanity? Why?

6. **Work in pairs or small groups. Imagine that you are a group of scientists and inventors. You are about to create a new technological device or groundbreaking invention in the world of technologies. Think of it in details. Make up:**

- The invention itself

- Its usage

- Its benefits for humanity

- What is unique about it

- Why it is the future of technology

- Other details (if necessary)

Then present your invention to the rest of the students.
Decide which invention would be a great thing to appear.

VII. EVOLUTION AND NATURAL SELECTION.

1. Warming-up.

a. What is evolution?

b. Do you think that evolution is "just" a theory?

c. What does the word "theory" mean to a scientist? In other words, what do scientists mean when they refer to the "theory of relativity" the "theory of evolution"?

d. What do you understand by the term 'natural selection'?

e. What do you think of the term 'survival of the fittest'? Is it the best description of evolution?

f. Does evolution always produce animals which are "better"? What about cave-living fish which lose their eyes? Or island-living birds which lose the ability to fly?

g. Why do you think that some species survive and evolve while others go extinct?

2. **Vocabulary Preview. Match the words from the left with their meanings from the right.**

1. species	a. the young of an animal, or a person's children
2. fossil	b. (esp. of unexpected events) to happen
3. variable	c. part of a plant or animal, or its shape, that has been preserved in rock or earth for a very long period
4. offspring	d. abbreviation for deoxyribonucleic acid (= the chemical at the center of the cells of living things that controls the structure and purpose of each cell and carries genetic information during reproduction)
5. ancestor	e. to be one of the reasons why something happens
6. DNA	f. a set of animals or plants in which the members have similar characteristics to each other and can breed with each other
7. to occur	g. a person related to you who lived a long time ago
8. extinct	h. an animal that hunts, kills, and eats other animals
9. predator	i. likely to change often
10. to contribute	j. no longer existing

3. **Read the article about natural selection. What do you know about Darwin's theory? Read and check your knowledge.**

Natural selection is the process through which **species** adapt to their environments. It is the engine that drives evolution.

English naturalist Charles Darwin developed the idea of natural selection after a five year voyage to study plants, animals, and **fossils** in South America and on islands in the Pacific. In 1859, he brought the idea of natural selection to the attention of the world in his best-selling book, *On the Origin of Species.*

Natural selection is the process through which populations of living organisms adapt and change. Individuals in a population are naturally **variable**, meaning that they are all different in some ways. This variation means that some individuals have traits

[1]_____. Individuals with adaptive traits—traits that give them some advantage—are more likely to survive and reproduce. These individuals then pass the adaptive traits on to their **offspring**. Over time, these advantageous traits become more common in the population. Through this process of natural selection,

[2]_____.

Natural selection can lead to speciation, where one species gives rise to a new and distinctly different species. It is one of the processes that drives evolution and helps to explain the diversity of life on Earth.

Darwin chose the name *natural selection* to contrast with "artificial selection," or selective breeding that is controlled by humans. He pointed to the pastime of pigeon breeding, a popular hobby in his day, as an example of artificial selection. By choosing which pigeons mated with others, hobbyists created distinct pigeon breeds,

3 _____.

Darwin and other scientists of his day argued that a process much like artificial selection happened in nature, without any human intervention. He argued that natural selection explained how a wide variety of life forms developed over time from a single common **ancestor**.

Darwin did not know that genes existed, **4** _____.

Mutations are changes in the structure of the molecules that make up genes, called **DNA**. The mutation of genes is an important source of genetic variation within a population. Mutations can be random (for example, when replicating cells make an error while copying DNA), or **5** _____, like harmful chemicals or radiation.

Mutations can be harmful, neutral, or sometimes helpful, resulting in a new, advantageous trait. When mutations **occur** in germ cells (eggs and sperm), they can be passed on to offspring.

If the environment changes rapidly, some species may 6_____. Through studying the fossil record, we know that many of the organisms that once lived on Earth are now **extinct**. Dinosaurs are one example. An invasive species, a disease organism, a catastrophic environmental change, or a highly successful **predator** can all **contribute** to the extinction of species.

Today, human actions such as overhunting and **7** _____. Extinctions seem to be occurring at a much faster rate today than they did in the past, as shown in the fossil record.

4. Comprehension.

Complete the gaps in the article with the phrases below.

a. with fancy feathers or acrobatic flight, that were different from wild pigeons.

b. the destruction of habitats is the main cause of extinctions.

c. better suited to the environment than others

d. not be able to adapt fast enough through natural selection.

e. favorable traits are transmitted through generations.

f. but he could see that many traits are heritable passed from parents to offspring.

g. happen as a result of exposure to something in the environment

5. Debate Time.

a. Did we evolve from monkeys, did monkeys evolve from humans or did we both evolve from something else?

b. Why have humans evolved to have different colors and other features?

c. What human traits are you familiar with that are a direct result of evolution from our common ancestor?

d. Are there other animals better adapted to their environment than we are?

e. If intelligence is so useful why are we the only species to have evolved it?

f. Are we still evolving or does science and technology do it for us?

g. Do you worry about the world's endangered species? Why(not)?

h. Why are so many species becoming endangered?

i. What should governments do to protect endangered species?

j. Do you think humans will ever be an endangered species? Why(not)?

6. Activity.

Work in pairs or small groups. Surf the net and look up the information about endangered or extinct species. Find out what reasons are leading (or led) to its extinction. How can (or could) humans prevent its extinction? Then describe this information and your ideas to the class.

VIII. COMPUTERS AND THE INTERNET.

1. Warming-up.

- Do you like computers? Are they:
  - *a vital part of your life*
  - *a necessary tool but nothing more*
  - *something to play games on*
  - *or something horrible and frustrating which you avoid dealing with as much as you can?*

- Are you connected to the Internet at home? What do you use your connection for?

- Does your whole family use computers? Why(not)?

- Do you visit many English-language websites while surfing? Is this for work, study or pleasure?

- Are you into computer gaming? Which games do you like and why?

- Do you use Netflix or a similar streaming media provider? If yes, how often? If no, would you like to? Why?

- Would you like to spend more time with your computer or would you like to spend more time with friends?

- What is the best/worst thing about computers? Why?

- How many hours a day or a week do you spend on the net when you are not working?

- What would you prefer to use for internet access: you mobile phone or computer? Why?

VOCABULARY.

1. **Match the objects in the pictures below with the words in the box.**

microphone   printer   screen   mouse   keyboard

web camera   memory stick   system unit

mouse   mat

2. Read about using a computer. Match the phrases in bold with the definitions below.

After you have **switched on** your computer, you may need to **log in/on** (*opp*. **log out/off**) with your **username** and **enter** your **password**. If you then **double-click** on an **icon**, you can open an **application**.

Computers can **store** large amounts of information, but when you're working it is important to **back up** the **files** you are working on, so you don't lose the files if something goes wrong.

    a. email, internet browser, etc.

    b. make an extra copy of the files

    c. turn on

    d. put a special word into the computer that you only know

    e. a small picture on the screen

    f. keep

    g. to connect to a computer system by putting in a particular set of letters or numbers

    h. a name that you type in before you are allowed to use a computer or a website

    i. to put information into a computer

3. Match the pictures below with the instructions for a computer.

1. to **create** a new document, select new from the **File menu**.

2. You can **copy** and **paste** information from one file to another.

3. If you **save** the document, you can **print** it **out** later (or you can get a **hard copy/printout** later).

4. It is also important to **save** the document in case the computer crashes. Press the Escape key to exit.

4. **Match the words and phrases from the left with their meanings from the right.**

1. PC	a. to put new programs onto your computer
2. operating system	b. to use
3. to install	c. short for personal computer
4. laptop	d. a program to stop virus entering your computer
5. software	e. the part inside the computer that stores large amounts of information

6. to run (*e.g. software*)	f. programs in the computer
7. hard drive (or hard disc)	g. a small computer that you can carry around
8. anti-virus software	h. computer software that controls how the computer works

5. **Complete the definitions below with the words from previous exercises.**

a. Computer software that controls how different parts work together.

b. The special word that you type into your computer that only you know.

c. A program secretly put on a computer to destroy the information on it.

d. The part inside the computer that stores big amounts of information.

e. A small portable computer.

6. Complete the dialogues below with the words from vocabulary.

1. **A**: What do I do when I finish?

B: You can press the escape key to _____.

2. **A**: How often do you _____ your files?

3. **B**: At the end of every day if I can remember.

4. **A**: Is the data _____ on the hard disc?

5. **B**: Yes, but I always make a _____.

6. **A**: Did you _____ software yourself?

B: No, I don't understand anything about computers. My wife did it for me.

7. **A**: How do I _____ a new document?

B: Just select new from the File _____.

8. **A**: There was a warning on the news this morning about a new computer

_____.

B: Well, I should be OK. I have _____ software.

USING EMAIL AND THE INTERNET.

7. Define the words in bold with your teacher.
Then work in pairs. Discuss the questions below. Find how much you have in common with your partner.

- How often do you **check your email**?
- How many emails do you send a week? Are they all **essential**?
- How many emails do you get every week? Do you read them **immediately**?
- How quickly do you **reply to** the emails you **receive**?
- Do you **delete** emails **regularly**?
- Do you get much **spam/junk mail**?
- How often do you send or receive **attachments**?

a. Students **search** the internet to help with their studies. People **download** information, pictures, **video clips**, music, etc.

b. People buy books, clothes and food **online**, book their holidays online, take out insurance online, etc.

They go to a **website**, select the item they want and **click add to basket/bag**. When they have finished shopping, they go to **checkout** and pay for their items, usually with a credit or debit card.

c. Some people have a personal website or page in social networks to provide news about a particular subject, or just **post** about events in their life. These are called **blogs**, and people who have them are **bloggers**.

d. Some people just like to spend hours **surfing the web/net**.

e. Some people spend a lot of time on **social networking sites**. They **chat** with their friends. **share** different **content** and add **comments** to other people pages and blogs. o Some people do a lot of **instant messaging**.

Debate Time.

Divide into small groups. Discuss in each group what computers and our interaction with them were like 30/20/10 years ago/at the moment. There must one period for each group. You need to use new vocabulary from the lesson.

Then discuss these changes together and compare them between the groups. Together decide what the future of computers and the internet might be.

IX.   INTERNET

1.Warming-up.

- How many hours per day do you spend online? Is it too many?

- Do you go online more on your phone or more on a computer? What are the benefits of each?

- Which website do you visit most often? What do you do there?

- What is your preferred search engine? Why is it the best?

- How old should a child be before they are allowed to use the internet?

- Do you know anyone who never uses the internet? Why don't they use it?

- Do you do online shopping? What do you like to buy online and what do you prefer to buy in a store?

- What social media do you use these days? Why do you prefer those over other social networks?
- What is your favorite smartphone app? What do you do with it?

2. **Vocabulary Preview. Match the words from the left with their meanings from the right.**

1. origin	a. information in an electronic form that can be stored and processed by a computer
2. to research	b. the right or opportunity to use or look at something
3. data	c. to give permission for someone to do something, or to not prevent something from happening
4. goal	d. unlikely to happen or to be successful
5. up and running	e. the beginning or cause of something
6. to allow	f. a situation in which someone asks if you would like to have something or if you would like them to do something
7. to swap	g. a detailed study of a subject
8. offer	h. an aim or purpose
9. to access	i. an increase in something, or a time when something becomes more popular
10. boom	j. to give something and be given something else instead
11. doubtful	k. operating normally

3. Read the article *A Short History Of The Internet*.

The **origins** of the internet come from the USA of the 1950s. The Cold War was there, and hard relationships existed between North America and the Soviet Union. The US realized it needed a communications system that could not be affected by a Soviet nuclear attack. Computers were big, expensive machines used by military scientists and university staff. These machines were powerful but limited in numbers, and researchers grew increasingly frustrated: they required access to the technology but had to travel great distances to use it.

To solve this problem, researchers started 'time-sharing'. This meant that users could access a main computer through a series of terminals, although individually they had only some computer's actual power at their command.

The difficulty of using such systems made various scientists, engineers and organizations **research** the possibility of a larger computer network.

THE FIRST USE OF A COMPUTER NETWORK

In 1965, Lawrence Roberts made two separate computers in different places 'talk' to each other for the first time. This experimental link used a telephone line with an acoustically coupled modem and transferred digital **data** using packets.

A second try was also successful, and more messages were sent between the two sites.

THE LIFE OF THE ARPANET

President Dwight D. Eisenhower formed the Advanced Research Projects Agency (ARPA) in 1958, bringing together some of the best scientific minds in the country. Their **goal** was to help American military technology be better than its opponents.

When the first packet-switching network was developed in 1969, the ARPA Network—or ARPANET—was born.

Once ARPANET was **up and running**, it quickly developed. By 1973, 30 academic, military and research institutions had joined the network, connecting locations including Hawaii, Norway and the UK.

In 1974, computer scientists Bob Kahn and Vint Cerf invented a new method called transmission-control protocol, popularly known as TCP/IP, which **allowed** computers to speak the same language.

After the introduction of TCP/IP, ARPANET quickly grew to become a global interconnected network of networks, or 'Internet'.

THE GROWTH OF THE INTERNET, 1985–95

Between 1986 and 1987, the network grew from 2,000 users to 30,000. People were now using the internet to send messages to each other, read news and **swap** files. However, bigger knowledge of computing was still needed to use it effectively.

The internet needed to be easier to use. An answer to the problem appeared in 1989 when a British computer scientist named Tim Berners-Lee sent an **offer** to his employer, CERN. Berners-Lee offered a new way of structuring and linking all the information available on CERN's computer network that made it quick and easy to **access**. His concept for a 'web of information' would finally become the World Wide Web.

Mosaic browser in 1993 opened the web to a new audience of non-academics, and people started to see how easy it was to create their own HTML web pages. As a result, the number of websites grew from 130 in 1993 to over 100,000 at the start of 1996. By 1995 the internet and the World Wide Web were phenomena: Netscape Navigator, which was the most popular browser at the time, had around 10 million global users.

EARLY ECOMMERCE AND THE 'DOTCOM BUBBLE'

The big success surrounding the internet led to a massive **boom** in new technology shares between 1998 and 2000. This became known as the 'dotcom bubble'.

The claim was that world industry was experiencing a 'new economic paradigm', which had never been experienced before. Investors began to believe the hype and threw themselves into the activity. The internet was central to economic growth. This led in turn to a crazy level of investment.

At that time many companies were opened on **doubtful** business plans.

However, despite their failure, such businesses helped cause a fundamental transformation and played an important role. Many investors lost money, but they also helped to finance the new system for future success in ecommerce.

4. Complete the sentences below with a word/number from the article.

a. Computers of 1950s were big, expensive machines used by

_____ and _____ staff, powerful but

limited in numbers.

b. In _____, Lawrence Roberts made two separate computers in

different places 'talk' to each other for the first time.

c. President Eisenhower formed the Advanced Research Projects Agency in

_____, bringing together some of the best _____

in the country.

d. By 1973, _____ academic, military and research institutions had joined the

network

e. The abbreviator 'Internet' means is for an

_____.

f. Between 1986 and 1987, the network grew from _____ users to

_____.

g. People were now using the internet to _____, read news

and _____.

h. The number of websites grew from 130 in _____ to over 100,000 at the

start of _____.

i. The big success of the internet led to a massive boom in new

_____ between 1998 and 2000.

5. Debate Time.

a. Do you worry about online security? What are the risks of being online?

b. Is your internet fast enough? How do you feel when the internet is working slowly?

c. When was the last time you had no internet access? What were you doing?

d. Do you have any experience running a blog or building a website? Talk about it.

e. Do you watch a lot of YouTube? What kinds of content do you watch?

f. Have you tried online dating? What is good and bad about online dating?

g. Many services are online these days. Which parts of our lives will never be online?

h. Are you interested in online business? Have you thought about starting your own? In which area?

X. LIVING PLANET

1. Warming-up.

a   Describe the most natural environment for a human being. Does your description match the environment you live in?

b   What kind of pollution is worst for our health?

c   How do you feel when you hear about global warming? Is there hope for the future?

d   Do you believe human activities contribute to global warming? If so, what should we do about it?

e   If not, what do you think causes global warming?

f What is more important to you? Social issues or environmental problems?

g How important is nature to you? Do you try to get close to nature?

h Where can a person go to breathe fresh air?

i Which countries produce the most pollution? Which country has the most environmentally friendly reputation?

j What is your opinion of scientists? Do you think they are boring people or interesting?

k What scientific subjects are the most popular nowadays? Why?

l What scientific subjects should be more appreciated? Why?

m What recent scientific discoveries have been really important for the planet? Why?

VOCABULARY

SCIENCE

1. These are things that scientists do as part of their work. For 1-3, match each verb with a noun or phrase. Check your answers, then tick the things you have done while studying science.

1. work   data into a computer

    make   as part of a team

    enter   observations

2. collect   exciting discoveries

    make   data

    do   experiments

3.   make   conferences

     attend   statistics

     interpret   predictions

2. Match the words for scientists from the left with the things they study from the right.

1. astronomer	a. living things
2. biologist	b. rocks
3. chemist	c. substances
4. ecologist	d. numbers and shapes
5. geologist	e. matter and energy
6. mathematician	f. the environment
7. physicist	g. stars

3. **Complete the table below.**

Person (noun)	Subject (noun)	Adjective
astronomer	*astronomy*	*astronomical*
biologist		
chemist		
ecologist		
geologist		
mathematician		
physicist		

4. **Read the texts about two famous scientists. Answer the questions below with N (Newton), L (Lovelock), or B (both).**

Isaac Newton (1642-1727) had a profound impact on astronomy, physics and mathematics. He was raised by his grandparents and it was thanks to an uncle that he went to university to study mathematics. He made the first modern telescope and developed a brunch of mathematics known as calculus. He is also famous for developing the scientific laws of motion and the law of gravity, which formed the basis of all models of the cosmos.

James Lovelock (b.1919) first graduated as a chemist, and then got degrees in medicine and biophysics. He produced a range of technical instruments, many of which are now used by NASA in space exploration. He is most famous for the Gaia Theory, which considers planet Earth as a living being, capable of changing and

restoring itself. He brought his worry about climate change to the attention of both the public and the scientific world.

   Which scientist…

a. **got a degree in chemistry?**

b. **Invented a scientific instrument?**

c. **worried about the future of the Earth?**

d. **developed theories of global importance?**

e. **had a keen interests in green issues?**

f. **showed a talent in mathematics?**

5. Work in pairs or small groups.

   Surf the net and look up some biographical information about some scientist (alive or dead). Think about:

   ▪ *their lifespan*
   ▪ *degree (if there is any)*
   ▪ *discoveries*
   ▪ *research*
   ▪ *awards*
   ▪ *impact of global importance*

   Then share this information with the rest of the class.

GREEN PLANET

1. **There are many problems with the environment. Which of them can you remember?**
   Match the halves of the sentences below and check your ideas.

1. Global warming means that the weather	a. pollutes the air in most cities
2. Heavy traffic	b. is taken to rubbish dumps
3. The emissions produced by factories	c. have caused serious flooding
4. Chemicals used on crops in the countryside	d. create acid rain which destroys crops
5. Heavy rain and rising water levels in rivers	e. is becoming more extreme
6. Households produce huge waste that	f. are dangerous to birds and other wildlife

2. **Underline the problems in ex.1 that exist in your area/country. Then work in pairs and discuss them. Conclude the problems you've found with your partner.**

3. **Listen to a student talking about how he tries to live in a green way. Mark the sentences below True or False. Correct the false sentences.**

   a   He recycles as much of his rubbish as he can.
   b   He switches off electrical equipment to avoid wasting power.
   c   He never sleeps with the air-conditioning on.

d He puts an extra sweater on instead of turning up the heating.

e He buys organic food that is produced in his local area.

f He mostly walks or uses public transport rather than driving.

4. Which of the things from the recording do you do? How are they helpful? Which of the things could help to solve the problems in your area/country that you discussed with your partner?

Debate Time.

Work in pairs or small groups. Imagine that you're working over some ecological project or campaign. Choose an area/country. Think of the problems that people and nature face there. (There's an option to use the internet to look it up).

Think of the solutions that might help. Try to use new vocabulary from the lesson.

Then present your project/campaign to the class.

XI. *BUSINESS IDEAS.*

1. Warming-up.

a. Remember five local businesses and five global companies.

b. Do you know anyone that owns their own business? What do they do?

c. Have you considered running your own business? What kind of business would you like to run?

d. What is business sense, and do you have it?

e. Would you rather work for a big company or a small company? What are the pros and cons of each situation?

f. Some children are expected to work in their parents' business. Is it good to give children practical business experience at an early age? Why or why not?

g. Have you ever played the board game Monopoly? Is it a good way to teach children about commerce? Can you think of other fun ways to learn about business?

h. Business is important in today's economy. Is business education emphasized enough in school?

2. **Vocabulary Preview. Match the words from the left with their meanings from the right.**

1. due to	a. a result or situation that you intend to achieve
2. income	b. to interest someone in something and keep them thinking about it
3. to hire	c. the people who watch a particular television program or film, read a particular book, etc.
4. target	d. because of
5. passionate	e. also; too
6. audience	f. to employ someone or pay someone to do a particular job
7. commission	g. money that is earned from doing work or received from investments
8. as well	h. skilled and experienced
9. tutor	i. having very strong feelings or emotions
10. proficient	j. a teacher paid to work privately with one student or a small group
11. to engage	k. a payment to someone who sells goods that is directly related to the amount sold, or a system that uses such payments

3. **Read the article. Which of the ideas do you think are the most interesting and creative? Why? Which ones are hard to imply?**

Build Apps

Due to the rise in smartphones usage worldwide, the demand for new and creative mobile apps is increasing in popularity more than ever before. Taking the time to develop and sell a smartphone mobile app may be worth your time since it's a very profitable way to earn money online. The apps cost almost nothing to actually develop and don't involve any delivering or storage costs. Well performing apps can make thousands in ad **income** each month for their creators.

Become A Social Media Consultant

Large corporations and business firms can easily **hire** a full-time staff coordinator or corresponding agency to run their Twitter, Facebook, and Instagram accounts, but smaller businesses often must manage their own marketing for social media. But, because they have a great number of other responsibilities, many times business owners are too busy to spend a lot of time on developing their social media methods.

As a consultant for social media, you can effectively navigate them with ideal tactics, schedules, and posting content regarding their **target** audience. Therefore, as their business grows, so will yours.

Become An Expert Blogger

If you're **passionate** about writing and feel strongly about certain subjects, type your way to riches by creating your own blog. Launching your own blog doesn't require a great deal of technical or computer skills. It is important, however, that

you do know what you're talking about the subject you're writing on. Over time, you'll start to develop an **audience** since people will trust your expertise and knowledge. By building a following, this will allow you to get money by attracting advertisers or get **commissions** by promoting other brand products.

Freelance Writer – Get Paid to Write

If managing a blog seems a bit hard but you still desire to follow your writing passion, you can become a freelance writer and write for other sites or blogs. Also, writing an interesting e-book may also be an option for you **as well**. E-books do not have any printing or delivering payments, which makes them a good investment. If you're someone who has strong language skills, you could potentially become an expert copy editor that webmasters will gladly pay to read and edit articles and also correct any grammatical errors.

Sell Your Own Art Online

Turning a hobby into a career is always the dream. Thanks to the Internet, it's easier to make that happen than ever before! Artists these days have the chance to connect with people from all places of the globe. Creating a profitable online business is a breeze in today's digital world. All you need is creative talent.

## Teach Online and Conduct Webinars

Tutors are always needed whether it's online or offline. Therefore, if you have a brain and like helping others use theirs, become an e-teacher to earn an extra money in your free time. The only thing you need is to be **proficient** in your area of expertise and be willing to give up a few hours each week to help someone else. If you're good, you can conduct lectures, seminars, or webinars that are online. University and college students are always willing to pay money to get access into highly respected online webinars.

Become a Podcaster & Start a Podcast

Podcasting is a really easy way to create content that is easy for your audience to get. Its portable, its cost-effective and can **engage** better with your audience than say text written content.

Once you've built trust with your audience through your podcasts, you can then potentially monetize your content with sponsorships and offers. Earning the trust of your listeners is important, because if they don't trust what you're saying then why would they buy the things you promote?

4. **Work in small groups. Choose one of the ideas from the article and create an idea for a business. Think of your business plan, target audience, advertising and possible risks. Then perform with your business in front of the class.**
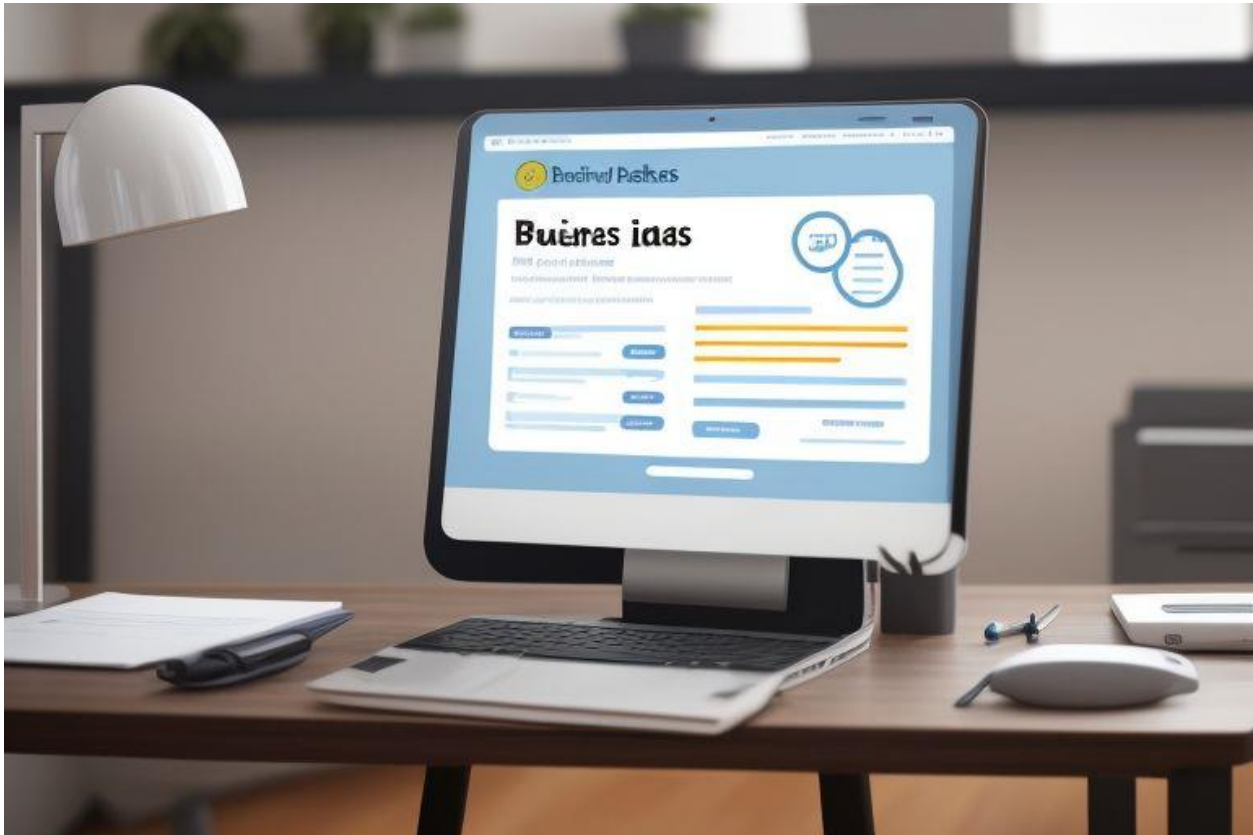
5. Debate time.

a. Capitalism is the main system of economic interaction in the world today. What are its advantages and disadvantages?

b. Who is your favorite entrepreneur? What did they do?

c. What are the world's greatest companies? Why?

d. Which company has the worst reputation? Why?

e. Should the government do more to support small businesses and start-ups? What could they do?

f. Do corporations have too much influence over government?

g. Which types of business have the brightest future? Why?

XII. VIDEO GAMES.

1. Warming-up.

a Do you like video games? Why or why not?

b What genres of video can you remember? Make a list.

c Do you play video games these days? If yes, how much time per week do you spend playing them?

d What type of games are good for playing alone? Which are good for playing with other people?

e On what kind of machines or devices can people play video games?

f Children enjoy video games. How old should a child be before he or she is allowed to play video games?

g Virtual reality systems are gaining popularity these days. Are you excited about the potential of virtual reality? Or are you worried? Why?

2. Read the words and their definitions in the table below. Discuss them with your teacher if necessary.

   Complete the sentences with these words. Sometimes you need to change their forms.

1. to increase	a. to become or make something larger or greater
2. to impact	b. to have an influence on something
3. to tend to	c. to be likely to behave in a particular way or have a particular characteristic
4. patience	d. the ability to wait, or to continue doing something despite difficulties
5. confident	e. being certain of your abilities or having trust in people, plans, or the future
6. to reduce	f. to become or to make something become smaller in size, amount, degree, importance, etc.
7. vulnerable	g. able to be easily physically, emotionally, or mentally hurt, influenced, or attacked
8. addiction	h. an inability to stop doing or using something, especially something harmful
9. to lose touch with	i. to stop communicating with someone, usually because they do not live near you now
10. obesity	j. the fact of being extremely fat, in a way that is dangerous for health

11. self-esteem	k. belief and confidence in your own ability and value
12. to keep up with	l. to continue to be informed about something

a. I completely _____ my former classmates.

b. Too much greasy food after 6 p.m may lead to _____.

c. Drug _____ is a big problem in a lot of countries.

d. Watching films in English has had a positive _____ on my listening skills.

e. Elderly people are more _____ to crimes on the internet.

f. Sometimes it's hard to _____ all the breaking news.

g. My sister is really _____ about her appearance and soft skills.

h. The amount of people who move to the countryside _____ last year.

i. I want to have a high _____ , so that other people couldn't offend me.

j. He's trying to _____ his sugar intake, because it's a high risk for him to get diabetes.

k. I know she _____ speak loudly as it's her habit.

l. We all need to have _____ when we are in a queue waiting for a doctor.

3. Divide into A and B.

<u>Students A</u> **should read about advantages of video games while** <u>students B</u> **should read about disadvantages of them.**

Advantages of Video Games

1. Improved Vision

Studies say that video game players may get an unexpected benefit from them; better vision. They **increase** players' ability to see small differences in shades of gray. They may also help players increase their ability to visually catch the direction of movement. Gamers spotted targets on a messy screen 80% of the time, while non-gamers managed this only 30% of the time.

2. Brain Booster

Playing video games **impacts** regions of the brain responsible for memory, orientation in space around them, information organizations, and fine motor skills. As people age, the importance of playing games **tends to** increase.

It could improve decision-making skills; gamers who spend time daily with fast-paced games can react to questions or situations up to 25% faster.

3. Improved Life Skills

Video games involve taking risks, and the ability to strategize. It teaches **patience** and the right judgment. It also helps people find new friends and social connections. Besides, gamers become better at critical analysis and learn to concentrate on tasks at hand to completion.

4. May Ease Anxiety and Depression

People are more **confident**, energetic, and emotionally positive when they play video games, which is exactly the opposite of what depression brings about.

People, who feel depressed and lack physical energy, find it difficult to carry out daily tasks and are generally pessimistic. Thus, playing can **reduce** the risks for depression, help with arthritis.

5. Painkiller

According to a study from the American Pain Society, video games, and more specifically 3D ones, could help reduce the brain's response to physical pain.

Playing an attention-grabbing video game may distract one away from a painful activity and help them with chronic pain conditions, especially children.

Disadvantages of Video Games

1. Addiction

Video games are designed to be addictive, so it is essential to have some self-control. Especially people with poor impulse control or who have a hard time fitting in are most **vulnerable** to game **addiction**. It could be because people tend to play games to fill the gap that real-world problems leave behind. It is better to watch out for this form of addiction because it may end up costing you a lot.

2. Social Replacement

Video games often act as a replacement for real-time human connections. People who find themselves playing hours upon hours of video games may find themselves **losing touch with** the relationships they've built with other people.

People argue that with internet-connected games, they can easily hang out with friends and families without ever leaving home, but this type of virtual get together is no replacement for actual face-to-face interaction.

3. Obesity

New studies show that the risk of being overweight increases with every hour people spend on virtual play. Lack of movement and overplaying lead to muscle pain as well. Moreover, the addiction to these games leads to problems with sleep and **obesity**.

4. Stress

Video game addiction could lead to other levels of psychological stress as well. Gamers may suffer from low **self-esteem,** have social worries, or even suffer from depression.

Excessive gaming can also inspire feelings of guilt and shame. It is possible that uncontrolled gaming could make the signs and symptoms of other mental disorders worse.

5. Could Limit Academic Process

Although video games can improve the strategic thinking decision-making process, they can also make them worse.

Students who use their free time to play video games can struggle to **keep up with** school/college. Most gamers procrastinate on their studying, or they simply ignore a deadline just to play their favorite game.

4. **Divide into pairs with A and B students in each pair. You should tell each other about the articles you've read.**
Then students A should describe disadvantages of playing games using the information from their partner in the pair. The same should students B do, but their retelling should be about the advantages. At the end, decide if retelling has been accurate.

5. **Debate Time.**

a. Some video games are very violent. Do you think they influence their players to be violent in real life? If so, what should we do about it?

b. What do you think about movies based on video games?

c. Are video games aimed mainly at children, adolescents, or adults?

d. These days, some gamers make a living from playing video games. Do you think professional gamers are like the athletes in other sports? Why or why not?

e. What will video games be like in the future?

6. **Project Time.**

Work in small groups. Imagine you work in a company which creates video games. Make up a new game. Think about:

- *Its genre/type*

- *Plot*

- *Main characters*

- *Target audience*

- *Benefits in playing it for users*

- *What you think the game will be a success*

Then present your project to the class. Decide whose project could be the most interesting and successful.

DIGITAL TECHNOLOGY USE

Comprehension questions

1. "Digital technology use"

2. "Mobile devices"

3. "A meta medium"

4. "Smartphones and other digital devices"

5. "85"

6. "Two"

7. "Different types of use"

8. "Active"

9. "Passive"

10. "Goal-directed"

THE INFO-REVOLUTION

1) D
2) B
3) C
4) A
5) D
6) C
7) A
8) C
9) D
10) B

TECHNOLOGY ON THE HORIZON

Vocabulary review:

1-c

2-g

3-a

4-i

5-f

6-e

7-b

8-d

9-h

SPACE EXPLORATION.

Vocabulary Preview:

1 – c

2 – g

3 – j

4 – a

5 – i

6 – e

7 – d

8 – k

9 – f

10 – h

11 – b

Could we harness the power of a black hole? Answers:

1 – b

2 – d

3 – a

4 – d

5 – c

There may be extraterrestrial life in our solar system Answers:

1 – d

2 – a

3 – c

4 – c

5 – b

Could we harness the power of a black hole_ - Fabio Pacucci.mp4

There may be extraterrestrial life in our solar system - Augusto Carballido.mp4

INFORMATION TECHNOLOGY.

Ex.3:

1 – compact

2 – user-friendly

3 – standard, keypad

4 – displays, automatically

5 – the latest

6 – download

Ex.4:

1 – user-friendly

2 – access

3 – scroll

4 – operate

5 – keyboard

6 – function

7 – display

8 – equipped

9 – store

10 – memory

11 – data

Computers and technology Ex.3:

1 – speculated

2 – device, gadget

3 – prototype

4 – virtual

5 – cutting-edge

6 – surpassed

7 – digital

8 – monitor

9 – cyber

Ex.4:

Wireless connection; remote control; labor-saving; cyber space; automatic pilot; silicon chip

Idioms:

1 – c

2 – f

3 – a

4 – e

5 – d

6 – b

VIRTUAL REALITY.

Vocabulary Review:

1 – f

2 – a

3 – j

4 – c

5 – h

6 – b

7 – i

8 – e

9 – d

10 – g

Comprehension Answers:

1. The Teslasuit uses a full-body suit to offer haptic feedback enhancing the immersion through the sense of touch. It also measures the user's heartbeat, perspiration, and other stress indicators.

2. The Teslasuit will also reduce the financial risks involved with letting students and inexperienced recruits loose with expensive tools and machinery in any industry.

3. The "Internet of Senses" involves developing projects with simulating touch, taste and smell, and sensations such as hot or cold.

4. In beta version of Horizon platform by Facebook, it allows people to build and share collaborative online worlds where they can hang out, play games, or work together on collaborative projects.

5. *Sandbox VR* offer five games that let groups cooperate or battle it out in deep space, aboard ghostly pirate ships, or through a zombie infestation.

6. While the most immersive and impressive tech is big, expensive, and requires technical skill to operate, it's more viable to offer it at dedicated venues rather than as an in-home experience.

7. The stay-at-home offerings will provide something perhaps a little less spectacular but more convenient.

EVOLUTION AND NATURAL SELECTION.

Vocabulary Preview:

1 – f

2 – c

3 – i

4 – a

5 – g

6 – d

7 – b

8 – j

9 – h

10-e

Comprehension Answers:

1-c

2-e

3-a

4-f

5-g

6-d

7-b

INTERNET.

Vocabulary Preview:

1- e
2- g
3- a
4- h
5- k
6- c
7- j
8- f
9- b
10- i
11- d

Comprehension Task:

a. military scientists and university staff

b. 1965

c. 1958; scientific minds

d. 30

e. interconnected network of networks

f. 2000; 30000

g. send messages; swap files

h. 1993; 1996

i. technology shares

LIVING PLANET

Science Ex.2:

1-g ; 2-a; 3-c; 4-f; 5-b; 6-d; 7-e;

Green Planet Ex.1:

1 – e

2 – a

3 – d

4 – f

5 – c

6 – b

Green Planet Ex.3:

a – True b – False (It's easier to
live them on) c – True d – True e –
False (He can't afford to buy it) f –
True

Living Planet.mp3

BUSINESS IDEAS.

Vocabulary Preview:

1-d; 2-g; 3-f; 4-a; 5-I; 6-c; 7-k; 8-e; 9-j; 10-h; 11-b

VIDEO GAMES.

Vocabulary Answers:

a – lost touch with

 b – obesity

c – addiction

d – impact

e – vulnerable

 f – keep up with

g – confident

h – increased

i – self-esteem

j – reduce

k – tends to

 l – patience

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