MINISTRY OF EDUCATION AND SCIENCE OF UKRAINE

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Methodological guidelines

for practical work

on the subject

PRACTICAL COURSE OF ENGLISH

(for 4-th year full-time students first (bachelor) educational level
Specialty 035 – Philology)

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UNIT 1 Music and other factors influencing on human health

Activity 1 Read the text.

1.1 How Music Promotes Health

Music is an art, entertainment, pleasure, and ... medicine for the body and soul. Playing music is one of the few activities that involve using the whole brain. Music is intrinsic to all cultures and has surprising benefits not only for learning language, improving memory and focusing attention, but also for physical coordination and development.

Not all types of music have favourable effects, however. Too loud or too jarring music can be distracting, and can compete for our attention with what we're trying to do. But for the most part, exposure to music, specifically classics, has beneficial effects:

1. Music heals.

   Pain relief.

Overall, music has positive effects on pain management. It can help reduce the sensation as well as distress of both chronic pain and postoperative pain.

It may be difficult to believe, but music can help to reduce pain, chronic actually, resulting from several conditions, like osteoarthritis, disc problems or rheumatoid arthritis, by up to 21 %.

Music therapy is increasingly used in hospitals to reduce the need for medication during childbirth, or to decrease postoperative pain and complement the use of anaesthesia during surgery.

There are several theories about how music positively affects perceived pain:

1. Music produces revulsive effect.
2. Music may give the patient a sense of control.
3. It causes the body to release endorphins to counteract pain.
4. Slow music relaxes by slowing breathing and heartbeat.

Reducing blood pressure.

By listening to the recordings of relaxing music every morning and evening, people with high blood pressure can train themselves to lower their blood pressure - and keep it low. This claim is supported by American Society of Hypertension. They reported that listening daily to just 30 minutes of some music genres like classical, Celtic or raga music may noticeably lower high blood pressure.

Medicine for the heart.

Music is also good for your heart. In this case, benefits come not from music style, but it's tempo. Italian and British researchers recruited young men and women, half of whom were trained musicians. The participants listened to six styles of music in headphones, including rap and classical pieces, with random two-minute pauses. As the participants listened to the music, the researchers monitored their breathing, heart rates and blood pressure. Heart and breathing rates were faster when they listened to lively music. And when the musical slowed, so did their heart and breathing rates. Some results were surprising. During the musical pauses, heart and breathing rates normalized or reached more optimal levels. Whether or not a person liked the style of music did not matter. The tempo, or pace, of the music had the greatest effect on relaxation.

Promotes Post-Stroke Recovery.

A daily portion of one's favourite pop melodies, classical music or jazz, can speed recovery according to the latest research. When stroke patients in Finland listened to music for a couple of hours each day, verbal memory and attention span improved significantly compared to patients who received no musical stimulation, or who listened only to stories read out loud, the study reports. Besides that, patients with unilateral neglect after stroke may improve their visual attention by listening to classical music.

Another benefit for stroke patients coming from listening to music is that it also promotes fine-grained neuroanatomical changes in the recovering brain.

Chronic headaches & migraine remedy

Music can help people who suffer from migraines and chronic headaches to reduce the intensity, frequency, and duration of the headaches.

Music boosts immunity

Music can boost the immune function. Scientists explain that a particular type of music can create a positive and profound emotional experience, which leads to secretion of immune-boosting hormones. This helps contribute to a reduction in the factors responsible for illness. Listening to music or singing can also decrease levels of stress-related hormone cortisol. And this is significant, because higher levels of cortisol can lead to a decreased immune response.

Effects of music on the brain.

Music activates many regions of the brain, including auditory, motor and limbic (associated with emotions). Such widespread activation of brain explains many beneficial emotional and cognitive music effects.

Music enhances intelligence, learning, and IQ.

The idea that music makes you smarter received considerable attention from scientists and the media. Listening to music or playing an instrument can actually make you learn better. And research confirms this.

The famous "Mozart effect".

Earlier it has been thought that listening to classical music, particularly Mozart, enhances performance on cognitive tests. However, there are findings that show that listening to any personally enjoyable music has positive effects on cognition.

Music improves concentration and attention.

Music that is easy to listen to or relaxing classics improves the duration and intensity of concentration in all age groups and ability levels. It's not clear what type of music is better, or what kind of musical structure produces the best results, but many studies have shown significant effects.

Music improves physical performance.

Athletic performance.

Choosing music that motivates you will make it easier to start moving, walking, dancing, or any other type of exercise that you enjoy. Music can make exercise feel more like recreation and less like work. Furthermore, music enhances athletic performance! Anyone who has ever gone on a long run with their iPod or taken a particularly energetic spinning class knows that music can make the time pass more quickly.

Body movement and coordination.

Musical rhythm has the remarkable ability to move our bodies. Music reduces muscle tension and improves body movement and coordination. Music may help in developing, maintaining and restoring physical functioning in the rehabilitation of persons with movement disorders.

Music helps to work more productively.

Fatigue fighter.

Listening to upbeat music can be a great way to find some extra energy. Music can effectively eliminate exercise-induced fatigue and tiredness caused by monotonous work.

Keep in mind that listening to too much pop and hard rock music can make you more jittery than energized. Vary what you listen to and find out what type of music is the most beneficial for you. You could try classical music one day, pop the next day and then some jazz.

Music improves productivity.

Many people like to listen to music while they work. According to a report in the journal Neuroscience of Behaviour and Physiology, a person's ability to recognize visual images, including letters and numbers, is faster when either rock or classical music is playing in the background.

Activity 2 Read the text again and answer the questions.

1. What are the beneficial effects of music?
2. What do you know about music?
3. How does it heal?
4. What are your ideas about the text?

Activity 3 Are the sentences true or false?

1. Music has negative effects on pain management.
2. Italian and British researchers recruited young men and women, half of whom were students.
3. Singing can decrease levels of stress-related hormone cortisol.
4. Listening to classical music has positive effects on cognition.
5. Music reduces muscle tension and improves body movement and coordination.
6. Person's ability to recognize visual images is slower when either rock or classical music is playing in the background.

Activity 4 Complete the sentences with the words below.

Relaxers, suffer, to beat, reduces, have shown, slows down, decreases, music calms, relaxes and helps to sleep, relaxing music induces sleep.

Relaxing classical music is safe, cheap and easy way ... insomnia. Many people who... from insomnia find that Bach music helps them. Researchers ... that just 45 minutes of relaxing music before bedtime can promote a restful night.

Relaxing music ... sympathetic nervous system activity, ... anxiety, lowers blood pressure, ... heart and respiratory rate, ... muscles, and helps to distract from thoughts.

Music reduces stress.

Listening to slow, quiet classical music, is proven to reduce stress. Numerous studies and experiments have shown that anyone can experience relaxing effects of music, including newborns.

One of the unique benefits of music as a stress reliever is that it can be used while you do your normal daily activities, so that it really doesn't take extra time.

Activity 5 Put the words in the correct order to make the sentences.

Music improves mood and decreases depression.

Prescription for the blues.

Music's ability, is, in, respected, to “heal the soul”, well known, and, every culture.

Many people, lifts, find, music, that, their spirits.

Modern research, confirm, tends to, psychotherapeutic, music's, benefits.

Bright, prescription, music (e.g. Mozart, Vivaldi, bluegrass, Klezmer, Salsa, reggae) the most, is obvious for, cheerful, the blues.

Anti-anxiety remedy.

Listening to, has, music, beneficial, on, effects, preoperative, anxiety.

Also music, help, can, overcome, related, to, dental, anxiety, procedures.

Activity 6 Read the text.

1.2 What is the placebo effect?

The placebo effect describes any psychological or physical effect that a placebo treatment has on an individual.

The placebo has become an essential part of all good clinical trials.

In early clinical trials, the capabilities of a new drug were measured against a group of people who took no medication. However, since discovering that the simple act of taking an empty tablet can produce the placebo effect, it is now considered essential to have a third group of participants.

This additional group takes a tablet containing no active ingredient to measure the response against them. Participants in this group will take a sugar pill, for example. A drug is only approved when it produces a greater effect than a placebo.

Placebos have been shown to produce measurable, physiological changes, such as an increase in heart rate or blood pressure. However, illnesses that rely on the self-reporting of symptoms for measurement are most strongly influenced by placebos, such as depression, anxiety, irritable bowel syndrome (IBS), and chronic pain.

Placebo interventions vary in strength depending on many factors. For instance, an injection causes a stronger placebo effect than a tablet. Two tablets work better than one, capsules are stronger than tablets, and larger pills produce greater reactions.

One review Trusted Source of multiple studies found that even the colour of pills made a difference to the placebo results.

“Red, yellow, and orange are associated with a stimulant effect, while blue and green are related to a tranquilizing effect.”

Dr. A. J. de Craen, researcher, BMJ.

Researchers have repeatedly shown interventions such as “sham” acupuncture to be as effective as acupuncture. Sham acupuncture uses retractable needles that do not pierce the skin.

Placebos can reduce the symptoms Trusted Source of numerous conditions, including Parkinson’s disease, depression, anxiety, and fatigue.

The placebo effect also varies between cultures Trusted Source. In treating gastric ulcers, the placebo effect is low in Brazil, higher in northern Europe and particularly high in Germany. However, the placebo effect on hypertension is lower in Germany than elsewhere.

Activity 7 Find the definition.

Clinical trials, heart rate, blood pressure, depression, anxiety, irritable bowel syndrome, acupuncture, tablets, pills, Parkinson’s disease, fatigue, hypertension

1. ... are research studies performed in people that are aimed at evaluating a medical, surgical, or behavioural intervention. They are the primary way that researchers find out if a new treatment, like a new drug or diet or medical device (for example, a pacemaker) is safe and effective in people.
2. ... is abnormally high blood pressure and especially arterial blood pressure.
3. ... is a common disorder that affects the large intestine. Signs and symptoms include cramping, abdominal pain, bloating, gas, and diarrhoea or constipation, or both. It is a chronic condition that you'll need to manage long term.
4. ... is the speed at which the heart beats.
5. ... is extreme tiredness resulting from mental or physical exertion or illness.

6. ... is the pressure of the blood in the circulatory system, often measured for diagnosis since it is closely related to the force and rate of the heartbeat and the diameter and elasticity of the arterial walls.

7. ... is a chronic progressive neurological disease chiefly of later life that is linked to decreased dopamine production in the substantia nigra and is marked especially by tremor of resting muscles, rigidity, slowness of movement, impaired balance, and a shuffling gait.

8. ... feelings of severe despondency and dejection.

9. ... a small round mass of solid medicine for swallowing whole.

10. ... a feeling of worry, nervousness, or unease about something with an uncertain outcome.

11. ... a small disc or cylinder of a compressed solid substance, typically a measured amount of a medicine or drug.

12. ... a system of complementary medicine in which fine needles are inserted in the skin at specific points along what are considered to be lines of energy (meridians), used in the treatment of various physical and mental conditions.

Activity 8 What are your ideas about placebos?

- The placebo effect has been measured in thousands of medical experiments, and many doctors admit to regularly prescribing placebos.
- Drug companies must show that their new drugs work better than a placebo before the drugs are approved.
- Placebos have been shown to affect a range of health conditions.
- The colour of a tablet can alter the strength of its placebo effect, and larger pills induce a stronger effect than smaller pills.
- Some believe the self-healing properties of the placebo effect can be explained by evolutionary biology.

Activity 9 Read the texts.

1.3 Music therapy

Music has a vast influence over the nations and peoples on this planet. It has been used in every culture, and is often connected with anxiolytic and analgesic properties. Today it is used in many hospitals to help patients relax and help relieve or ease pain, confusion and anxiety. Music is also commonly used in counselling. Music therapy techniques may include guided listening or improvisational playing and are used within the context of many theories, and for many types of mental disorders, from depression to schizophrenia. Many of the healing qualities of music in counselling are connected to its use as a nonverbal medium for communication. Music is read differently in the brain than non-musical tones and is connected to many different areas of the brain. Learning music relegates a larger part of the brain to recognizing and interpreting music. Listening to music has also been found to have an effect on learning. A survey studying the difference in GPA between students who listen to music while studying and those who do not finds no overall significant difference, but does find that students who listen to hip-hop and rap while studying score significantly lower while students who listen to easy listening and classical are likely to have higher GPAs.

The Effect of Music on the Human Body and Mind

Throughout history, man has created and listened to music for many purposes. King Saul sent for David to play the harp when his mind and soul were troubled. Music has served to express emotions such as joy or sorrow, and has done so very effectively. Music has been a tool of communication in this way, helping one man to understand another and providing a medium of interconnection. Every known society throughout history has had some form of music. Humans were already playing such complex instruments as bone flutes, jaw harps and percussive instruments long ago in the earliest civilizations. Music has been perceived to have transcendental qualities, and has thus been used pervasively within forms of religious worship. Music is a unique gift to and from each person who creates it. It reveals vast quantities of information about the performer, from their mood swings to biochemistry, rhythms of organs, and even the

way they are physically built. Music is an ever-changing, ever-increasing gift from God, free and available to all who seek it and many who do not. As such, it is naturally endowed with the ability to affect those who listen in monumental ways.

Activity 10 Read the texts again and answer the questions:

1. Have you heard about music therapy before?
2. Is music therapy possible in your country? Why? Why not?
3. What do you think about music therapy?
4. Do you agree with the author? Why? Why not?

Activity 11 Read the text.

1.4 Music for Healing

Music has been associated with physical and emotional healing throughout history. The ancient Greeks assigned the god Apollo to reign over both music and healing. Ancient shamanic curative rituals used rhythmically repetitive music to facilitate trance induction. Aristotle and Plato both prescribed music to debilitated individuals. Plato prescribed both music and dancing for the fearful and anxious, while Aristotle spoke of the power of music to restore health and normalcy to those who suffer from uncontrollable emotions and compared it to a medical treatment. Physiologically, music has a distinct effect on many biological processes. It inhibits the occurrence of fatigue, as well as changes the pulse and respiration rates, external blood pressure levels, and psychogalvanic effect. However, music is not limited to changing the body's responses in only one direction. The nature of the music influences the change as well. Pitch, tempo, and melodic pattern all influence music's effect on mood and physical processes. For instance, high pitch, acceleration of rhythm, and ascending melodic passages are all generally felt to increase anxiety and tension and sometimes even lead to loss of control and panic. The makers of arcade and video games commonly exploit this effect by increasing tempo and pitch on ascending melodies during a time of high pressure and necessity of precision in performance to succeed. Inversely, music with low pitch generally produces a calming effect. Slow tempos and descending melodies often cause feelings of sadness and depression. Some explain this effect on the body by comparing the music to a mirror of the body's motor

responses. When a person feels depressed he moves slowly, while when he is anxious his heart and respiration rates race. Furthermore, music has been found to produce a relaxed mood and stress reduction, making it a plausible way to accommodate coping with pain and anxiety.

Activity 12 Read the text. Are the sentences true or false?

1. The ancient Greeks assigned the god Apollo to reign over both music and healing.
2. Aristotle and Plato both prescribed music facilitate trance induction.
3. Ancient shamanic curative rituals used rhythmically repetitive music to debilitated individuals.
4. Music has a distinct effect on many biological processes.
5. Music is not limited to changing the body's responses in only one direction.
6. Slow tempos and descending melodies often cause feelings of happiness and joyfulness.
7. Music has been found to produce a relaxed mood and stress reduction.

Activity 13 Read the text.

1.5 Music and medicine

Music has been put to use in hospitals, nursing homes, and many other places where stress levels rise. In fact, a Norwegian study displayed a higher affinity for music in medical students than other university graduates. At least 18 % of the medical graduates studied played one or more instruments regularly. Medical students are well known for experiencing very high stress levels, so it is natural that they would be more accustomed to engaging in more stress-relieving activities, and sharing such activities with their patients. The modem use of music therapy in hospitals developed during the 1950s in Europe and the United States. Many physicians began to use a multidisciplinary approach to medicine and, recognizing the soothing effect of music, provided music therapy to patients who were thought to have an interest in music.

Studies have found that music is effective in decreasing stress preoperatively, postoperatively, and generally for the patient and the family members and friends. Patients who listened to music while waiting for surgery subjectively reported lower anxiety and also displayed lower blood pressure and pulse rates than those who did not. Generally, persons who listened to music during a hospital stay displayed lower anxiety scores than those who did not. Postoperative patients have pointed out the comforting aspect of music, and described a greater sense of control of their surroundings. Music is even effective in antenatal clinics. Hearing live performances of music significantly increased the number of accelerations in the fatal heartbeat, signalling good health. Infants as young as two months incline their attention toward pleasant consonant sounds and away from unpleasant dissonant sounds.

Activity 14. Match 1- 9 with A- I.

1) Nursing	a) graduates
2) Stress	b) effect
3) University	c) therapy
4) Soothing	d) homes
5) Music	e) pressure
6) Blood	f) level
7) Pulse	g) heartbeat
8) Fatal	h) health
9) Good	i) rate

Activity 15 Read the text. Complete the text with the words below.

Change, rates, depress, therapy, suicidal, use, listen, behaviour, choice,

1.6 Music for adolescents.

The power music has to ... emotions and elevate or ... mood is a key sign that it would be an effective tool to use in counselling mood disorders. Adolescents, especially, are susceptible to the effects of music. The type of music adolescents ... to can be a predictor of their behaviour. Those who listen to heavy metal and rap have higher ... of delinquent activity, such as drug and alcohol ... poor school grades, arrest,

sexual activity, and ... problems than those who prefer other types. They are also more likely to be depressed, think ... thoughts, inflict self-harm, and to have dysfunctional families. Considering how music is reflective of behavioural patterns in adolescents, and also considering how music ... has the power to evoke mood changes in its listeners, it is logical to hypothesize that techniques incorporating music into clinical ... would be effective and beneficial.

Activity 16 Read the text.

1.7 Music as communication.

Music is a form of communication, although it does not employ linguistic symbols or signs. It is considered to be a closed system because it does not refer to objects or concepts outside of the realm of music. This sets music apart from other art forms and sciences. Mathematics is another closed system, but falls short of music in that it communicates only intellectual meanings whereas music also conveys emotional and aesthetic meanings. These meanings, however, are not universal, as comparative musicologists have discovered. In fact, although musical meanings do not seem to be common across cultures, the elements of music such as pitch and rhythm are regarded across cultures as abstract and enigmatic symbols that are then associated with intrinsic meaning according to the knowledge base of musical style and experience a person or culture has gained. Music is a true communication form. A 1990 study found that 80% of adults surveyed described experiencing physical responses to music, such as laughter, tears, and thrills. A 1995 study also revealed that 70% of young adults claimed to enjoy benefits for the emotions evoked by it. A further Shldy performed at Cornell University in 1997 measured physiological responses of subjects listening to several different pieces of music that were generally thought to convey certain emotions. Each subject consistently matched his or her physiological response with the expected emotion of the music. When a person experiences thrills while listening to music, the same pleasure centres of the brain are activated as if they were eating chocolate, having sex or taking cocaine.

Activity 17 Read the text again. Answer the questions:

1. What kinds of communication do you know?
2. Is music a true communication form? Why? Why not?

Activity 18 Read the text.

1.8 Music and the Brain

It seems very unlikely that the actual sound waves created by the music played have a physical impact on any physical system in the body, such as the nervous system feeling pain, the respiratory system, blood pressure, pulse rate, as well as the emotions and thoughts. How, then, can music have any effect at all on such things? The effect must be mental, leading one's focus to the centre of mental activity, the brain. Neuromusicology is a term used to describe the study of the relation between the human nervous system and the ways people interact with music. Normal sounds, such as the tones heard in music proceed into your body through a marked path. They begin as sound waves enter the cochlea (inner ear). The function of the cochlea is to sort complex sounds into their elementary frequencies, and then transmit them to the auditory cortex as trains of neural discharges via separately tuned fibres of the auditory nerve. The auditory cortex is in the temporal lobe. Here specialized cells respond to certain frequencies. Neighbouring cells have overlapping tuning curves to prevent gaps in the system. However, the brain's response to music is more complex. Instead of interpreting each tone individually, the brain groups the sequences of tones together and identifies the relationships between the sounds. This involves many more areas of the brain than those aforementioned. As Gestalt psychologists have shown, understanding complexities is a more difficult matter than identifying multitudes of single stimuli, or musical tones in isolation, but must group the stimuli together into patterns and interpret how the patterns relate to one another.

Activity 19 Find the definition

Sound waves, nervous system, emotion, mental activity, brain, transmit, cortex, cells, musical tone.

1. A musical or vocal sound with reference to its pitch, quality, and strength.

2. The smallest structural and functional unit of an organism, which is typically microscopic and consists of cytoplasm and a nucleus enclosed in a membrane.

3. The outer layer of the cerebrum, composed of folded grey matter and playing an important role in consciousness.

4. An organ of soft nervous tissue contained in the skull of vertebrates, functioning as the coordinating centre of sensation and intellectual and nervous activity.

5. Cause (something) to pass on from one person or place to another.

6. Neurological stimulation can be described as anything that stimulates, activates or enriches the mind. Stimulation can be provided internally from thought or externally from the environment.

7. The pattern of disturbance caused by the movement of energy traveling through a medium (such as air, water, or any other liquid or solid matter) as it propagates away from the source of the sound. The source is some object that causes a vibration, such as a ringing telephone, or a person's vocal chords.

8. The network of nerve cells and fibres which transmits nerve impulses between parts of the body.

9. A strong feeling deriving from one's circumstances, mood, or relationships with others.

UNIT 2 Technical progress

Activity 1 Read the text.

2.1 Living in a high-tech world

by Ken Sakamura

Trading in the shares of Internet-related venture businesses is booming on the Japanese stock market. The media are full of reports on information technology and Internet-based e-commerce. Computer and telecommunications technologies are bringing revolutionary changes to society, but Japan and the United States have radically different ways of developing those technologies.

In the U.S., trading in high-tech shares continues to boom, but e-commerce is slowing down. Share prices of e-commerce companies for consumers have dropped 30 to 40 percent from their highs. Contrary to initial expectations, those companies have so far failed to produce high profits.

The stock price of the online bookstore Amazon.com has fallen 40 percent from its high. Some investors have given up on e-commerce stocks. U.S. stock prices are said to be inflated, but that is not entirely true; individual shares are bound to fall if the companies fail to produce profits. This merely indicates the soundness of the U.S. stock market.

Attracting increasing attention on the U.S. market are the traditional high-tech manufacturers of telecommunications equipment (which form the basis of the Internet infrastructure) and large-scale integrations for telecommunications, optical fibres and other components.

In Japan, however, the shares of a handful of Internet-related companies are fetching sky-high prices on the stock market. Some small companies have an abnormally high market value of outstanding shares, although little is known about their business operations. They could betray investor confidence and end up as swindlers.com.

Some U.S. Internet-based companies also offer little information about their main business activities — investment or noninvestment. However, there are strict legal restrictions on the operations of U.S. investment companies, and stock analysts

tend to keep a critical eye on them. Most companies try to make profits in noninvestment business.

Nurturing good venture businesses requires more than raising capital on the stock market. They must have technological expertise as the basis of their operations.

Some venture companies grow on their own, but many U.S. venture businesses that have developed into large companies through the successful marketing of their products had their roots in government-funded basic research at universities. Many venture businesses, thanks to technology transfers from universities and research institutes, have higher technologies than big companies. They derive their strength from basic research.

Japan and the U.S. have different approaches to the development of technologies. The U.S., backed by clearly defined strategies, promotes the development of basic technologies, encourages commercial applications of technologies, provides development funds, work out policies for the popularization of technologies and establish relevant legal and tax systems in a comprehensive way. If a problem develops, the entire project is quickly revised.

U.S. basic research is funded by the Defense Advanced Research Project Agency and the National Science Foundation. The Internet, developed with the help of DARPA and NSF, has grown into a giant network. Sun Microsystems, Cisco Systems and a few other leading U.S. high-tech companies are offshoots of DARPA-funded research.

In its early years, the Clinton administration proposed the creation of a high-speed "information superhighway" to improve national education, and this encouraged private investment in the Internet. The new telecommunications act of 1996 removed barriers in telecommunications and broadcasting, contributing to the popularization of the high-speed and low-cost Internet. This step-by-step approach has culminated in the U.S. Internet boom.

To expand e-commerce, the symbol of information technology, much more work is required.

E-commerce sites should be tightly protected against hackers who try to steal important information. In the U.S., as in Japan, the theft of credit-card data is rampant.

Security is the foundation of e-commerce, but there is no fail-safe protection against theft of data. Constant efforts to prevent theft are required. The U.S. has yet to offer complete Internet security, but Japanese Internet-related companies lag far behind in the protection they offer.

Protection of individual privacy on the Internet has raised serious concern in the U.S., even involving President Bill Clinton. In addition, even tighter security is essential regarding payment on the Internet, and identification systems for participants in online transactions must be established. What is required is better infrastructure for Internet service.

Investors tend to lose all their investments on venture businesses that get into financial trouble. If the boom in stock trading on the Internet fizzles out, venture businesses with a potential for listing could permanently lose their chances for raising capital.

Activity 2 Read the text and answer the questions:

1. What is the difference between Japanese and American stock market?
2. Why the stock price of the online bookstore Amazon.com has fallen 40 percent from its high?
3. What do you know about business operations in Japan?
4. How do the most companies try to make profits?
5. What is the difference in Japanese and American development of technologies?
6. Give the examples of U.S. high-tech companies.
7. Are there any differences in protection of individual privacy in Japan and the USA?

Activity 3 Read the text.

2.2 Pros and Cons of living in a technological world

Compare the lifestyle of people in the digital era with the lifestyle of people who lived in previous years. Vast difference. Isn't it? We, in the digital era, are more

advanced and high-tech. We achieve great things in a short period of time. Due to advanced technology, communication and travel were made easier. We can easily communicate with others across the boundaries. We feel really great to handle things with just one click of a finger. Yes! This is an era where our fingers can do magic.

Pros and Cons

As coin has two sides, even technology has advantages and disadvantages. Now let us analyse pros and cons of technology.

Advantages

We can communicate, order food, book tickets for travel and movies and many more with the help of technology. We can easily access and get both products and services even if is thousand miles away from our location. Technology also helps elderly people as well as physically disabled people. For them, technology is a boon. Technology helps them to access things easily. When things are done in just a few clicks, they could easily get what they want. With respect to medical science, technology is on the rise. Conducting and undergoing medical check-ups nowadays are very easy. We will no longer need to wait for a long time to get our medical results. We can get our medical results within minutes. Not only that, we are able to check our health without the need of going to doctor. From household activities to medical science, technology helps us a lot in all aspects.

Disadvantages

Owing to the overuse of technology, that is, spending too many hours in using social media apps or playing games, we are likely to develop depression and social isolation. We develop lack of communication with our lovable ones and start to living in our own world. According to a research study, “people who suffer from social isolation are identified to live a shorter life”.

As we are being engrossed in social media activities, we spend lesser amount of time for physical exercises. As a result, we, without proper awareness, slowly become addicted to overeating habit that causes obesity. So all three, lack of communication, inactive lifestyle, and overeating, combined creates depression.

In addition, due to the overuse of smartphones or working longer hours using laptops or computers, we create a possibility of suffering from sleeping disorder. Sleeping disorder is a mental disease. It comes due to tension and being awake all through the night. It would be far better if we keep our phones or other electronic gadgets outside the bedroom to get good amount of sleep.

Activity 4 Share your arguments both for and against living in a technological world. How can we use technologies in our life?

Activity 5 Are the sentences true or false?

1. Due to advanced technology, communication and travel were made easier.
2. It is difficult to communicate with others across the boundaries.
3. When things are done in just a few clicks, they could easily get what they want.
4. People spend too many hours using social media apps or playing games.
5. People spend more time for physical exercises.
6. It would be better if we keep our phones or other electronic gadgets outside the bedroom to get good amount of sleep.

Activity 6. Read the text. Choose the correct headings A-C

A. Education.

B. Health.

C. Connectivity.

The lifestyle of people today's time is more advanced and high tech compared to previous years. Thanks for those bright minds that provide great changes to our lives. Technology gives comfort and positive results as well to our daily living. In just one click of a finger, everything will follow. So the question, is technology a boon or a curse? Understanding its long-term effects can be the answer.

1...

The Internet has brought the world closer! Communication was made easier due to advanced technology. Keeping in touch with the one you love is very easy even if you are a thousand miles away from each other. With this technology, you can see your relatives by video calling, wherever they are.

In business industry, this had given also a great opportunity for a businessman. It improves efficiency for business; the means of manufacturing goods has also been greatly streamlined. This has caused a major reduction in waste, and lower costs for the consumers.

2...

Technology improves education! It has dramatically changed the teaching and learning process in a classroom set-up. The way that we think of textbooks is completely shifting. Today's textbooks often have Web-based sites that include assessments, animations, additional materials, videos, and other materials to support the learning of new content. Students scan notes with their phone, it's just another fun way how technology has changed education.

3...

For people with disabilities, technology had given them the chance to access things easily. Technology provided and established equipment that will make their life of a lot easier. For medical related advances, people now are able to monitor their health without the need of going to their health care provider. They develop things that will aid in easier illness identification and treatment.

Activity 6 Match 1 - 4 with a - d.

1. Years ago, the mobile phone was a...

2. Years ago, pen and paper were used for studying...

3. The point is...

4. There's always something new on the horizon...

a) and we can't help but wait and wonder what technological marvels are coming next.

b) not to blame technology.

c) but now, studies are incomplete without gadgets.

d) want of a person, but now it is a basic need.

Activity 6 Read the text.

2.3 Overproduction of Truth: Are there too many scientists?

Ever more scientists are publishing ever more papers, faster than ever – and the quality's dropping. Gianfranco Pacchioni, author of "The Overproduction of Truth", says modern science is heading for a fall.

Deutsche Welle: The title of your book, "The Overproduction of Truth," is provocative, not least because there's so much talk about fake-ism these days. So one could say there's never enough truth, especially scientific truth. But from what you write, there seem to be some real issues at the heart of science that need to be addressed, such as, for instance, the number of journals, low-grade scientists doing peer review, and the pressure to publish and get cited, perhaps especially among young scientists. Is science in trouble?

Gianfranco Pacchioni: Science, as a rule, is not in trouble, because the top scientists are still producing excellent science and changing the world in which we live.

But the image of science in society can be damaged, and science may become less relevant, when people, who are not experts, are exposed to an amount of information, which for them is very difficult to distinguish - the good from the bad and the relevant from the irrelevant.

The title of the book in Italian was actually slightly different, it was "Scienza, quo vadis?" - which means "where are we going?" - because I think the current direction could lead to damage in the image of science in society.

Activity 7 Share your ideas about the image of science and scientist nowadays.

How do you understand "citizen science"?

What is your attitude to the journals that adopt much more flexible procedures, or even those, unfortunately, that do not assess the quality at all.

What is better: the idea of taking more time to do science properly, getting substantial results or just publishing every incremental finding, and being more collaborative? In today's society, can we or must we be more patient?

Is the open access to raw data from laboratory always right?

Do scientists publish results if they don't trust the data?

Is the number of scientists growing nowadays?

Are scientists doing too much research?

Activity 8. Read the text and complete it with the sentences 1-6.

Do you think we depend on science too much nowadays? Do you think we depend on science too much nowadays? Computers, buildings, cars and all kind of gadgets made by humankind in our everyday life are based on science… Engineers, doctors, chemists and many other jobs are closely related and strongly influenced by a particular study. But do we depend on science too much nowadays? Yes, I think we do… No way will I survive without them… We face bigger and bigger problems. The tougher troubleshooting we have, the greater knowledge and science we need… Not only does it kill poverty but it also push the boundaries further. It has just transformed the world form 'poor-tech' to high-tech. Medical care saves millions of lives every day, modern buildings rise up from the ground employing dozens of people, robots are programmed to be perfect and there is no place for error… But when one is sorted out two more pop up. This is because of the rising interests that make humans want more. In the past some things were beyond our imagination, thanks to science, the big dreams have already become a reality …

1. Technology circles the globe; it is everywhere around us.
2. Personally, I think that technology was not so essential 40 years ago, but now it plays a vital role in our world which is getting more and more dynamic.
3. To be honest I constantly use my smartphone and computer for different purposes and completing tasks.

4. However, technology has tremendously improve our living.

5. Amazing skyscrapers, fuel-efficient cars, intelligent robots are all products of technology.

6. Scientists work around the clock and solve problems.

Activity 8 Read the text.

2.4 Internet of Things is a revolutionary approach for future technology enhancement

Internet of Things (IoT) is a new paradigm that has changed the traditional way of living into a high tech life style. Smart city, smart homes, pollution control, energy saving, smart transportation, smart industries are such transformations due to IoT. A lot of crucial research studies and investigations have been done in order to enhance the technology through IoT. However, there are still a lot of challenges and issues that need to be addressed to achieve the full potential of IoT. These challenges and issues must be considered from various aspects of IoT such as applications, challenges, enabling technologies, social and environmental impacts etc.

Activity 9 Answer the questions.

1. How do you understand “Internet of Things”?
2. Give the examples of IoT.

Activity 10 Read the text. Complete the text with the words below.

physical devices, thousands of sensors, digital intelligence, control the environment, smart thermostat, internet connection, wireless networks, a fitness band.

2.5 What is the Internet of Things?

The Internet of Things, or IoT, refers to the billions of ... around the world that are now connected to the internet, all collecting and sharing data. Thanks to the arrival of super-cheap computer chips and the ubiquity of ... , it's possible to turn anything, from something as small as a pill to something as big as an airplane, into a part of the IoT. Connecting up all these different objects and adding sensors to them adds a level of ... to devices that would be otherwise dumb, enabling them to communicate

real-time data without involving a human being. The Internet of Things is making the fabric of the world around us smarter and more responsive, merging the digital and physical universes.

What is an example of an Internet of Things device?

Pretty much any physical object can be transformed into an IoT device if it can be connected to the internet to be controlled or communicate information.

A lightbulb that can be switched on using a smartphone app is an IoT device, as is a motion sensor or a ... in your office or a connected streetlight. An IoT device could be as fluffy as a child's toy or as serious as a driverless truck. Some larger objects may themselves be filled with many smaller IoT components, such as a jet engine that's now filled with ... collecting and transmitting data back to make sure it is operating efficiently. At an even bigger scale, smart cities projects are filling entire regions with sensors to help us understand and ...

The term IoT is mainly used for devices that wouldn't usually be generally expected to have an ..., and that can communicate with the network independently of human action. For this reason, a PC isn't generally considered an IoT device and neither is a smartphone - even though the latter is crammed with sensors. A smartwatch or ... or other wearable device might be counted as an IoT device.

Activity 11 Read the text

2.6 What is the history of the Internet of Things?

The idea of adding sensors and intelligence to basic objects was discussed throughout the 1980s and 1990s (and there are arguably some much earlier ancestors), but apart from some early projects – including an internet-connected vending machine – progress was slow simply because the technology wasn't ready. Chips were too big and bulky and there was no way for objects to communicate effectively.

Processors that were cheap and power-frugal enough to be all but disposable were needed before it finally became cost-effective to connect up billions of devices. The adoption of RFID tags – low-power chips that can communicate wirelessly –

solved some of this issue, along with the increasing availability of broadband internet and cellular and wireless networking. The adoption of IPv6 – which, among other things, should provide enough IP addresses for every device the world (or indeed this galaxy) is ever likely to need – was also a necessary step for the IoT to scale.

Kevin Ashton coined the phrase 'Internet of Things' in 1999, although it took at least another decade for the technology to catch up with the vision.

“The IoT integrates the interconnectedness of human culture – our “things” – with the interconnectedness of our digital information system – “the internet”.

“That's the IoT,” Ashton told ZDNet.

Adding RFID tags to expensive pieces of equipment to help track their location was one of the first IoT applications. But since then, the cost of adding sensors and an internet connection to objects has continued to fall, and experts predict that this basic functionality could one day cost as little as 10 cents, making it possible to connect nearly everything to the internet.

The IoT was initially most interesting to business and manufacturing, where its application is sometimes known as machine-to-machine (M2M), but the emphasis is now on filling our homes and offices with smart devices, transforming it into something that's relevant to almost everyone. Early suggestions for internet-connected devices included 'blogjects' (objects that blog and record data about themselves to the internet), ubiquitous computing (or 'ubicomp'), invisible computing, and pervasive computing. However, it was Internet of Things and IoT that stuck.

If you want to succeed you must fail first, says the man who dreamt up the Internet of Things.

How big is the Internet of Things?

Big and getting bigger – there are already more connected things than people in the world.

Tech analyst company IDC predicts that in total there will be 41.6 billion connected IoT devices by 2025, or "things." It also suggests industrial and automotive equipment represent the largest opportunity of connected "things,", but it also sees strong adoption of smart home and wearable devices in the near term.

Another tech analyst, Gartner, predicts that the enterprise and automotive sectors will account for 5.8 billion devices this year, up almost a quarter on 2019. Utilities will be the highest user of IoT, thanks to the continuing rollout of smart meters. Security devices, in the form of intruder detection and web cameras will be the second biggest use of IoT devices. Building automation – like connected lighting – will be the fastest growing sector, followed by automotive (connected cars) and healthcare (monitoring of chronic conditions).

What are the benefits of the Internet of Things for business?

The benefits of the IoT for business depend on the particular implementation; agility and efficiency are usually top considerations. The idea is that enterprises should have access to more data about their own products and their own internal systems, and a greater ability to make changes as a result.

See also: How SMBs can maximize the benefits of IoT initiatives

Manufacturers are adding sensors to the components of their products so that they can transmit data back about how they are performing. This can help companies spot when a component is likely to fail and to swap it out before it causes damage. Companies can also use the data generated by these sensors to make their systems and their supply chains more efficient, because they will have much more accurate data about what's really going on.

What is the Industrial Internet of Things?

The Industrial Internet of Things (IIoT) or the fourth industrial revolution or Industry 4.0 are all names given to the use of IoT technology in a business setting. The concept is the same as for the consumer IoT devices in the home, but in this case the aim is to use a combination of sensors, wireless networks, big data, AI and analytics to measure and optimize industrial processes.

If introduced across an entire supply chain, rather than just individual companies, the impact could be even greater with just-in-time delivery of materials and the management of production from start to finish. Increasing workforce productivity or cost savings are two potential aims, but the IIoT can also create new revenue streams

for businesses; rather than just selling a standalone product – for example, like an engine – manufacturers can also sell predictive maintenance of the engine.

What are the benefits of the Internet of Things for consumers?

The IoT promises to make our environment – our homes and offices and vehicles – smarter, more measurable, and... chattier. Smart speakers like Amazon's Echo and Google Home make it easier to play music, set timers, or get information. Home security systems make it easier to monitor what's going on inside and outside, or to see and talk to visitors. Meanwhile, smart thermostats can help us heat our homes before we arrive back, and smart lightbulbs can make it look like we're home even when we're out.

Looking beyond the home, sensors can help us to understand how noisy or polluted our environment might be. Self-driving cars and smart cities could change how we build and manage our public spaces.

However, many of these innovations could have major implications for our personal privacy.

Activity 12 Read the text again and answer the questions:

1. When was the idea of adding sensors and intelligence to basic objects discussed?
2. Why was progress slow?
3. What was one of the first IoT applications?
4. Why was the IoT initially most interesting to business and manufacturing?
5. How big is the Internet of Things?
6. What does the tech analyst company IDC predict?
7. What are the benefits of the Internet of Things for consumers?

Activity 13. Your ideas about:

- The Internet of Things and smart homes.
- The Internet of Things and security.
- IoT, privacy and business.
- The IoT and cyberwarfare.
- The Internet of Things and smart cities.
- IoT data and artificial intelligence.
- IoT evolution: Where does the Internet of Things go next?

UNIT 3 Life – changing events

Activity 1 Read the text.

3.1 A Turning Point

A Turning Point is a critical time in your life where big decisions could lead to big change, both in work and in life. A Turning Point typically shows up about every 10 years of adult life between ages 18 and 65, but, of course, some experience fewer or more Turning Points and experience them at different times. Our outline is a general estimation (Fig. 1).

DEVELOPMENTAL STAGES

Career Development

Age	Turning Point	Building Stage
18	High School to College	
22	College to Work	
22-28		Early Career
28-33	30's Assessment	
33-40		Career Building
40-45	Mid-Life Transition	
45-50		Generativity
50-55	50's Assessment	
55-60		Integration
60-65	Retirement Transition/Encore Careers	
65-70		Back to Beginning

Figure 1 – Developmental stages

People confronted with a Turning Point handle it in one of three ways:

1. Hold the road. Endure.

2. Change anything and everything. Now!

3. Take time for careful introspection, develop a long-range plan, and implement.

FIRST TURNING POINT: HIGH SCHOOL TO COLLEGE.

This is the first career decision that most of us make. It is one of the most predictable Turning Points of all. As a teenager, you are ready to separate and become independent from your family, and the first Turning Point is the first step in this process.

Your first Turning Point is an ideal time that allows you to start college with knowledge of your natural abilities, and it gives you two or three good career options to explore.

SECOND TURNING POINT: COLLEGE TO THE WORK WORLD.

Most people make some career decision between the ages of 22 to 25. This will set you on the path of your first Building Stage. These decisions can range from the decision to continue with school, to starting that first job, to staying home with parents.

Your first job should be the first step in a larger vision. If you take just anything, you run the risk of having to start over at age 30.

THIRD TURNING POINT: 30's ASSESSMENT.

Whatever path chosen at the Second Turning Point tends to continue for some five to seven years. In the ages from 28 to 33, you will likely reassess and reevaluate that path.

If an initial path was completely unsatisfactory, it is at this Turning Point that you will start over. Even if your first career choice was a good one, you will likely modify it here to enlarge it or expand it by starting a family or moving geographically, for instance.

FOURTH TURNING POINT: MID-LIFE TRANSITION.

You arrive at the end of your first life structure (about 20 years) in the ages from 40 to 45. At this point, you typically want something different from your career than what was wanted until now. It may be a goal or a value that you started with but then left behind at an earlier age. It may be a goal or value completely new to you. You may want to add something you have been missing or overlooking – a new interest, for example.

FIFTH TURNING POINT: 50's ASSESSMENT.

Just like the 30's Assessment, you will likely take stock of choices you made at the Mid-Life Transition after five to seven years. This is an opportunity to modify directions chosen earlier, or in some cases to start over again if choices were unsatisfactory.

SIXTH TURNING POINT: PRE-RETIREMENT TRANSITION.

At this time (age 60 to 65), you have reached the end of the second 20-year life structure. You must make major changes in direction and goals, and begin your third life structure. It is potentially a time of great integration, satisfaction, and happiness. Unfortunately, it is often a time of disappointment and depression. Success with this Turning Point depends on the choices that have preceded it at other Turning Points.

Again, your Turning Points may look slightly different or occur sooner or later than they have been described here.

Activity 2 Read the text again. Are the sentences true or false?

1. As a teenager, you are ready to separate and become independent from your family.
2. Most people make some career decision between the ages of 20 to 30.
3. In the ages from 28 to 33, you will likely reassess and reevaluate that path.
4. You may want to add something you have been missing or overlooking – a new interest, for example.
5. The 30's Assessment is an opportunity to modify directions chosen earlier, or in some cases to start over again if choices were unsatisfactory.

Activity 3. Think about:

1. What is a turning point in life?
2. What are examples of turning points?
3. What is a major turning point?
4. What's a turning point?
5. What are some famous turning points?

Activity 4. Read the text. Choose the correct headings 1–5.

1. The Miracle of Pivotal Moments.
2. Turning Points are Often Scary.
3. Pivotal Moments Come In All Shapes & Sizes, At Any Age.
4. What Does It Mean to Reach a Turning Point?
5. Turning points can be messy, and you can also find miracles.

3.2 Turning Points in Life Can Create a Mess or a Miracle, You Choose

by María Tomás-Keegan May 19, 2020 Accepting & Adapting to Life's Change

…

You might think that all turning points in life should be monumental moments that flip your world upside down and cause you to panic. Some are just that. For instance, he just left you for another woman. Now what? Or, you just lost your job — what's next?

But all life events are not created equal. You may notice other times you will go along your merry way and gradually realize you've reached a crossroads. It might be in the career you used to love and now find it harder to get up in the morning. Then again, you may roll over one day and wonder what you ever saw in the person sleeping next to you. It may feel as if it snuck up, and you're unprepared.

You might even ask yourself, "how did I get to this place?" Or, "where do I go from here?"

In any case, it's that moment of truth you can no longer ignore, regardless of how you got there. Still, your approach to turning points can create a mess in your life, or it can be just the miracle you needed.

Said another way, it can become a crisis, or it can teach you how to change so you can meet it squarely and calmly, coming out on the other side better than before. The choice is yours to make.

…

A turning point happens when something changes direction, and it causes you to make a choice. It's the moment you decide that you need to make a shift and respond

differently. It could be that what was happening before is no longer what you want to happen in the future.

If you are anything like me, you'll look back on your life and recognize many pivotal moments. At times like these, you can no longer disregard the knot in your stomach or the ache in your heart. On the other hand, it could be that you're feeling a powerful calling that there is something bigger and better waiting for you.

The exciting thing about turning points is the possibility that you could decide to change something. And, when you do, everything suddenly falls into place. From this position, you know exactly what you need to change, so you can move away from the chaos and into the calm.

…

Most of us have many turning points. The very first one I remember is the death of my great aunt, who lived with us, took care of us like a second mom, and passed when I was 13. It was the first time I noticed a hole in my heart, and I had to do something to address it.

Then, I remember what it felt like to leave my parent's home when I was 18—I didn't always make the best decisions back then, but overall, I have no regrets.

At another stage of my life, there was a big career turning point when I chose to work for an advertising agency in my late 20s, which shaped the rest of my long and mostly-rewarding career in marketing.

Another defining moment happened in my early 40s, resulting in my second divorce. It was one of the most significant turning points because I finally realized the importance of making me my number one priority, instead of putting everyone else first. I discovered how crucial a choice that was. The last thing I wanted was to self-sabotage, repeating the bad decisions of my 30 s.

A more recent turning point was the unexpected layoff after working in my marketing management career for nearly 20 years. After being blindsided and stopped in my tracks for a bit, this unexpected event led to my new entrepreneurial venture as a life coach. Now, I help women face their turning points when life suddenly turns to chaos.

Some turning points are staggering experiences; others are teaching moments, and if we're lucky, some lead us to fulfill our purpose in life. Under which category do your turning points fall?

…

Truth be told, they can be petrifying-especially when they come out of the blue. But even if you expect a significant change in your life, there can be lots of uncertainty that comes along with it.

Like any critical life transition, it can be power-packed with everything from fear to anxiety, pain, and grief, overwhelm, and lack of confidence. And, everything in between, by the way.

But humans are born to be resilient and weather these life storms. So long as you make a conscious choice to look change in the eye and say, I've got this! Even amid super-charged emotions, you can learn to quiet your thoughts and listen to your intuition to find your way.

Here's what I've learned about facing these moments of truth. It's easier when you surround yourself with people you trust, so you are not taking the journey alone. Find people who have been through tough transitions themselves and survived. Ask their advice. Heed and apply those lessons so you, too, can learn to thrive.

These pivotal times become woven into the fabric of your life, creating a rich tapestry that acts as a wise and resilient cloak. Each time a new turning point requires you to pivot and shift, you can retrieve your cloak from the closet. When you wear it, you know for sure that you've been here before and you lived to tell about it. Now it's time to do it again.

…

Can you imagine if you didn't have any turning points in life? There would be no Ah-Ha's. Nothing would awaken you and cause you to look deeply at your life. You wouldn't have a chance to make a choice to change for the better. There would be no one moment or event or circumstance you can point to and say that's the day I knew I had a choice to make.

A turning point might come in the form of an epiphany - a vision. Or, a gentle tap on the shoulder. On the other hand, it might not be so tender at all - perhaps it's an unmistakable shove in a new direction.

Regardless of how you experience it, you can look back on it and say, if it were not for that circumstance or that person, I would not be where I am today! And I'm happier, more confident, and stronger than ever! Turning points have that kind of power to transform.

Some of the miracles for me came well after the initial shock subsided, and I was able to think clearly. Spending time hunkered down, feeling the losses - of my aunt, my family home, my marriage, my career - helped me to sort through the emotions that took me on a wild roller coaster ride.

As time passed, I learned to find the silver lining and focus on all the good that came from each experience. I believe I can find blessings in every turning point if I look for them.

And the miracle comes when all these experiences mount up. The compound effect builds character, resilience, faith in yourself, and a knowing that, no matter what happens, you will not only survive, you will thrive.

Activity 5 Read the text.

3.3 Top 25 Tips To Change Your Life

1…

If it's possible, then you should make sure you fit some travelling in. Okay, so you might not have the time or the funds to go on a round-the-world trip, but it certainly is a truism that 'travel broadens the mind'. If you can't manage that backpacking trip around the globe, then consider going to some far away location where the experience will be totally different — perhaps even life-changing — rather than settling for the usual two weeks in the same destination.

2…

If your job is getting you down, then change it. The only thing preventing you finding something that you'll enjoy more is you. If only people could put as much energy into finding a new job as they do into moaning about it, then they could make a major change to their lives. Your workplace is where you spend a large proportion of your time, so it's important to try and be as happy there as you can be.

3…

Your home and affording it might be one of your greatest sources of worry, so a simple solution would be to remove that worry from the equation. Downsizing and moving to a smaller (and likely cheaper) property will make it a lot easier to manage, will remove one of your major worries, and may free up some funds for you to actually start enjoying yourself a bit!

4…

Volunteering makes us feel good about ourselves while we do something practical to help others. Volunteering also inevitably means having greater opportunities to meet other people. You could think about volunteering for an overseas project in a Third World country — which is bound to have an impact on your outlook — or you could simply give up a few hours a week to help an elderly person do their shopping.

5…

Having a regular routine can be a safe option, but can make your life a little more exciting as well. Try changing something in your routine, such as taking a different route or method of commuting into work.

6…

Always have a goal in mind — whether it is saving up for that new car or that trip around the world, or alternatively realizing some career ambition. Having a target to work towards keeps you motivated and helps prevent you from just drifting along and falling into a rut — so make sure you always have a particular goal in mind.

7…

There's nothing that quite makes you feel as good about yourself as overcoming a fear by completing a challenge. If there's something that you've perhaps always fancied doing but have been too scared to do it, then just go for it!

8…

Putting down in writing your own life will inevitably make you think about it – including those things that have gone right so far and those that haven't. Although you'll not necessarily intend to let other people read it (although it might let others understand you better if you do!), it will help you to reassess your life and think about the direction in which you want it to go.

9…

If your lifestyle has consisted of coming home from work and slumping in front of the TV every evening, then it might be time for a change of tack. You could introduce some exercise into your day simply by walking – for example by taking the stairs instead of the elevator. And if you take some more rigorous exercise, then it's likely you'll start feeling a lot healthier in a short space of time.

10…

Your image might be the one thing you feel is holding you back and making you lack confidence. If you've had the same old tired look for ages, then it may be time to change your appearance in some way. Spend some money on yourself and get a new hairstyle, buy a new wardrobe of clothes, and just do things to make you feel as though you are special.

11…

Some people just don't get enough sleep, while others have far too much – the end result of which will be a feeling of constant tiredness. Getting the right amount of sleep will leave you more alert and able to relish doing things and get more out of experiences during your waking hours.

12…

‘You are what you eat’ is a much-used phrase, and it may be that your diet is making you feel pretty rotten. Just changing a few things can have positive health benefits as well as give you more energy and make you feel better all round.

13…

If you think negative thoughts all the time, then that’s exactly how you’ll feel! Smiling a lot and being positive will transform you into a more optimistic person. It has been said that people are only as happy as they allow themselves to be – and if you can put aside negative thoughts and be more optimistic, then that will transfer itself to how you feel about life in general.

14…

There are some people who can just drag you down or use you as an emotional crutch for their negativity. While we may want to be there for people when they need us, there is no need to be constantly brought down to their level. Some people can be just plain bad for you and surround you with so many negative vibes that you just don’t want to listen to them anymore. If that’s the case, then don’t put yourself through it and get some new friends instead!

15…

Books are often a great source of inspiration, and new ideas and can often have a major impact on you. Autobiographies of people who have overcome insurmountable odds or had that certain stroke of luck that we’re all looking for can often act as a great inspiration – and may even lead you to consider making some life-changing decisions.

16…

Owning a pet is thought to have health benefits such as helping lower blood pressure and being good for your general mood. Having a pet – in particular a dog – will lead to increased activity levels because they need to be taken for regular exercise. Pets can also help to relieve your stress and anxiety by promoting laughter and affectionate behavior.

17…

Many people consider this to be perhaps the most life-changing experience of them all! The birth itself can be such a significant moment in people's lives – including the mother, father and other relations.

18…

Don't be the sort of person that is always turning an invitation down. If you say 'no' that often, then people will eventually stop asking! So, stop looking for excuses not to go out, and make a promise to yourself never to turn an invite down (within reason, of course!).

19…

Watching less TV will free you up to follow other (hopefully healthier) pursuits. Making this change will have a positive and radical impact on your life – and also on your general health.

20…

Too many people rely on alcohol as a means of relaxation or escapism, and while there are some health benefits from drinking alcohol in moderation (red wine being a good example), the benefits of not drinking cannot be stressed enough.

21…

There's probably something you've always wanted to have a go at but keep putting off. But there's nothing to lose by trying something out – and it may be that if you do enjoy whatever activity you choose, it will become a regular part of your life.

22…

Write down three things you have been trying to achieve – whether it's changing bank, sorting out your photo album or a career change – and give yourself a month to get them done. When you decide to tackle one of your chosen tasks, set your alarm clock to buzz you in three minutes, then concentrate on the task in hand. You'll find that once you have broken the fear of starting something, you'll be fired up to get it done.

23…

It sounds simple, but if you stop worrying about something then that will eradicate much of the stress. If you calmly look at the problem and ask yourself, ‘Can I do something about it?’, then there either will or won’t be a solution to a particular problem. Things usually work out in the end, making all the stress that went before it seem so unnecessary – so quit stressing!

24…

It’s not always possible to put yourself first, and all too often people actually forget that they deserve to be treated well too. If you keep waiting for others to treat you well, then it might never happen. Make a resolution to treat yourself every now and again by putting yourself first, so that you get what you deserve at regular intervals. It’s the one way of guaranteeing that at least one person is going to be good to you in your life — and that person is you!

25…

Keep reminding yourself that it’s your life and you are the one responsible for making yourself happy. Other people can add to your happiness, but ultimately it comes down to you to get the most out of life, as nobody else can force you into making positive changes which may improve your lot. So, don’t keep waiting for things to happen for you, as life may just pass you by. Instead, take each day by the scruff of the neck, and learn to make the most of the time you have.

Activity 6 Read the text again. Choose the correct headings 1–25

1. Do Something That Scares You.
2. Have A Goal.
3. Do Volunteer Work.
4. Sell Your House.
5. Change Your Job.
6. Travel The World.
7. Change Your Routine.
8. Write Your Autobiography.

9. Get More Active.
10. It’s Your Life, So Live It!
11. Treat Yourself.
12. Conquer Stress.
13. Employ The ‘Three-Minute Rule’.
14. Find A New Hobby.
15. Give Up Alcohol.
16. Watch Less Television.
17. Say ‘Yes’ More Often.
18. Have A Baby.
19. Buy A Pet.
20. Read More.
21. Change Your Friends.
22. Change Your Outlook.
23. Change Your Diet.
24. Sleep More/Less.
25. Get A New Image.

Activity 7 Think about:

1. Which of the 25 tips do you like most of all?
2. Which of the tips don`t you like at all?
3. Can you add another tips?

Activity 8 Read the text.

3.4 Earthrise: How Man First Saw the Earth. By Robert Poole. New Haven, Conn.: Yale University Press, 2008.

In the last week of December 1968, a series of photographs appeared in newspapers and magazines around the world. Shot by the astronauts of Apollo 8, they depicted Earth, blue and white against the black of space, appearing to "rise" over the

surface of the moon. The images triggered a wave of wonder. Diplomats glimpsed a new era of human unity, the religious saw evidence of a benevolent god, and cold war politicians opined that these pictures might spark a new search for international peace. The astronauts who took the pictures were perhaps the most enthralled: “It was the most beautiful, heart-catching sight of my life, one that sent a torrent of nostalgia, of sheer homesickness, surging through me,” recalled Commander Frank Borman.

Activity 9 Read the text. Complete the text with the words below

Wondered, observed, made, people, universe, environment, human, technologies

Humans have always looked at the heavens and ... about the nature of the objects seen in the night sky. With the development of rockets and the advances in electronics and other... in the 20th century, it became possible to send machines and animals and then ... above Earth’s atmosphere into outer space. Well before technology ... these achievements possible, however, space exploration had already captured the minds of many people, not only aircraft pilots and scientists but also writers and artists.

Achieving spaceflight enabled humans to begin to explore the solar system and the rest of the ..., to understand the many objects and phenomena that are better ... from a space perspective, and to use for human benefit the resources and attributes of the space ... All of these activities - discovery, scientific understanding, and the application of that understanding to serve ... purposes - are elements of space exploration.

Activity 10 Read the text.

3.5 Motivations for space activity

Although the possibility of exploring space has long excited people in many walks of life, for most of the latter 20th century and into the early 21st century, only national governments could afford the very high costs of launching people and machines into space. This reality meant that space exploration had to serve very broad interests, and it indeed has done so in a variety of ways. Government space programs have increased knowledge, served as indicators of national prestige and power, enhanced national security and military strength, and provided significant benefits to

the general public. In areas where the private sector could profit from activities in space, most notably the use of satellites as telecommunication relays, commercial space activity has flourished without government funding. In the early 21st century, entrepreneurs believed that there were several other areas of commercial potential in space, most notably privately funded space travel.

In the years after World War II, governments assumed a leading role in the support of research that increased fundamental knowledge about nature, a role that earlier had been played by universities, private foundations, and other nongovernmental supporters. This change came for two reasons. First, the need for complex equipment to carry out many scientific experiments and for the large teams of researchers to use that equipment led to costs that only governments could afford. Second, governments were willing to take on this responsibility because of the belief that fundamental research would produce new knowledge essential to the health, the security, and the quality of life of their citizens. Thus, when scientists sought government support for early space experiments, it was forthcoming. Since the start of space efforts in the United States, the Soviet Union, and Europe, national governments have given high priority to the support of science done in and from space. From modest beginnings, space science has expanded under government support to include multibillion-dollar exploratory missions in the solar system. Examples of such efforts include the development of the Curiosity Mars rover, the Cassini-Huygens mission to Saturn and its moons, and the development of major space-based astronomical observatories such as the Hubble Space Telescope.

Soviet leader Nikita Khrushchev in 1957 used the fact that his country had been first to launch a satellite as evidence of the technological power of the Soviet Union and of the superiority of communism. He repeated these claims after Yuri Gagarin's orbital flight in 1961. Although U.S. Pres. Dwight D. Eisenhower had decided not to compete for prestige with the Soviet Union in a space race, his successor, John F. Kennedy, had a different view. On April 20, 1961, in the aftermath of the Gagarin flight, he asked his advisers to identify a "space program which promises dramatic results in which we could win." The response came in a May 8, 1961, memorandum

recommending that the United States commit to sending people to the Moon, because "dramatic achievements in space…symbolize the technological power and organizing capacity of a nation" and because the ensuing prestige would be "part of the battle along the fluid front of the cold war." From 1961 until the collapse of the Soviet Union in 1991, competition between the United States and the Soviet Union was a major influence on the pace and content of their space programs. Other countries also viewed having a successful space program as an important indicator of national strength.

Even before the first satellite was launched, U.S. leaders recognized that the ability to observe military activities around the world from space would be an asset to national security. Following on the success of its photoreconnaissance satellites, which began operation in 1960, the United States built increasingly complex observation and electronic-intercept intelligence satellites. The Soviet Union also quickly developed an array of intelligence satellites, and later a few other countries instituted their own satellite observation programs. Intelligence-gathering satellites have been used to verify arms-control agreements, provide warnings of military threats, and identify targets during military operations, among other uses.

Activity 10 Read the text. Answer the questions:

1. How has the space exploration changed the life of mankind?
2. Why can you say that the dream of space travel became reality?
3. In what way has the superpower opposition stimulated the space research?
4. What "first" in space exploration has the Soviet Union achieved?
5. What peaceful application of space exploration can you name?
6. What did the US Apollo space program concentrate on?
7. What benefits for mankind has space exploration brought?
8. What are the motivations for space activity?

Activity 11 Read the text.

3.6 1968: When Apollo 8 First Orbited The Moon And Saw The Earth Rise In Space

Fifty years ago Friday, on Dec. 21, 1968, Apollo 8 lifted off, marking the first time humans left low Earth orbit and flew to the moon.

This was the second manned spaceflight of the Apollo program, and it was a nerve-wracking and remarkable flight that captured the world's attention.

Any trip to space is risky. But a mission to the moon, nearly a quarter-million miles from Earth, was something else.

But 1968 was an especially turbulent year in the United States. The Vietnam War was raging. Both Robert Kennedy and Martin Luther King Jr. were assassinated. Protests roiled the Democratic National Convention.

During the six-day mission those things seemed to fade away as people were captivated by what they saw and heard.

There was also an unexpected moment during the 20- hours they circled the moon. As they focused on the lunar surface below, something else caught the crew's attention.

"Oh my God, look at that picture over there! It's the Earth coming up. Wow, is that pretty!" exclaimed Anders.

Anders rushed to snap a picture of the Earth, rising above the barren lunar landscape. The "Earthrise" image remains one of the most famous ever taken in space, and Anders says it forever changed the way people think about where we live.

"The only color that we could see and contrasted by this really unfriendly, stark lunar horizon, made me think, 'You know, we really live on a beautiful little planet,' " he says.

Borman says there are a lot of parallels between 1968 and 2018, specifically how divided the country is — the anger, frustration and mistrust. He wishes there was something on the horizon today like Apollo 8 to bring people together.

Activity 12 Read the text. Are the sentences true or false?

1. On Oct. 21, 1968, Apollo 8 lifted off, marking the first time humans left low Earth orbit and flew to the moon.
2. It was the first manned spaceflight of the Apollo program.
3. Any trip to space is risky.
4. But 1986 was an especially turbulent year in the United States.
5. There was also an expected moment during the 6 days they circled the moon.
6. Borman rushed to snap a picture of the Earth, rising above the barren lunar landscape.
7. Anders says there are a lot of parallels between 1968 and 2018, specifically how divided the country is – the anger, frustration and mistrust.

Activity 13 Complete the text with the sentences 1–5.

3.7 Why We Explore

Human Space Exploration

Humanity's interest in the heavens has been universal and enduring. … The intangible desire to explore and challenge the boundaries of what we know and where we have been has provided benefits to our society for centuries.

Human space exploration helps to address fundamental questions about our place in the Universe and the history of our solar system… Curiosity and exploration are vital to the human spirit and accepting the challenge of going deeper into space will invite the citizens of the world today and the generations of tomorrow to join NASA on this exciting journey.

A Flexible Path

This is the beginning of a new era in space exploration in which NASA has been challenged to develop systems and capabilities required to explore beyond low-Earth orbit, including destinations such as translunar space, near-Earth asteroids and eventually Mars.

By building upon what we learn there we will prepare astronauts for the challenges of long-duration flight and the permanent expansion of human exploration beyond where we have been before. Explorers may visit near-Earth asteroids where we

may get answers to the questions humans have always asked. Visiting an asteroid will provide valuable mission experience and prepare us for the next steps-possibly for the first humans to step on Mars.

… When combining both human and robotic exploration methods we will use technology and our senses to increase our ability to observe, adapt, and uncover new knowledge.

Why the International Space Station?

The first step in embarking on a long and challenging journey involves laying solid groundwork for a successful endeavor. …On the International Space Station we will improve and learn new ways to ensure astronauts are safe, healthy and productive while exploring, and we will continue expand our knowledge about how materials and biological systems behave outside of the influence of gravity.

NASA will continue its unprecedented work with the commercial industry and expand an entire industry as private companies develop and operate safe, reliable and affordable commercial systems to transport crew and cargo to and from the International Space Station and low Earth orbit.

1. The International Space Station serves as a national laboratory for human health, biological, and materials research, as a technology test-bed, and as a stepping stone for going further into the solar system.

2. Robotic exploration continues to deliver profound answers about our Universe by visiting far-off destinations, providing reconnaissance and collecting scientific data.

3. NASA will use the International Space Station as a test-bed and stepping stone for the challenging journey ahead.

4. Through addressing the challenges related to human space exploration we expand technology, create new industries, and help to foster a peaceful connection with other nations.

5. Humans are driven to explore the unknown, discover new worlds, push the boundaries of our scientific and technical limits, and then push further.

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