

Spring term
The 1st practical activity
Theme: What is mathematics?

Objective:

- To enable students (Ss) to practice language skills by discussing and sharing ideas on the given topic
- To enlarge their vocabulary on the topic by giving them appropriate words round the sub topic
- To give students an opportunity to practice listening for main ideas
- To encourage Ss to work in cooperation

Vocabulary:

Visuals: handouts, cards, crosswords, mini tests, power point projector

Summary of the lesson:

I. Pre-reading task

1. Think about the answers to the following questions:

- Do you face the problem of necessity of counting in your in your everyday life?
- What is mathematics according to your point of view?
- What does mathematics consist of?

2. Read the following statements. Agree or disagree with them. Give the reasons of your choice.

1. It is impossible to give a concise and readily acceptable definition of maths as it is a multifold subject.
2. Maths in the broad sense of the world is a peculiar form of the general process of human knowledge of the real world.
3. Numbers are abstracted ideas or mental notions only, for numbers do not exist in nature.
4. A formal math system bears some analogy to a natural language, for it has its own vocabulary and rules.
5. Nowadays mathematicians frequently liken maths to art or game rather than to science.
6. Maths is the science dealing primarily with what can be obtained by reasoning alone.
7. Math writing is remarkable because it encompasses much information in few words.
8. Contemporary maths is mixture of much that is very old and still important (e.g., counting, the Pythagorean theorem) with new concepts such as sets, axiomatics, structure.
9. We need for careful and rigorous reasoning in proofs is not at once intuitively apparent to a nonmathematician.
10. Modern methods of carrying out arithmetic operations and their applications become sophisticated through modern computers.

II. **Reading**

1. Read the text and answer the question given in the title. Make a short summary of the text.

What is mathematics?

Mathematics is a Greek word, which means “something that must be learnt or understood”. However, let us think what is maths in the modern sense of term, its implications and connotations? Here we deal with the answer, that there is no unified, neat and simple definition. Maths as a science is a collection of branches. The largest branch is called the real number system. A second branch is geometry. Each branch has the same

logical structure. It begins with certain concepts, such as the whole numbers or integers in the maths of number and point, line and triangle in geometry. These concepts must verify explicitly stated axioms. The next step is that from the concepts and axioms theorems are deduced. Hence, from the structural point of view, the concepts, axioms and theorems are the essential components of any compartment of maths. The basic concepts of the main mathematical branches are abstractions from experience, but on the other hand, there are many more concepts, which are, in essence, creations of the human mind with or without help of any experience. The notion of a variable, which represents the quantitative values of some changing physical phenomena, is also at least one mental step beyond the mere observation of change. The concept of a function or a relationship between variables is almostly a mental creation. Axioms constitute the second major component of any mathematical branch. From a set of axioms the theorems are deduced. Math theorems must be deductively established and proved. New theorems are proved constantly, even in such old subjects as algebra and geometry and the current developments are as important as the older results.

Growth of maths is possible in still another way. Mathematicians are sure now that sets of axioms, which have no bearing on the physical world, should be explored. Nowadays mathematicians investigate algebras and geometries with no immediate applications. However, there is some disagreement among mathematicians as to the way they answer the question “Do the concepts, axioms, and theorems exist in some objective world and are they merely detected by man or are they entirely human creations?”

In ancient times, the axioms and theorems were regarded as necessary truths about the universe already incorporated in the design of the world. Hence, each new theorem was a discovery, a disclosure of what already existed. The contrary view holds man creates that math, its concepts and theorems. Man distinguishes objects in the physical world and invents numbers and number names to represent one aspect of experience. Axioms are man’s generalizations of certain fundamental facts and theorems can logically follow from the axioms. According to this point of view, maths is a human creation. Some mathematicians claim that pure maths is the most original creation of the human mind.

Writing

2. Translate and memorize the following words and word combinations.

Science, collection of branches, real number system, to verify, to deduce, to explore, to prove, constantly, explicitly, variable, implication, connotation, neat, general, unique.

3. Complete the following sentences using beginnings 1-7, and endings A-G.

1. Maths a science is ...
2. The real number system builds on ...
3. From the concepts and axioms ...
4. Each branch has the same ...
5. The concepts must verify ...
6. Pure maths is the most original creation ...
7. Math theorems must be deductively ...
 - A. the ordinary whole numbers, fractions, and irrational numbers.
 - B. explicitly stated axioms.
 - C. logical structure, which begins with the certain concepts.
 - D. a collection of branches.
 - E. established and proved.
 - F. of the human mind.
 - G. theorems are deduced.

Suggested literature:

1. Boqiyeva G.X., Rashidova F.M. va boshqalar. Scale-up 1,2 Student's book. Course 1.- T.:Gagur Gulom, 2015.
2. Malcolm man, Steve Taylor-Knowles. Destination B1
3. Evans V. Dooley J. Enterprize 1. Express publishing.-2008.
4. Evans V. Successful writing. Intermediate. Express publishing-2000
5. Ian Mackenzie English for Business Studies. Cambridge 2010
6. Bill Mascull Business vocabulary in Use, Intermediate. Cambridge University press. 2010
7. Thomas Kral Economic Considerations. Washington 2006

The 2nd practical activity **The theme: Information security.**

Objectives:

- To enable students (Ss) to practice language skills by discussing and sharing ideas on the given topic
- To enlarge their vocabulary on the topic by giving them appropriate words round the sub topic
- To give students an opportunity to practice listening for main ideas

To encourage Ss to work in cooperation

Vocabulary: type, auxiliary, kind, answer, when, where, who, whom, which, what, whose, how, how many, how much.

Visuals: handouts, cards, mini tests, CDs.

Summary of the lesson.

INFORMATION AND SECURITY

Banker,35. Oh, as a bank accountant I find IT attacks as life threatening (ha ha). We use encryption method; it is one of the ways of preventing cybercrime in the banking system that is coding clients' data. Then I switch off advertisements in the Internet to avoid interruptions. How to get slim..., how to get rich in a few days..., how to win Green Cart... they are not my problems. I do not have any wish, belief or time for those tricks.

Operator,25. Yes, they are everyday problems now; we have to think over and over to find new ways of protecting information. I set new password to my office computer but all the time someone finds it out. It would be better if we access our files through retina scanners with fingerprint as a password (ha ha). To look at serious, I can say that there are software firewalls that are installable on a PC that will allow me to select a list of programs that are allowed internet access. This means that any suspicious programs can be locked down before I can do any damage to my computer.

Teacher, 27. In this globalization era we teachers should be very attentive to the students' ideologies whether they are not harmed by alien ideas or aren't there any gap in their ideologies. To worry about them is everybody's problem today; the youth are our future so we should be aware if they are not infected innocently and do not let them have ideological gap. (Er, then) To secure IT attacks, personally I access only reliable sites and download files that I trust.

Student, 20. So, I download latest antivirus software, for me Nod32 is the most reliable, I do not give the password of my e-mail, err., what else, oh, I read license agreements written in small prints before I click on "I accept" not to let spyware to snoop me legally. And you asked about unnecessary info... er (oh yeah), I once received e-mail

from US FBR, it said that a large amount of money was stolen from African bank to my name and asked me to send my passport copy and etc. at first I was very shocked then understood that was just spam. So, even if I open and read such e-mails I don't believe them.

Manager, 36. Securing my computer is securing me as well (because it may cause stress to my health). I try to do my best, because it may decide the fate of my office. So, one of them is that I don't open email attachments unless I am expecting them. Many viruses are attached to email messages and will spread as soon as you open the email attachment. To get secured from irritating info I try to stop gossips in the office, within we provide friendly working atmosphere.

a) Last year my family decided to buy a washing machine. But we could not choose a company and model of the washer. But at that time on the TV we watched advertising of a washing machine. The publicity was so colorful and at the same time the operation of the product and its advantages were described simply and clearly, and in the end we decided to buy it.

The price was reasonable and soon we bought it. If I analyze now, we were not deceived by advertisement. We have been using this machine for a year and we are satisfied with it. I have never regretted that I was influenced by the advertising. (Natalya.)

b) As soon as, I entered the University, I needed a laptop. I had been looking for a suitable one with inexpensive price, a few days later I saw an advertisement on the street «Matbuotchilar» next to the store «Shedevr» on the banner was an awesome picture of laptop with the famous brand image, So when I saw that advertisement, I instantly went to the website of this brand to find out how much it cost so I could begin saving for it. I was determined to do what I could. I was a little disappointed when I went to their website to discover that it had not been released yet. One of their videos estimated it would be released sometime that winter, but no exact dates were listed. I really did not want to wait that long though. So I found the company's Facebook page and asked them if they knew when it would be released for sale to the public, because I was really excited. So I took the leap and began interacting with them on their Facebook page. Two weeks later, the official website of the company published the date of sale. The price was a little expensive, but I decided to make a booking. Within a week I got a call and they said to come to the postal service and pick up my purchase. I have never regretted that I purchased this laptop as it is fast and reliable, lots of storage space and memory, battery life is good enough for me and suitable for university assignments. Windows 8, once I get used to it, is a very good OS. It's very stable and has good features. I especially like 'Play to' which allows me to play any video or song.

LISTENING

Activity 1

(T2.1) Look at the table. Listen to the interviews and fill in the table.

No	Job, age	How do you protect yourself from IT attacks?	How do you protect yourself from unnecessary information?
1	Banker, 35	<i>Encryption method</i>	
2	Operator, 25		
3	Teacher, 27		
4	Student, 20		
5	Manager, 36		

Activity 2

(T2.2) Listen to the students speaking about the influence of advertisements on their purchase and fill in the table.

No	What was advertised?	What words helped to guess what was advertised?	Did he/she buy?	How much did it cost?
1				
2				

WRITING

Activity 3

In your notebook, put these sentences into the past simple. Write them in the positive form, the question form and the negative form.

1 She gets up early in the morning.

She got' up early in the morning.

Did she get up, early in the morning?

She didn't get up early in the morning.

2 He teaches history at the university.

He taught history a t the university.

Did he teach history a t the university?

He didn't teach history a t the university.

3 They leave home at 8 o'clock.

4 He stays in very good hotels.

5 You smoke a lot.

6 I look very tired.

7 We stop at Oxford.

8 The restaurant closes at 11 o'clock.

9 Pam buys a lot of clothes.

10 The birds fly away to other countries.

Suggested literature:

1. Antonia Clare and J J. Wilson. Speak out 2nd edition. Intermediate. Students' Book. Pearson Education Limited: Printed in Slovakia by Neografa, 2015.

2. Antonia Clare and J.J. Wilson and Diamond-Bayer. Speak out 2nd edition. Intermediate. Work Book. Pearson Education Limited: Printed in Slovakia by Neografa, 2015.

3. Damian Williams. Speak out 2nd edition. Intermediate. Teachers Book. Pearson Education Limited: Printed in Slovakia by Neografa, 2015.

4. Boqieva G va boshq. Scale up. Student's book. Course I. Darslik. Publishing house named after Gafur Gulyam: Tashkent, 2015.

5. Bakieva G., Rashidova F., Scale up 1part. Tashkent 2015.

6. Bakieva G., Rashidova F., Scale up 2 part. Tashkent 2015.

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The 3rd practical activity

The theme: Emails of introduction; learn to write Formal and informal emails

Objectives:

- To enable students (Ss) to practice language skills by discussing and sharing ideas on the given topic
- To enlarge their vocabulary on the topic by giving them appropriate words round the sub topic
- To give students an opportunity to practice listening for main ideas

To encourage Ss to work in cooperation

Vocabulary: type, auxiliary, kind, answer, when, where, who, whom, which, what, whose, how, how many, how much.

Visuals:: handouts, cards, mini tests, CDs.

Summary of the lesson.

WRITING

EMAILS OF INTRODUCTION; LEARN TO WRITE FORMAL AND INFORMAL EMAILS

7 A When would you write a letter or email to introduce yourself?
B Read the emails. Why are the people writing? Which sentences tell us?

To: ramirez@languagestar.nett *Subject:* Spanish conversation class

Hi Hernan,
 My name's Julia Brown. I heard from my friend Nichola Lazarus that you're running a Spanish conversation class. She said you'd be happy to accept a few more people. My mother tongue is English but I picked up some Spanish years ago when I was travelling in Latin America. I really want to develop my fluency and accuracy, so I'd love to join the class. Hope to hear from you soon.
 All the best,
 Julia 😊

To: GND staff *Subject:* Greetings

Dear Colleagues,
 As you probably know, next month I will start work as the new director of the Language Teaching Education Programme. For those of you who don't know me, I would like to take this opportunity to introduce myself. Since 2010, I have worked at the School of Education at Borodivce University. I have been involved in a number of language teacher education projects across Europe and I worked extensively on the Star Placement Initiative that placed six thousand native speakers in language classrooms in eight countries. I am married with two children and my family is bilingual in English and Turkish.
 I look forward to working with you.
 Yours sincerely,
 Talya Osman

9 A Look at the emails in Exercise 7B again. Which one is formal and which is informal? How do you know?

B Answer questions 1–4 with formal (F) or informal (I).

- 1 Which email uses full forms of verbs (*I will, I would*) instead of contractions (*you're, I'd*)?
- 2 Which email leaves out words (e.g. *Hope to ...* instead of *I hope to ...*)?
- 3 Which email sounds more like spoken English?
- 4 Which email uses longer, more complex sentences?

C Complete the notes with phrases from the email.

Greeting
 (formal): _____
 (informal): Hi/Hello.

Introduction
 (formal): I would like to take this _____
 (informal): My name's ...

Final message
 (formal): I look forward to ...
 (informal): _____

Goodbye
 (formal): _____
 (informal): All the best.

8 Read the five steps for good email writing. Do you think the emails in Exercise 7B follow steps 1–3?

- 1 **Aim** for your audience: think about who you are writing to. Is the email formal or informal?
- 2 **Be brief**: try not to use too many words. Emails shouldn't go on for pages.
- 3 **Communicate clearly**: use simple, clear language and simple sentence structure.
- 4 **Do two drafts**: write a first version and then rewrite.
- 5 **Edit everything**: check grammar, vocabulary, spelling and punctuation before sending.

10 Choose a situation below and write an email. Think about who you are writing to, the reason for writing and the style: formal or informal.

Situation 1
 You are going to join an English conversation class. Write an email introducing yourself to the teacher and the class. Mention your experience of learning and speaking English and say why you want to join the class.

Situation 2
 Next week you start a new job in a multinational company. Your colleagues speak over twenty languages, and all of them read English. Write to introduce yourself. Mention your previous work experience and the languages you know, and add something personal.

GRAMMAR

QUESTION FORMS

4 A Read sentences 1-6 and answer questions a)-e).

- 1 Do you speak other languages?
- 2 Did you use any learning strategies?
- 3 Who did you talk to?
- 4 What happened?
- 5 What did you talk about?

6

6 Who is the best language learner in your family?

a) Underline the main verb in each question. (The first has been done for you.)

b) Circle the auxiliary verbs. Which auxiliary refers to the past? Which refers to the present?

c) Which two questions are yes/no questions? d) Which two questions end in a preposition: of, by, etc.?

e) Which two questions use wh- words to refer to the subject (the person who does the action, or the action itself) and don't use an auxiliary verb?

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B 0 1.1 INTONATION: wh- questions Listen to the questions in Exercise 4A. Are the question words (wh- words) in 3-6 said in a higher or a lower voice?

C Listen and say the questions at the same time. **5 A** Put the words in the correct order to make questions.

1 do / every I you I day / study ?

2 your / any / did / languages / teach I parents / you / other ?

3 is / learner / who / the / best / you / language I know ?

4 was / teacher / your / English I first / who ?

5 do / do / you / remember / what / English / to / words/in ?

6 languages I you / what / do / to / like I listening ?

7 do / what I watch I you I English / in / TV / programmes?

8 foreign I did I speak / first / when / language / a / you ?

Suggested literature:

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The 4th practical activity
The theme: Communications.

Objectives:

- To enable students (Ss) to practice language skills by discussing and sharing ideas on the given topic
- To enlarge their vocabulary on the topic by giving them appropriate words round the sub topic
- To give students an opportunity to practice listening for main ideas
- To encourage Ss to work in cooperation

Vocabulary: postal services; telegraph lines; telecommunications services; gigagertz; mobile telephones; fax; licence; paging networks; radio; TV; E-mail; Internet communication

Visuals:: handouts, cards, crosswords, mini tests.

Summary of the lesson.

Communications

From the Linguistic point of view communication is the exchanging of thoughts, ideas, and views either among the individuals or groups of people in the society. In Oxford student's dictionary of current English by A.S. Hornby communication is the means of communicating which includes the following significances: radio and TV, postal services, telegraph lines, fax, roads and railways, airlines, waterways & etc. A modern world has created the new means of communication. They are E-mail, Internet and mobile telephones. These means of communication are developing and spreading all around the world very rapidly. Their development first of all depends upon the economy of the country and its intellectual potential.

Activity1.

Perform the following assignments.

A. You have an urgent message to your boss. Unfortunately your boss is out of Tashkent, he is in Samarkand. He is visiting the places of interest around the city. You have only half an hour to send your message. How do you send it? Tick opposite the word you think suitable for the required task.

Internet	Mobile	Radio
E-mail	telephone	TV
Fax		Telephone
		Mail

Explain to the teacher and your classmates your choice. Prove that your classmate's choice if different is wrong.

B. Which word you think is suitable to embrace the idea of all above mentioned notions. Prove your choice.

Activity - 4. Match the meanings of the words as they are used in the text.

1. **Communications** - the means of exchanging ideas, views, etc. with the elp of high technology and multimedia at a distance
2. **Radio** - the various systems used for sending (esp. electronic) information, such as radio, television, telephone, and computer networks
3. **TV** - wireless means of exchanging ideas, views, etc. at a distance
4. **Postal services** - the means of mass media, entertainment, advertising with

isualization,

films

5. **Telegraph lines** - the means of exchanging ideas, views, etc. at a distance with the help of written messages

6. **Internet** - portable means of exchanging ideas, views, etc. at a distance

7. **Mobile telephones** - non-portable means of exchanging ideas, views, etc. at a distance

8. **E-mail** - the means of exchanging ideas, views, etc. by printing with the help of high technology

Activity- 5. Read the following statements. Tick “T” if the statement corresponds to the idea of the text and “F” - if not.

Statements	T	F
1. The expansion of mobile telecommunications services has assisted the Government of Great Britain.		
2. The personal communications network (PCN) services had appeared in Great Britain before it began to be used in other countries.		
3. PCN services allow the same telephone to be used at home, at work and as a portable wherever there is network coverage.		
4. The development of modern means of communication depends upon high technology.		

READING

Communication

2 A Read the article. What does it tell us about the things shown in Exercise 1? What predictions does it make about translating machines and nano monitors?

B Complete the summary of the article with words from the text.

Use one word in each gap.

The writer believes a machine will be able to 1 our words into different languages. She thinks we'll use monitors in our2 to check our health, and 3D printers will make perfect3 of human organs like the heart. We will entertain ourselves with virtual reality, as computers learn to interact with the4 . The problems caused by5 change will mean vertical farming becomes popular.

C Discuss with other students. 1 Which ideas in the article do you like? Can you think of other uses for these inventions? 2 Which ideas don't you like? Why not? 3 Which ideas do you agree will probably come true?

In the near future, we may be able to communicate in any language we choose. A number of companies are working on translating machines that use the voice frequencies of the speaker.

This makes it sound as though the user is speaking the foreign language. We already have translating machines, but they are slow and inaccurate and they sound like robots. In only a year or two this new machine, which will be a headset, could come onto the market and allow us to speak every language under the sun.

Health

The future of health is going to be a tale of big and small. Tiny nano monitors will be placed inside our bodies, and these will produce Big Data - enormous amounts of information - that allow us to check our health and help us predict illnesses. Another big development probably won't be ready in the short term, but in the long term there is hope

that 3D printers will make copies of body parts such as hearts, livers and kidneys. If it happens, this is likely to save millions of lives.

Using 3D printers, we can already make copies of plastic and metal objects. The next step is to copy living tissue.

Entertainment

Full immersion virtual reality will be with us in perhaps ten to twenty years' time. We will be able to plant tiny microchips in the brain, allowing a person to experience games, movies, and virtual life as if they are real. As computers interact with the brain, we will have the sensation of touching, seeing, hearing, and smelling virtual objects in virtual worlds. Instead of just watching heroes in movies, signals to the brain will let us feel what our heroes feel, see what they see. Fortunately, if things get too terrifying, we will be able to switch it off with the push of a button!

Global problems

In the next thirty years, climate change is going to seriously affect traditional farming. Floods and droughts will disrupt farming patterns that have existed for thousands of years. Because of this, cities will have to start producing food, and vertical farming will become common. Tower blocks and skyscrapers will have gardens built into them. Each floor will grow different plants, fruits and vegetables, and the water will be recycled. Instead of stretching out for miles across the landscape, farmland will now rise hundreds of meters into the air.

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Use one word in each gap.

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6. Bakieva G., Rashidova F., Scale up 2 part. Tashkent 2015.

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The 5th practical activity

Theme: Trigonometry

Objective:

- To enable students (Ss) to practice language skills by discussing and sharing ideas on the given topic
- To enlarge their vocabulary on the topic by giving them appropriate words round the sub topic
- To give students an opportunity to practice listening for main ideas
- To encourage Ss to work in cooperation

Vocabulary:

Visuals: handouts, cards, crosswords, mini tests, power point projector

Summary of the lesson:

Eternal triangles. Trigonometry and Logarithms.

The origins of trigonometry The basic problem addressed by trigonometry is the calculation of properties of a triangle – lengths of sides, sizes of angles – from other such properties. It is much easier to describe the early history of trigonometry if we first summarize the main features of modern trigonometry, which is mostly a reworking in 18th century notation of topics that go right back to Greeks, if not earlier. This summary provides a framework within which we can describe the ideas of the ancients, without getting tangled up in obscure and eventually obsolete concepts. Trigonometry seems to have originated in astronomy, where it is relatively easy to measure angles, but difficult to measure the vast distances. The Greek astronomer Aristarchus, in a work of around 260 BC, *On the Sizes and Distances of the Sun and Moon*, deduced that the Sun lies between 18 and 20 times as far from the Earth as the Moon does. (The correct figure is closer to 400, but Eudoxus and Phidias had argued for 10). His reasoning was that when the Moon is half full, the angle between the directions from the observer to the Sun and the Moon is about 87 degrees (in modern units). Using properties of triangles that amount to trigonometric estimates, he deduced (in modern notation) that $\sin 3^\circ$ lies between $1/18$ and $1/20$, leading to his estimate of the ratio of the distances to the Sun and the Moon. The method was right, but the observation was inaccurate; the correct angle is 89.8° . The first trigonometric tables were derived by Hipparchus around 150 BC. Instead of the modern sine function, he used a closely related quantity, which from the geometric point of view was equally natural. Imagine a circle, with two radial lines meeting at an angle θ . The points where these lines cut the circle can be joined by a straight line, called a chord. They can also be thought of as the Hipparchus drew up a table relating arc and chord length for a range of angles. If the circle has radius 1, then the arc length in modern notation is $2\sin \theta/2$. So Hipparchus's calculation is very closely related to a table of sines, even though it was not presented in that way. (an extract from the book *The story of mathematics* by Ian Stewart)

Speaking

Before you read

Discuss these questions.

1. Do you know what the word 'trigonometry' means?
2. Do you know that trigonometry originated in astronomy?
3. Can you briefly formulate trigonometric functions?
4. What is Ptolemy's contribution to trigonometry?

WRITING

Key terms Match these terms with their definitions.

1. Chord a) a section of a curve, graph, or geometric figure
2. arc b) a straight line connecting two points on a curve or curved surface
3. Angle c) the space between two straight lines that diverge from a common point or between two planes that extend from a common line
4. trigonometry d) the branch of mathematics concerned with the properties of trigonometric functions and their application to the determination of the angles and sides of triangles. Used in surveying and navigation
4. 5. sine e) a trigonometric function that in a right-angled triangle is the ratio of the length of the opposite side to that of the hypotenuse

LISTENING

2.2

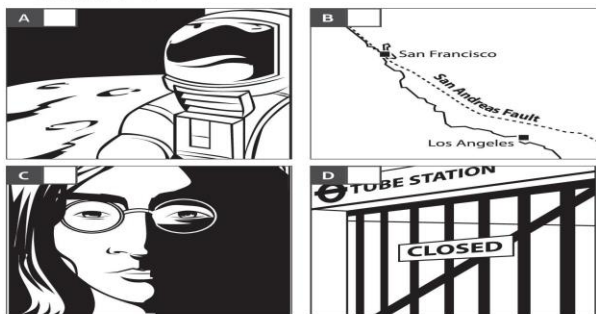
LISTENING

- 1 A Read the introduction to a radio programme. Are the statements true (T) or false (F)?
- 1 A 'flashbulb memory' is a memory of an important event.
 - 2 You do not usually remember small details with a flashbulb memory.

FLASHBULB MEMORIES – WHERE WERE YOU THEN?

Do you remember where you were when an important event occurred? Can you remember who you were with? Then you may have what is called a 'flashbulb memory'. In 1977, two psychologists, Roger Brown and James Kulick, used the term 'flashbulb memories' to talk about people's recollections of the John F. Kennedy assassination. They suggested that, like a camera's flashbulb, when a truly shocking event happens, the brain 'takes a picture' of the moment when you learn about the event. This enables us to remember, sometimes in great detail, events of an emotional significance to us. Tune in to Radio 6 *Real Lives* and listen to some of the stories.

- B C 2.2 Listen to the stories. Match pictures A–D with speakers 1–4.



C Listen again and answer the questions.

- 1 Who was angry about not getting to a meeting on time?
- 2 Who watched the news on a black and white television?
- 3 Who got up to make everyone coffee?
- 4 Who were trying to talk on their mobile phones?
- 5 Who thought that maybe what they remembered was just a dream?
- 6 Who wanted peace for everyone?

GRAMMAR

NARRATIVE TENSES

- 2 Circle the correct option to complete the sentences.
- 1 Simon was feeling exhausted because
 - a) the baby wasn't sleeping all night.
 - b) the baby hadn't slept all night.
 - 2 We were driving to the hospital to visit Sam when
 - a) they called to say she had gone home.
 - b) they were calling to say that she was going home.
 - 3 By the time we got to the beach
 - a) the rain had stopped.
 - b) the rain stopped.
 - 4 Juan was feeling excited because
 - a) he wasn't seeing his parents for ten years.
 - b) he hadn't seen his parents for ten years.
 - 5 She was singing an old folk song
 - a) which I hadn't heard for years.
 - b) which I didn't hear for years.
 - 6 Everyone was dancing because
 - a) Porto had just won the match.
 - b) Porto were just winning the match.

- 3 Complete the conversations with the correct form of the verbs in brackets.

Conversation 1

A: What ¹ (happen) to you on Saturday night? We ² (wait) for ages, but you ³ (not come).
 B: I'm really sorry, I ⁴ (drive) back from Aga's house when my car ⁵ (break) down.

A: Why didn't you call?
 B: My phone ⁶ (run out) of battery.

Conversation 2

A: ⁷ you (enjoy) your dinner last night?
 B: No. Actually, I ⁸ (hate) it.
 A: Why? What happened?
 B: Well, we ⁹ (book) a table, but I ¹⁰ (not realise) it was right by the door. People ¹¹ (come) in and out all evening and it was freezing. Then, when the waiter ¹² (pour) my wine, he ¹³ (spill) it down my dress. And also, we ¹⁴ (order) fish, which they ¹⁵ (say) was fresh. But when it ¹⁶ (arrive) it ¹⁷ (taste) terrible!

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Suggested literature:

1. Antonia Clare and J J. Wilson. Speak out 2nd edition. Intermediate. Students' Book. Pearson Education Limited: Printed in Slovakia by Neografa, 2015.
2. Antonia Clare and J.J. Wilson and Diamond-Bayer. Speak out 2nd edition. Intermediate. Work Book. Pearson Education Limited: Printed in Slovakia by Neografa, 2015.
3. Damian Williams. Speak out 2nd edition. Intermediate. Teachers Book. Pearson Education Limited: Printed in Slovakia by Neografa, 2015.
4. Boqieva G va boshq. Scale up. Student's book. Course I. Darslik. Publishing house named after Gafur Gulyam: Tashkent, 2015.
5. Bakieva G., Rashidova F., Scale up lpart. Tashkent 2015.
6. Bakieva G., Rashidova F., Scale up 2 part. Tashkent 2015.
7. N. V. Solovey, I. V. Letunovskaya English for students of Mathematics. Kiev 2018

The 6th practical activity

Theme: Memory and ability

Objective:

- To enable students (Ss) to practice language skills by discussing and sharing ideas on the given topic
- To enlarge their vocabulary on the topic by giving them appropriate words round the sub topic
- To give students an opportunity to practice listening for main ideas
- To encourage Ss to work in cooperation

Vocabulary:

Visuals: handouts, cards, crosswords, mini tests, power point projector

THE MEMORY MEN

7.2

G

P

V

present and past ability

word stress

ability

VOCABULARY

ABILITY

1 Make a list of five things you are good at and three that you are bad at. Show the list to a partner. He/She asks questions to find out what you are good/bad at.

How long have you been playing the drums? How often do you play? Do you ...

2 A Read sentences a)–h), then discuss questions 1–3 with a partner.

- He's **an expert in** Italian art.
He's written several books about it.
- He's **gifted at** painting. He had his first exhibition when he was sixteen.
- She **has a** lot of **ability as a** dancer.
I think she could become a professional.
- She's the most **skilful** footballer I've ever seen. She can play in any position.
- He **has an aptitude for** maths.
He learns new formulas very quickly.
- He is a really **talented** musician.
He can play six instruments.
- I'm **hopeless at** geography. I failed my exam three times.
- I'm **useless at** ball sports. I can't play any.

- Which of the words in bold are negative?
- Which are nouns and which are adjectives?
- What do you think the words mean? Use the context of the sentences to help you.

B 7.3 **WORD STRESS** Look at the words in bold in exercise 2A. Then listen to the sentences and answer the questions.

- Which parts of the words in bold are stressed? Underline the stressed part.
- Which five words have two syllables? Where do we normally put the stress on two-syllable words?

C Listen again and repeat the sentences. Focus on the stressed parts.

3 A Write the name of:

- an expert in your own area of interest.
- someone in the class who is talented.
- a gifted musician.
- something you are useless at.
- something you have an aptitude for.

B Work in groups. Ask each other to explain what they wrote and why.

READING

4 A Work in pairs. You are going to read about two men, nicknamed 'The human computer' and 'The human camera'. What special abilities do you think they have?

B Student A: read the text below to see if your ideas are mentioned. Student B: turn to page 161.

THE HUMAN COMPUTER

Daniel Tammet says he was born on a blue day, 31st January 1979. He knows it was blue because Wednesdays are always blue, like the number nine or the sound of people arguing.

As a child, Daniel was diagnosed as autistic. He couldn't make friends. He was too different from the other children. Aged eight, he was able to calculate $82 \times 82 \times 82 \times 82$ in his head, but he couldn't tie his own shoe laces, or ride a bicycle.

The thing that makes Daniel special is that he has an incredible ability with numbers. He imagines them as shapes and colours ('289 is an ugly number', he says) and is able to do extremely difficult mathematical calculations. On the TV programme that made him famous in the UK, he managed to recite 22,514 numbers from pi perfectly. If you tell Daniel your birth date, he can tell you what day of the week you were born on, and what day of the week it will be on your 65th birthday.

Daniel counts everything. He eats exactly forty-five grams of porridge for breakfast each morning and he brushes his teeth for exactly two minutes. He doesn't like walking on the beach near his home because there are too many pebbles to count.

Daniel's other great love, besides numbers (which he calls 'his friends'), is learning languages. He speaks ten, and he managed to learn Icelandic in a week for a TV programme in Iceland. He is now a bestselling author, his books including *Born on a Blue Day*, *Embracing the Wide Sky* and *Thinking in Numbers*.



C Student A: read the text above again and answer the questions.

- How was his behaviour different from other children?
- What special talents does he have?
- How did the public learn about his special talents?
- What country/countries has he been to and what did he do there?
- What does he do now?
- What has he published?

D Tell your partner about your text. Use questions 1–6 to help.

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VOCABULARY

ABILITY

1 A Circle the correct options to complete the text.



Princess Diana



John Lennon

Schoolteachers may be experts ¹ _____ their subjects, but they aren't always right about their students. Some of the most brilliant people in British history were ² _____ at school and got terrible reports. In his school report, John Lennon was described as '³ _____ – certainly on the road to failure'. Winston Churchill, future Prime Minister and probably Britain's most ⁴ _____ politician, clearly had a lot ⁵ _____ as a student, but his behaviour was so bad that his teacher wrote, 'I really don't know what to do.' Stephen Fry's teacher didn't realise Fry had an ⁶ _____ English. A fine actor, comedian and writer, Fry was bottom of his class. Robert Graves, a ⁷ _____ schoolboy writer who became one of Britain's greatest poets, left school with this message from his headmaster, 'Well, goodbye, Graves and remember that your best friend is the wastepaper basket.' One of Diana, Princess of Wales's teachers was correct in that Diana wasn't a ⁸ _____ student, but the teacher also wrote, interestingly, that she 'must try to be less emotional ... with others.'

- | | | |
|-----------------|-----------------|----------------|
| 1 a) at | b) for | c) in |
| 2 a) useless | b) useful | c) gifted |
| 3 a) skilful | b) hopeless | c) an expert |
| 4 a) useless | b) hopeless | c) skilful |
| 5 a) of ability | b) of skilful | c) of talented |
| 6 a) expert in | b) aptitude for | c) aptitude to |
| 7 a) gifted | b) expert | c) talent in |
| 8 a) gifted at | b) expert | c) talented |

B Look at the words and phrases in the box and answer the questions.

gifted have a lot of ability have an aptitude for expert hopeless skilful talented useless

- Which two are negative? _____
- Which two are adjectives that mean you are naturally very good at something? _____
- Which is an adjective that means you are good at something (you practised it)? _____
- Which is a noun that describes someone who knows a lot about something? _____
- Which two phrases mean you are naturally good at something? _____

Suggested literature:

- Antonia Clare and J.J. Wilson. Speak out 2nd edition. Intermediate. Students' Book. Pearson Education Limited: Printed in Slovakia by Neografa, 2015.
- Antonia Clare and J.J. Wilson and Diamond-Bayer. Speak out 2nd edition. Intermediate. Work Book. Pearson Education Limited: Printed in Slovakia by Neografa, 2015.
- Damian Williams. Speak out 2nd edition. Intermediate. Teachers Book. Pearson Education Limited: Printed in Slovakia by Neografa, 2015.
- Boqieva G va boshq. Scale up. Student's book. Course I. Darslik. Publishing house named after Gafur Gulyam: Tashkent, 2015.
- Bakieva G., Rashidova F., Scale up lpart. Tashkent 2015.
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- N. V. Solovey, I. V. Letunovskaya English for students of Mathematics. Kiev 2018

GRAMMAR

PRESENT AND PAST ABILITY

2 Complete the text with the words in the box.

manage managed to was wasn't remember
couldn't could

THE REAL RAIN MAN



In 1989, actor Dustin Hoffman won an Oscar for his role in *Rain Man*. While accepting it, he said, 'My special thanks to Kim Peek for making *Rain Man* a reality.' But who was Kim Peek? Peek was a man with a mental disability, who ¹ _____ do many simple things such as dressing himself, but could remember enormous amounts of information.

Peek didn't ² _____ to walk until he was four, but from the age of 16–20 months, he was able to ³ _____ large amounts of information. As a teenager, he memorised whole books.

In later life, he ⁴ _____ able to read a book in one hour and he remembered approximately 98.7 percent of everything he read. He ⁵ _____ recite the content of around 12,000 books about history, geography, sports and many other subjects. He was also able ⁶ _____ remember thousands of different pieces of music, though he ⁷ _____ able to play them all because of his physical disability.

Kim travelled with his father all over the US and Canada, speaking about how he ⁸ _____ to live a full life even though he was disabled. He died in 2009.

3 Cross out the alternative which is **not** possible.

- We ~~didn't manage to/couldn't/didn't manage~~ speak to John this morning.
- I ~~can/m able to/do able to~~ speak five languages.
- Ugo ~~managed to/could/was able to~~ finish the report yesterday.
- Twenty years ago, I ~~was able to/can/could~~ run ten kilometres.
- Few of us ~~can/are manage to/are able to~~ work without technology these days.
- Women ~~didn't able to/weren't able to/couldn't~~ vote in Switzerland until 1971.
- I ~~can't/m not able to/m not manage to~~ come to class tomorrow.
- When we finished the work, we ~~were able to/could to/could~~ have a break.
- ~~Are you able to/Do you can/Can you~~ write computer programmes?
- ~~Did you manage/Were you able/Could you~~ to do your homework?

The 7th practical activity

The theme: Arithmetic and algebra

Objective:

- To enable students (Ss) to practice language skills by discussing and sharing ideas on the given topic
- To enlarge their vocabulary on the topic by giving them appropriate words round the sub topic
- To give students an opportunity to practice listening for main ideas
- To encourage Ss to work in cooperation

Vocabulary: addition, subtraction, multiplication, division, fraction, decimal, root, maths, variables, equals, equation, subtract, linear equations, quadratic equations, variable, squared, polynomials

Visuals: handouts, cards, mini tests, CDs.

Summary of the lesson.

Arithmetic is a name for working with numbers. It is a part of mathematics. The four basic arithmetic operations are addition, subtraction, multiplication, and division.

Harder arithmetic includes working with signed numbers, fractions, and decimals, and taking powers and roots.

Most people learn arithmetic in primary school, but some people do not learn arithmetic and others forget the arithmetic they learned. Many jobs require a knowledge of arithmetic, and many employers complain that it is hard to find people who know enough arithmetic. A few of the many jobs that require arithmetic include carpenters, plumbers, auto mechanics, accountants, architects, doctors, and nurses. Arithmetic is needed in all areas of mathematics, science, and engineering.

A calculator can be used to do arithmetic. Computers can do it more quickly, which is one reason Global Positioning System receivers have a small computer inside.

Examples of arithmetic[change | change source]

$2 + 3 = 5$ (adding is commutative: $2 + 3$ is the same as $3 + 2$)

$7 - 5 = 2$ (subtracting is not commutative: $7 - 5$ is different from $5 - 7$)

$3 * 4 = 12$ (multiplying is commutative: $3 * 4$ is the same as $4 * 3$)

$6 / 2 = 3$ (dividing is not commutative: $6 / 2$ is different from $2 / 6$)

Algebra is a part of mathematics (often called math in the United States and maths in the United Kingdom[1]). It uses variables to represent a value that is not yet known. When an equals sign (=) is used, this is called an equation. A very simple equation using a variable is: $2 + 3 = x$ In this example, $x = 5$, or it could also be said, "x is five". This is called solving for x. [2]

Besides equations, there are inequalities (less than and greater than). A special type of equation is called the function. This is often used in making graphs.

Algebra can be used to solve real problems because the rules of algebra work in real life and numbers can be used to represent the values of real things. Physics, engineering and computer programming are areas that use algebra all the time. It is also useful to know in surveying, construction and business, especially accounting.

People who do algebra need to know the rules of numbers and mathematic operations used on numbers, starting with adding, subtracting, multiplying, and dividing. More advanced operations involve exponents, starting with squares and square roots. Many of these rules can also be used on the variables, and this is where it starts to get interesting.

Algebra was first used to solve equations and inequalities. Two examples are linear equations (the equation of a line, $y=mx+b$) and quadratic equations, which has variables

that are squared (power of two, a number that is multiplied by itself, for example: $2*2$, $3*3$, $x*x$). How to factor polynomials is needed for quadratic equations.

Early forms of algebra were developed by the Babylonians and the Greeks. However the word "algebra" is a Latin form of the Arabic word Al-Jabr ("casting") and comes from a mathematics book Al-Maqala fi Hisab-al Jabr wa-al-Muqabilah, ("Essay on the Computation of Casting and Equation") written in the 9th century by a famous Persian mathematician, Muhammad ibn Mūsā al-Khwārizmī, who was a Muslim born in Khwarizm in Uzbekistan. He flourished under Al-Ma'moun in Baghdad, Iraq through 813-833 AD, and died around 840 AD. The book was brought into Europe and translated into Latin in the 12th century. The book was then given the name 'Algebra'. (The ending of the mathematician's name, al-Khwarizmi, was changed into a word easier to say in Latin, and became the English word algorithm.)[3]

Here is a simple example of an algebra problem:

Sue has 12 candies, Ann has 24 candies. They decide to share so that they have the same number of candies.

These are the steps you can use to solve the problem:

To have the same number of candies, Ann has to give some to Sue. Let x represent the number of candies Ann gives to Sue.

Sue's candies, plus x , must be the same as Ann's candies minus x .

This is written as: $12+x= 24 - x$

Subtract 12 from both sides of the equation. This gives: $x = 12 - x$. (What happens on one side of the equals sign must happen on the other side too, for the equation to still be true. So in this case when 12 was subtracted from both sides, there was a middle step of $12 + x - 12 =24x- 12$. After a person is comfortable with this, the middle step is not written down.)

Add x to both sides of the equation. This gives: $2x = 12$

Divide both sides of the equation by 2. This gives $x = 6$. The answer is six. If Ann gives Sue 6 candies, they will have the same number of candies.

To check this, put 6 back into the original equation wherever x was:




$$12 + 6 = 24 - 6$$

This gives $18=18$, which is true. They both now have 18 candies.

With practice, algebra can be used when faced with a problem that is too hard to solve any other way. Problems such as building a freeway, designing a cell phone, or finding the cure for a disease all require algebra.

Activity 1

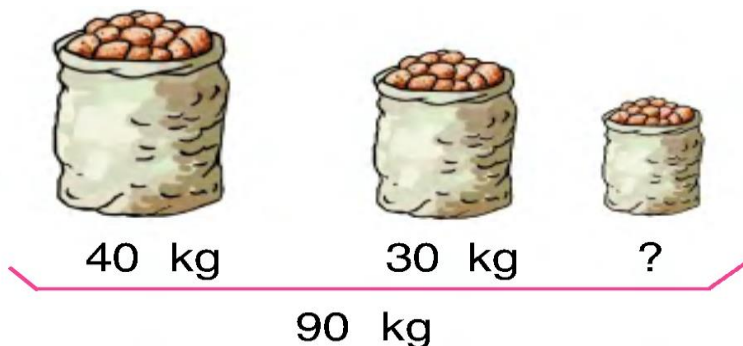
Look at the picture, make algebra problem and solve.

There were	Used	Left
 10 kg	  2 kg 4 kg	? kg

Activity 2

How many kilos of potatoes are there in the third bag?

Solve and explain,



Activity 3

Solve the algebra problem

Ziyoda is 15 years old, Muattar is 9 years old.

How old was Muattar when Ziyoda was 10?

Activity 4

Solve the algebra problem

There were 38 oranges in the basket. Juice were made from 20 oranges, and the left oranges were given to 3 boys. How many oranges did each boy take?

Suggested literature:

1. Antonia Clare and J J. Wilson. Speak out 2nd edition. Intermediate. Students' Book. Pearson Education Limited: Printed in Slovakia by Neografa, 2015.

2. Antonia Clare and J.J. Wilson and Diamond-Bayer. Speak out 2nd edition. Intermediate. Work Book. Pearson Education Limited: Printed in Slovakia by Neografa, 2015.

3. Damian Williams. Speak out 2nd edition. Intermediate. Teachers Book. Pearson Education Limited: Printed in Slovakia by Neografa, 2015.

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5. Bakieva G., Rashidova F., Scale up 1part. Tashkent 2015.

6. Bakieva G., Rashidova F., Scale up 2 part. Tashkent 2015.

7. 7.N. V. Solovey, I. V. Letunovskaya English for students of Mathematics. Kiev 2018

The 8th practical activity

Theme: Internet

Objective:

- To enable students (Ss) to practice language skills by discussing and sharing ideas on the given topic
- To enlarge their vocabulary on the topic by giving them appropriate words round the sub topic
- To give students an opportunity to practice listening for main ideas
- To encourage Ss to work in cooperation

Vocabulary:

Visuals: handouts, cards, crosswords, mini tests, power point projector

Summary of the lesson:

3.4 YOUTUBE: THE FUTURE OF TV?

DVD PREVIEW

- 1 A** Read six opinions about YouTube. What do the words in bold mean?
- I love YouTube because the **creators** of the videos are often normal people like us, the **consumers**.
 - The thing I hate about YouTube is the **adverts**, especially when you can't skip them.
 - The **audience** for some YouTube videos may be bigger than for some TV programmes.
 - Most of the **content** on YouTube is terrible. The filming **techniques** are low quality.
 - I don't go on YouTube that much and I'd never **subscribe** to a YouTube channel.
 - Making good quality YouTube videos requires a big **investment** of time and money.
- B** Work in pairs and discuss statements 1–6 above. Which ones do you agree with?
- 2** Read the programme information. What is it about? Who does the presenter speak to?

The Culture Show YouTube: The Future of TV?

BBC

This BBC documentary looks at the rise of YouTube and finds out what the company is doing to improve its online content. Jacques Peretti goes into the YouTube office and talks to some of the young creators who are changing the entertainment industry.



DVD VIEW

- 3** Watch the DVD. What is YouTube doing to improve its online content?
- 4 A** Watch the DVD again and complete the fact file.


VALUE: \$1,000,000,000
FOUNDED: in ¹ _____
CREATORS: for some, YouTube is a full-time job
MAKING MONEY: YouTube invites popular creators to put ² _____ on their videos.
STUDIO: creators with 50,000 ³ _____ can use the studio.
BIGGEST STUDIO: 'Deep Focus'
CRITICISM OF ⁴ _____ think content should be free.
BUSINESS MODEL:

- B** Work in pairs. Answer the questions.
- Who has 'some of the biggest audiences in Britain'?
 - Who makes more money: YouTube video creators or TV programme makers?
 - What kind of techniques do creators learn in the YouTube studios?
 - What will 'a better quality of content' bring for YouTube?
 - What does Andrew Keen say about the internet and 'the creative community'?
- C** Watch the DVD again to check your answers.
- 5** Discuss in groups.
- Do you think the DVD clip is positive or negative about YouTube, or is it balanced?
 - What do you think of the type of short clips ('kids messing around in their bedrooms') in the programme?
 - Do you think that YouTube is 'the future of TV'? Do you think it will become more popular than mainstream TV or is it only aimed at young people?

speakout create a video channel

6 A You are going to create your own video channel. Think about the points below. Is there any other important information you should consider?

- name of channel
- type of video clips
- target audience
- what's special about the channel
- who will star in the videos
- competitors/rivals
- how frequently you will upload new videos

B  **3.7** Listen to two people planning a new YouTube channel. What do they say about each of the points in Exercise 6A?

C Listen again and tick the key phrases you hear.

KEY PHRASES

The first thing [I think] is ...
 We came up with this idea.
 It would be really [cool/interesting/fun] to ...
 What's the angle?
 So the target audience is ...
 Who will be the presenters?
 Who are our competitors or rivals?
 How often will we upload new videos?
 What about a name?

7 A Work in groups. Think of an idea for the task in Exercise 6A. Make sure you discuss all the points and take notes.

B Work with another group and take turns to present your ideas. What are the advantages and disadvantages of each idea?

writeback a proposal

8 A A new company is looking for funding to make videos. Read the company's proposal. Do you think it will get funding? Why?/Why not?

FUTURE SHOCK VIDEOS

We are looking for funding to make exciting and innovative videos about a topic that is close to everyone's heart: the environment. In the long term there will be big changes to the natural world including floods and major earthquakes. As a group of environmental scientists, we intend to predict the effects of these changes and, ultimately, to help prevent them.

We will combine straight reporting, docudrama and science fiction. The videos will be presented by some of the nation's leading scientists and thinkers, as well as actors. We will upload new videos once a month.

Our target audience is anyone interested in how the world will look in the next 30–100 years. It could be other scientists, students or anyone from the general public.

We thank you for your attention and look forward to hearing from you soon.

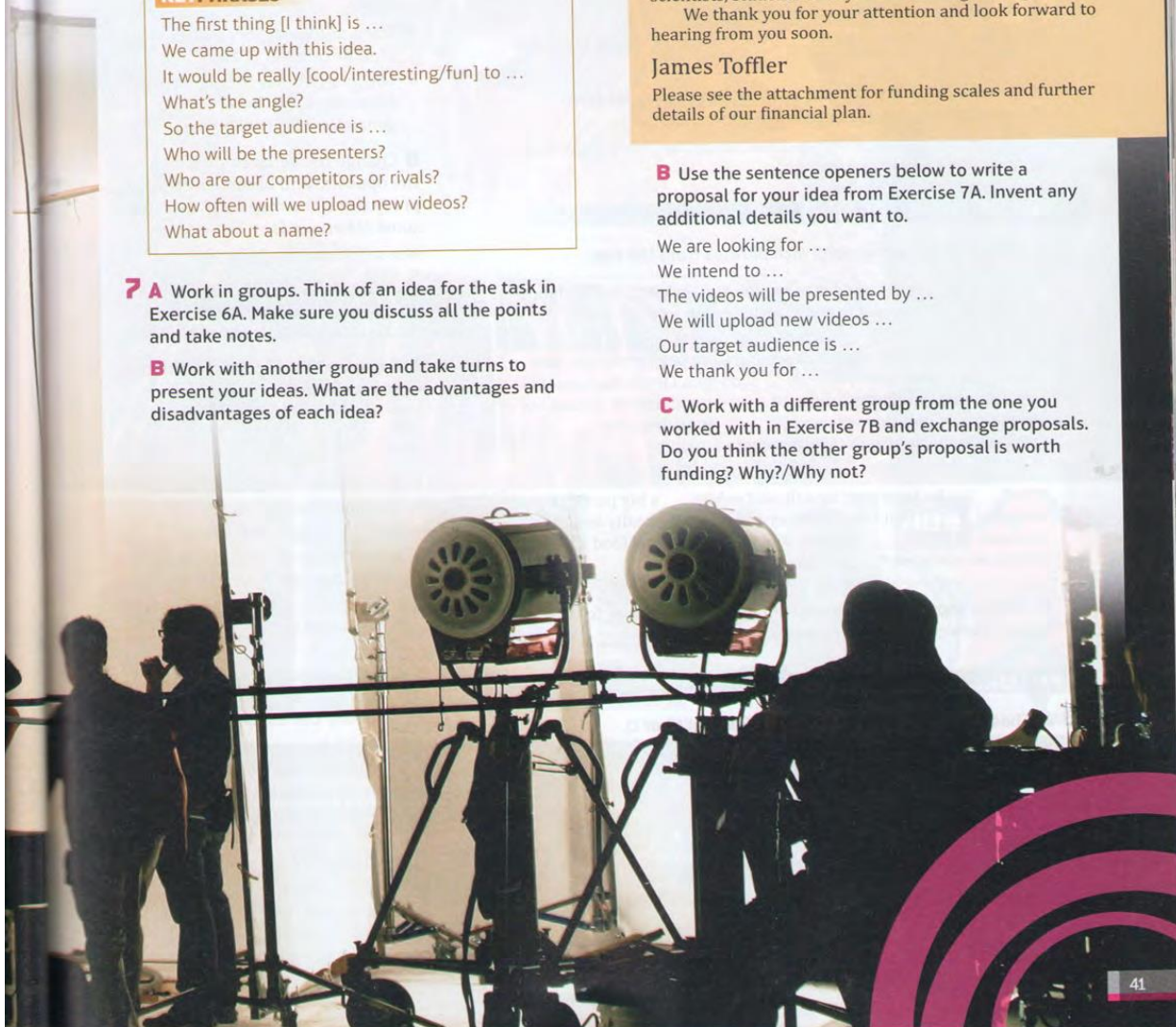
James Toffler

Please see the attachment for funding scales and further details of our financial plan.

B Use the sentence openers below to write a proposal for your idea from Exercise 7A. Invent any additional details you want to.

We are looking for ...
 We intend to ...
 The videos will be presented by ...
 We will upload new videos ...
 Our target audience is ...
 We thank you for ...

C Work with a different group from the one you worked with in Exercise 7B and exchange proposals. Do you think the other group's proposal is worth funding? Why?/Why not?

**Suggested literature:**

1. Antonia Clare and J. J. Wilson. Speak out 2nd edition. Intermediate. Students' Book. Pearson Education Limited: Printed in Slovakia by Neografa, 2015.
2. Antonia Clare and J. J. Wilson and Diamond-Bayer. Speak out 2nd edition. Intermediate. Work Book. Pearson Education Limited: Printed in Slovakia by Neografa, 2015.
3. Damian Williams. Speak out 2nd edition. Intermediate. Teachers Book. Pearson Education Limited: Printed in Slovakia by Neografa, 2015.
4. Boqieva G va boshq. Scale up. Student's book. Course I. Darslik. Publishing house named after Gafur Gulyam: Tashkent, 2015.
5. Bakieva G., Rashidova F., Scale up 1part. Tashkent 2015.
6. Bakieva G., Rashidova F., Scale up 2 part. Tashkent 2015.
7. N. V. Solovey, I. V. Letunovskaya English for students of Mathematics. Kiev 2018

The 9th practical activity
The theme: Speeding of Information map.

Objective:

- To enable students (Ss) to practice language skills by discussing and sharing ideas on the given topic
- To enlarge their vocabulary on the topic by giving them appropriate words round the sub topic
- To give students an opportunity to practice listening for main ideas
- To encourage Ss to work in cooperation

Vocabulary: disadvantage, advantage, invention, sphere, speeding, discover, invent, notion, attack, consequences, licence, agreement, pressure, intellectual, encouraging, persuading.

Visuals:: handouts, cards, mini tests, videoprojector.

Summary of the lesson.

Speeding of Information map

a. As there are advantages and disadvantages of every invention, sphere, and revolution, speeding of information also has two sides. When something happens or is discovered or invented in one corner of our planet, the whole world learns about it immediately. But there is a notion of information attack. It can be understood in two ways; the first interpretation is “attack to information” and the second is “attack somebody or something with the help of information”. Both of them are more dangerous showing catastrophic consequences than any type of attack with weapons or tanks.

b. Attack to information is penetrating into ones PC and monitoring, snooping, spying, stealing information and so on. The worst site is that is easy to hack (steal) your information virtually and even you do not know when, how and who hacked and usually you cannot mind the event or object to.

But Spying is sometimes legal, because you click on “I accept” in the licence agreements written in small prints even not reading.

c. Information threat in business purposes also exists; it can be understood as attack to intellectual property. What is an intellectual property? Simply, we can say that it is someone else’s intellectual working results such as musical, literary, and artistic works; discoveries and inventions; and words, phrases, symbols (trademarks), and designs. But owners usually suffer from not being able to prove that idea was originally created by them. File swapping with your friend is also against law.

d. Attack with the help of information is making someone or group of people accept someone’s ideas, set of beliefs or ideological views; especially it is made with pressure in different ways. Those ways may be encouraging, persuading or even financially supporting.

Activity 1

Read the text about Speeding of Information map, choose and circle the appropriate heading for each paragraph.

Headings:

1. Dangers of Virtual World/Stealing Information/Hacking
2. Information for Business/Infringement of Copyright is Illegal/Intellectual Property
3. Ideological Pressure/Ideology is Bad/Ideology is a Set of Ideas
4. Information is Speeding/Difference between Attacks/ Introduction

Activity 2

Fill in the gaps with appropriate adverbs from the box. There are more adverbs than the gaps.

Naturally, hardly, rapidly, happily, ideologically, well, artificially, openly, spiritually, primarily, dramatically, completely, immediately.

1. If somewhere there is an ideological gap, it is _____ ruled over by an alien ideology.
2. We should _____ admit that our goal is to win hearts of people, _____ of the youth.
3. When ideologists affect nations or people's mentality in a definite country or region, they may change even behaviors _____.
4. Certain states and political groups try to influence people _____.
5. Ideological pressure is _____ recognized while economic and political forces are felt _____.

Activity 3

Match the following words and their definitions.

- | | |
|------------------------|---|
| 1. Attack | a. Criminal activities carried out by means of computers or the Internet. |
| 2. Breach | b. Act against (someone or something) aggressively in an attempt to injure or kill. |
| 3. Cybercrime | c. A part of a computer system or network which is designed to block unauthorized |
| 4. Hacker | access while permitting outward communication. |
| 5. Security | d. A person who uses computers to gain unauthorized access to data. |
| 6. Confidential | e. Procedures followed or measures taken to ensure being free from danger or threat |
| 7. Firewall | f. Make a gap in and break through by attacking. |
| 8. Threat | g. The possibility of trouble, danger, or ruin. |
| 9. Data | h. Facts and statistics collected together for reference or analysis. |
| | i. Intended to be kept secret |

Suggested literature:

1. Antonia Clare and J J. Wilson. Speak out 2nd edition. Intermediate. Students' Book. Pearson Education Limited: Printed in Slovakia by Neografa, 2015.
2. Antonia Clare and J.J. Wilson and Diamond-Bayer. Speak out 2nd edition. Intermediate. Work Book. Pearson Education Limited: Printed in Slovakia by Neografa, 2015.
3. Damian Williams. Speak out 2nd edition. Intermediate. Teachers Book. Pearson Education Limited: Printed in Slovakia by Neografa, 2015.
4. Boqieva G va boshq. Scale up. Student's book. Course I. Darslik. Publishing house named after Gafur Gulyam: Tashkent, 2015.
5. Bakieva G., Rashidova F., Scale up lpart. Tashkent 2015.
6. Bakieva G., Rashidova F., Scale up 2 part. Tashkent 2015.
7. N. V. Solovey, I. V. Letunovskaya English for students of Mathematics. Kiev 2018

The 10th practical activity

Theme: Community (neighbours)

Objective:


- To enable students (Ss) to practice language skills by discussing and sharing ideas on the given topic
- To enlarge their vocabulary on the topic by giving them appropriate words round the sub topic
- To give students an opportunity to practice listening for main ideas
- To encourage Ss to work in cooperation

Vocabulary:

Visuals: handouts, cards, crosswords, mini tests, power point projector

Summary of the lesson:

8.1 NEIGHBOURS



GRAMMAR

ARTICLES

3 A Read the paragraph about neighbours. Are you surprised by any of the information? Why?/Why not?

(a) A study says that 24 percent of Americans know most of their neighbours' names. (b) The study was conducted by a group called Pew Research, and (c) a reporter called Aaron Smith wrote a well-known report on the study. It turns out that (d) parents are more likely to speak to neighbours than non-parents, and (e) the most common way to interact with neighbours is face-to-face. The results of the study are very different to figures in (f) England.

B Look at the underlined words and match a)–f) with rules 1–3.

RULES

1 Use *a/an*:

- the first time something is mentioned (new information). a
- with jobs. _____

2 Use *the*:

- when we know which one we are talking about. _____
- with superlatives. _____

3 Use no article:

- to talk generally about people or things. _____
- with most names of places. _____

VOCABULARY

GETTING ON

1 Work in pairs and discuss.

- Do you know your neighbours? How well do you know them?
- Do you have a good relationship with them? Why?

2 A Work in pairs. Match sentences 1–5 with the opposite meanings a)–e).

- I **get on well with** my neighbour – we always say 'hello' and have a chat.
- I prefer to **mind my own business** so I don't ask the neighbours personal questions.
- I sometimes **invite** my neighbour **over** for coffee.
- My neighbour's dog is **a nuisance** – he's always barking early in the morning.
- We didn't **get to know** our neighbours for years.

a) My neighbour has pets but they never **disturb** me.

b) My neighbour **gets on my nerves** – he's always complaining.

c) We **made friends with** our neighbours **immediately**.

d) I like to **keep myself to myself** so my neighbour hasn't been in my house.

e) I can be quite **nosy** so I often ask my neighbours about their lives.

B Which sentences are true for you? Tell other students.

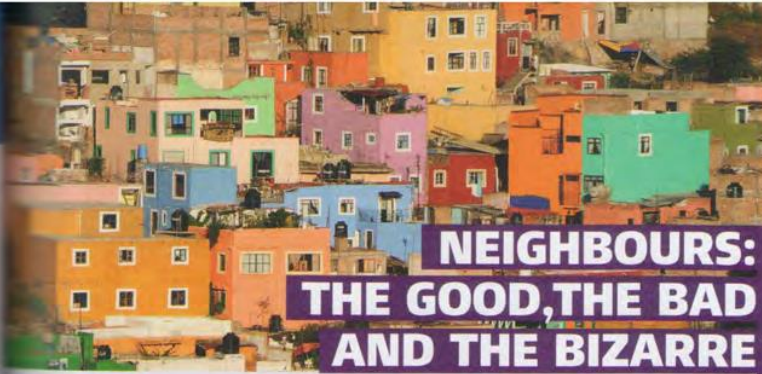
▷ page 155 **VOCABULARYBANK**

4 Complete the sentences below with *a/an, the* or *-* (no article).

- My neighbour has _____ cat that climbs through my window and terrorises my goldfish.
- My neighbour is _____ writer. He has a gossip column, but he keeps himself to himself.
- I have _____ nicest neighbour in the world. She invites me over for cakes and tea!
- _____ People are funny! My neighbour ignored me for years. Now he'll chat all day.
- My neighbour is _____ old lady who made friends with us as soon as we moved in.
- My neighbour plays the drums. He's a nice man, but I hate all _____ noise.
- My neighbour is from _____ Pakistan, and she cooks amazing Pakistani food.
- My best friend lives next door. She's _____ plumber.

▷ page 142 **LANGUAGEBANK**

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NEIGHBOURS: THE GOOD, THE BAD AND THE BIZARRE

Some people just get lucky. There were the neighbourhood friends in the USA who turned out to be a long-lost brother and sister. There was the man whose house caught fire and who was saved by his neighbour, who scaled a wall, climbed through a window and beat off smoke to reach the victim. And there are all those tales of people who rescue their neighbour's cat, fight off burglars, or do the shopping for their elderly neighbours.

But there are plenty of bad neighbours, too: people who refuse to repair broken fences, let their cigarette smoke drift into your kitchen, or knock on your door to tell you there's a strange car parked outside (probably your guest's) or to remind you to mow the lawn.

In life's lottery, you can only hope you get the Good Guys moving in next door. Here are a few of your stories: the good, the bad and the strange neighbours you've had.

My neighbour keeps his yard full of action figures. He has so many that they cover the grass. He's in his fifties, so I find it very odd, but he's always cheerful and happy so we have no complaints. **Mary Perlmutter**

I was expecting a problem with my neighbour because I have a tree with branches that hang over their fence. One day they knocked on the door and gave me a huge apple pie that they'd baked. Then they said, "This is made from the apples on your tree! We hope you enjoy it." We've been friends ever since. **Max24**

My neighbour has a steam engine in his garden. I think he was a historian or something like that. He keeps it in excellent condition and lets the local kids play on it. **RGH**

My upstairs neighbours hang their washing from the windows of their flat. The clothes drip down onto our washing because we live below them. So one day the mother came down and suggested that we do our washing on Mondays and Thursdays and she does hers on Wednesdays and Saturdays. We tried it and it worked perfectly! **Paulina**

My downstairs neighbours have lots of parties during weekends. I'm half-deaf but even I can hear the noise. I complained once, so they invited me in. I refused. I'm eighty-three. At my age I can't dance like I used to. **Vince**

READING

5 A Discuss with other students.

- 1 What type of things do good neighbours do?
- 2 What type of things do bad neighbours do?

B Read the text. Are any of your ideas in it?

C Work with a partner. Which of the five stories from the public describe good neighbours? Which describe bad or bizarre neighbours? Which could be more than one?

6 What do you think the following words/expressions mean?

- | | |
|--------------------------------|---------------------------------|
| a) long-lost (paragraph 1) | d) mow (paragraph 2) |
| b) scaled a wall (paragraph 1) | e) action figures (paragraph 4) |
| c) drift (paragraph 2) | f) steam engine (paragraph 6) |

GRAMMAR

QUANTIFIERS

7 A Read sentences a)–f) from the text. Circle the words that describe quantity.

- a) My downstairs neighbours have (lots of) parties.
- b) But there are plenty of bad neighbours too.
- c) Here are a few of your stories.
- d) We have no complaints.
- e) There are all those tales of people who rescue their neighbour's cat.
- f) He has so many that they cover the grass.

B Of the words you circled in Exercise 7A, which of them ...

- 1 ... mean a large number/amount?
- 2 ... mean a small number/amount?
- 3 ... means none?
- 4 ... two quantifiers can only be used with countable nouns (things we can count)?

▶ page 142 **LANGUAGEBANK**

8 Circle the correct alternatives.

How to be a good neighbour

If someone moves in next door, introduce yourself. If they're new to the area, they'll probably have ¹a little/a lot of questions, e.g. how ²much/many times per week the rubbish is collected. Get to know them and give them ³a bit/plenty of information about yourself. If you do ⁴all of/a lot of gardening or if your kids sometimes make too ⁵much/many noise, let them know. Some families have ⁶several/plenty pets. Dogs can be noisy, and cats sometimes wander into neighbours' gardens or homes. If it happens only ⁷a few/little times, that's OK, but if it happens ⁸a lot/much, it's a problem. People who say they never have ⁹much/many trouble with their neighbours are usually good communicators. It's easy: tell them about community news and events. Tell them beforehand about your parties. Or, better still, invite them! If they're partying with you, will they complain about the noise? ¹⁰None!/No!

B Do you agree with the advice? What else makes a good neighbour?

SPEAKING

9 A Work in pairs. What features where you live do you like/dislike? Use the photos below to help you. Make notes about the following:

- things you like
- a beautiful city centre with lots of trees and parks*
- things that are nice but not essential
- a good local supermarket*
- things you hate
- graffiti on the buildings*

B Think about your neighbourhood. What would make it:

- more beautiful?
- better for your health?
- more interesting?
- safer?
- more of a community?

I'd really like to see a good shopping mall, where people can meet.

My neighbourhood would be healthier if there was less traffic congestion in the mornings.

C Compare your ideas in groups.



VOCABULARY PLUS

COMPOUND NOUNS

10 A Read sentences 1–4 about local features. Find and underline a compound noun in each sentence.

- 1 I live next to the main road, so it's a bit noisy.
- 2 There's a wonderful bookshop near where I live.
- 3 There's a lovely public swimming pool by my house, and it's free for children.
- 4 Where I live is good for window shopping but too expensive to buy anything!

B Match the compound nouns in Exercise 10A with patterns a)–d) below.

- a) noun + noun c) verb + noun
b) adjective + noun d) noun + verb

speakout TIP

Compound nouns combine two related words. The first word gives us more information about the second, e.g. *shoe shop, history teacher, paper bag*. What other words make compound nouns with *shop, teacher* and *bag*? Compound nouns can be written as one word, two words or with a hyphen. Use a dictionary to check.

11 A Which words complete these compound nouns?

- | | | | |
|-------------------------|--------------------|-------------------------------|-------|
| 1 _____ | { jam
lights } | 6 sports
city } | _____ |
| 2 _____ | { park
rental } | 7 high
one-way } | _____ |
| 3 _____ | { centre
mall } | 8 semi-detached
terraced } | _____ |
| 4 super
outdoor } | _____ | 9 housing
industrial } | _____ |
| 5 primary
language } | _____ | 10 duty-free
gift } | _____ |

B **8.1 STRESS PATTERNS: compound nouns**

Listen to check your answers. Then think about the stress patterns. Which word is usually stressed: the first or the second? Listen again to check.

C Discuss. Think about the place where you are studying now. Which of the compound nouns does it have nearby?

page 155 VOCABULARY BANK



Suggested literature:

1. Antonia Clare and J J. Wilson. Speak out 2nd edition. Intermediate. Students' Book. Pearson Education Limited: Printed in Slovakia by Neografa, 2015.
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5. Bakieva G., Rashidova F., Scale up lpart. Tashkent 2015.
6. Bakieva G., Rashidova F., Scale up 2 part. Tashkent 2015.
7. N. V. Solovey, I. V. Letunovskaya English for students of Mathematics. Kiev 2018

The 11th practical activity

Theme: Basic elements of a computer system

Objective:

- To enable students (Ss) to practice language skills by discussing and sharing ideas on the given topic
- To enlarge their vocabulary on the topic by giving them appropriate words round the sub topic
- To give students an opportunity to practice listening for main ideas
- To encourage Ss to work in cooperation

Vocabulary:

Visuals: handouts, cards, crosswords, mini tests, power point projector

Summary of the lesson:



Basic elements of a computer system

I. Pre-reading task

1. Discuss the following questions with your partner:

- Can you remember any elements of a computer system? Please, name them.
- Which element do you think is the “brain” of the computer?
- What operations the computer is used for?

2. Read and remember the following words:

carry v	out	data	выполнять	данные, факты	
device	exceed	прибор, устройство	превышать, превосходить	внешний, наружный аппаратное обеспечение компьютера	
external hardware	периферическое оборудование				
peripherals	постоянный, неизменный	обрабатывать			
permanent process v	ОЗУ, оперативное				
RAM	запоминающее устройство				
ROM	ПЗУ, постоянное запоминающее устройство				
software	transmit v	программное	обеспечение		передава

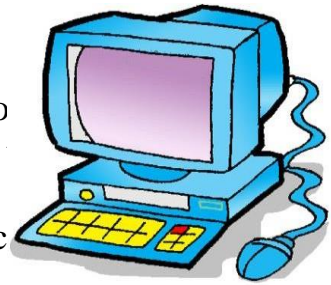
Reading

1. Read the text and study the picture above the text.

What is a computer?

Computer is an electronic device which can receive and store a set of reasonable operations with the data and carries out or performs the processing.

There are two types of computer units – electronic and mechanical.



www.image.yanedex.ru

The characteristics of these are as following:

- Modern computers use electronic devices in this way their performance is superior to mechanical machines.
- Speed of operation of computers is very fast since computer system operates at electronic speed i.e., at the speed of light. While mechanical devices can never perform at speed of light therefore they are slow.
- Operation of the computer is automatic under the control of stored programs as opposed to mechanical calculating device in which operator's intervention is required at every step of the sequence.
- Due to use of electronic circuits in place of mechanical gears and wheels, the problems of maintenance are totally eliminated. Electronic computers are therefore very reliable and highly accurate.
- While mechanical calculating devices can perform only limited arithmetic, computers are more versatile and can perform logic operation and complex arithmetic operations by writing relevant programs.

There are three main steps the computer's processing.

First, data is taken in and stored into computer's internal memory. Then, the computer produces a set of instructions, which are called computer programs, and finally, computer gives out the results in a specified format as information on the display or in the printed form, or transmits the exceeded results to the external storage unit.

A computer system consists of two parts: the **software**, which are instructions and programs of the computer and the **hardware**, which consists of all electronic and mechanical parts of the computer. The basic structure of a computer system contains three main hardware sections: the central processing unit or CPU, the main memory or the internal memory and the peripherals.

The **central processing unit** is the brain of the computer. Its function is to carry out program instructions of the software and to operate the processing of the other computer units. For better video and sound performances or networking the user can add a specialized expansion cards to the CPU of his computer. The **main memory** stores all the instructions and data which were currently processed by the CPU. It usually consists of two sections: RAM (random access memory) and ROM (read only memory). RAM is the memory used for creating, loading and running computer programs. ROM is computer memory which holds the programmed instructions in the system. The **peripherals** are the physical devices attached to the computer, which include **input/output units**

(mouse, keyboard, monitor, keyboard, scanner, printer, fax machines, head-phones etc.) and **internal storage devices** (floppy, hard or optical disks, blue-ray disks, external hard disk drive, flash disk drive etc.) Input units, such as the mouse and the keyboard, give us an opportunity to transfer data into computer's memory. Output units, for example, the monitor or the printer, enable us to give out the final result of the processing from the computer system. Internal storage devices are used to store both data and programs permanently.

Now make a list of the words you don't understand. Can you guess their meaning? Compare your ideas with other students and with the teacher.

3. Using information from the text, answer the questions.

- a What does the term "computer" mean?
- b Which operations does the computer perform?
- c What are the main components of a computer system?
- d What is the difference between the software and the hardware of the computer?
- e What is the difference between the terms "data" and "information"?
- f What are the peripheral devices of the computer?
- g Which electronic units help to store information permanently?
- e What is the difference between electronic and mechanical devices of the computer?

4. Match the terms from the left column with the definition from the right column.

- a Software 1 physical devices which build up the whole computer system
- b Monitor 2 small electronic device used to store and transmit information
- c Output 3 any physical unit attached to the computer
- d Peripherals 4 programs and instructions used on a particular computer
- e Hardware 5 computer unit used to produce final result of computing
- f Input 6 output unit of the computer which shows virtual display of the information
- g Flash drive 7 the most common examples of this unit are the mouse and the keyboard

5. Decide whether the following statements are true or false:

- a The purpose of the main memory is to store computer instructions and data.
- b Data and information are synonymous computer terms.
- c A standard computer system consists of four parts: the CPU, the main memory, the peripherals and printer.
- d The type of memory used for loading and running programs is called random access memory.
- e For better video and sound performances or networking the user can add a specialized expansion cards to the hardware of the computer.
- f The main memory is the brain of the computer.
- g The CPU reads and interprets software and prints the result on paper.

6. Translate the following sentences:

- 1 Компьютер — это электронное устройство, которое сначала принимает данные, затем проводит ряд разумных операций и затем выдает полученные результаты.
- 2 Программное обеспечение включает в себя данные и программы компьютера.
- 3 Все электронные и механические детали компьютера называются аппаратным обеспечением компьютера.
- 4 Каждая компьютерная система состоит из трех основных элементов: центрального блока, главной памяти и периферических устройств.
- 5 К периферическим устройствам относятся устройства ввода и вывода информации, а также все виды запоминающих устройств.
- 6 Главная память хранит все команды и данные, которые в текущий момент обрабатываются центральным блоком компьютера.
- 7 Съёмные запоминающие устройства используются для хранения, передачи, просмотра, прослушивания, распечатывания любого рода информации, произведенной компьютером.



Suggested literature:

1. Antonia Clare and J J. Wilson. Speak out 2nd edition. Intermediate. Students' Book. Pearson Education Limited: Printed in Slovakia by Neografa, 2015.
2. Antonia Clare and J.J. Wilson and Diamond-Bayer. Speak out 2nd edition. Intermediate. Work Book. Pearson Education Limited: Printed in Slovakia by Neografa, 2015.
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7. N. V. Solovey, I. V. Letunovskaya English for students of Mathematics. Kiev 2018

The 12th practical activity
Theme: Personal qualities

Objective:

- To enable students (Ss) to practice language skills by discussing and sharing ideas on the given topic
- To enlarge their vocabulary on the topic by giving them appropriate words round the sub topic
- To give students an opportunity to practice listening for main ideas
- To encourage Ss to work in cooperation

Vocabulary:

Visuals: handouts, cards, crosswords, mini tests, power point projector

Summary of the lesson:

4.1) MILLIONAIRES

- G must/have to/should
- P fast speech: have to
- V personal qualities; confusing words

VOCABULARY

PERSONAL QUALITIES

1 A Read about the qualities people need to do their jobs. Which jobs do you think they are talking about?

“Winning is the most important thing for me. I’ve always been **competitive**, so I love my job. I think I’m a **good leader**. It’s important that all the players know what they’re doing and it’s my job to tell them. The decisions I make are important for the whole team, so I can’t be **indecisive**.”

“I have classes of 80 to 100 children so I have to be **hard-working**. I do my best, because education is so important for the children. You need to be a **good communicator** in my job, so that you can get the children interested in what they have to learn. Often, we don’t have very many resources, so we also need to be creative and be able to **think outside the box**.”

“I’m a **risk taker**, so starting my own business wasn’t difficult for me. I’ve always been very **motivated** and **ambitious**. I start work at 4.30a.m. every day. I don’t enjoy sleep. You can’t afford to be lazy if you want to make money.”

B Match the words and phrases in bold above with the definitions 1–9.

- 1 work with a lot of effort _____
- 2 have problems making a decision _____
- 3 think differently or in a new way _____
- 4 want to be more successful than others _____
- 5 want to be successful or powerful _____
- 6 want to achieve something because it’s interesting or exciting _____
- 7 person who does things which are dangerous _____
- 8 person who has the qualities to manage a group of people _____
- 9 person who can express ideas or feelings clearly to others _____

C Which qualities do you think you have? Work in pairs and compare your answers.

▷ page 151 VOCABULARYBANK

READING

2 A Which of the personal qualities discussed in Exercise 1 do you think are qualities you need to become a millionaire?

B Are the statements 1–6 about millionaires true (T) or false (F)?

- 1 Most millionaires are born rich.
- 2 Millionaires think that money is more important than love or marriage.
- 3 They work more than sixty hours a week.
- 4 They don’t like to work when they’re on holiday.
- 5 They do well at school and usually go to university.
- 6 They like spending money on designer goods.

C Read the article and check your answers.

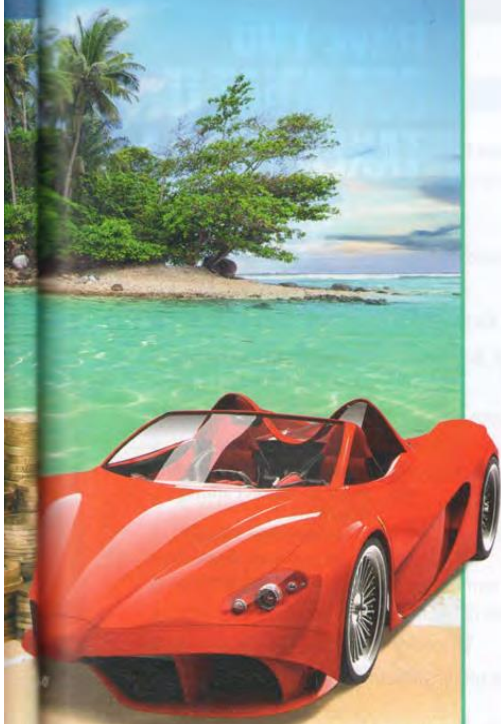
D Work in pairs. Do you agree with the article? Do any of the facts surprise you? Why?



“You don’t have to be born rich to be a millionaire”

1 So you want to be a millionaire, but have you got what it takes? To find out what millionaires are really like and what motivates them, the BBC programme *Mind of a Millionaire* did a survey. Psychologists looked at self-made millionaires to try and understand what qualities are needed to make a million. So, what is really important to a millionaire?

2 The answer, not surprisingly, is money, money and more money. Money is more important than love or marriage. And if you give a millionaire money, they won’t spend it, they’ll invest it to make more money. But you don’t have to be born rich to be a millionaire. Most millionaires come from relatively poor backgrounds. And you don’t have to work hard at school either. A lot of successful entrepreneurs were lazy at school and didn’t get good results. However, you must have a clear idea of what you want to do (get rich) and you really ought to start early. A lot of millionaires left school early, to start their own businesses.



3 If you want to be a millionaire, not only do you have to work hard, but you should enjoy your work. And you shouldn't take too many holidays. Most millionaires work more than sixty hours a week. Half stay in contact with the office while they're on holiday and fourteen percent of them refuse to switch off. Having a good work-life balance is fine for people who only want to be moderately successful, but if you're really ambitious, you have to put in the hours.

4 What are millionaires like as people? The survey found that they are competitive, they like taking risks, and they are aggressive and self-confident. They'll do anything they can to get what they want.

5 Millionaires can break all sorts of rules. The only thing they mustn't do is break the law. Surprisingly, most millionaires are careful spenders. They prefer Gap to Gucci. Many of them choose not to spend money on expensive designer clothes – they would rather find a bargain on the high street. And they don't spend lots of money on expensive meals in restaurants either. They prefer to eat at home. However, they do like to drive Mercedes and go on at least three expensive holidays a year. One last thing: millionaires don't care what other people think of them. So, if you want to be a millionaire, you shouldn't worry about what other people think of you. Just do your own thing.

3 A Underline words or phrases in the article that match meanings 1–6.

- 1 their family didn't have much money (paragraph 2)
- 2 they never stop thinking about work (paragraph 3)
- 3 having enough time for work and for the things you enjoy (paragraph 3)
- 4 work long hours (paragraph 3)
- 5 find something for a good price (paragraph 5)
- 6 do what you want without worrying about what other people think (paragraph 5)

B Work in pairs. Choose two or three of the expressions. Use them to make sentences about yourself, or people you know.

GRAMMAR

MUST/HAVE TO/SHOULD (OBLIGATION)

4 A Match the words in bold in sentences 1–6 with the meanings a)–e). One meaning matches with two sentences.

- 1 You **don't have to** be born rich to be a millionaire.
 - 2 If you want to be a millionaire, you **have to** work hard.
 - 3 You **must** have a clear idea of what you want to do.
 - 4 You **should** enjoy your work.
 - 5 You **shouldn't** take too many holidays.
 - 6 You **mustn't** worry about what other people think of you.
- a) It's a good idea.
 b) It's not necessary. You don't need to be/do this.
 c) It's necessary. You have no choice.
 d) It's important that you don't do this.
 e) It's not a good idea.

B **4.1 FAST SPEECH:** *have to* Listen to the pronunciation of *have to* /hæftə/ in fast speech. Listen and repeat the sentences.

▷ page 134 **LANGUAGEBANK**

5 A Make sentences with the prompts. Use the positive or negative form of the word in brackets.

- 1 postmen / get up early in the morning (have)
Postmen have to get up early in the morning.
- 2 window cleaners / be afraid of heights (must)
- 3 nurses / be patient and care about other people (should)
- 4 businessmen often / travel a lot (have)
- 5 politicians / do their job because they want fame (should)
- 6 teachers / enjoy working with children (must)
- 7 doctors / train for several years before they can work (have)
- 8 teachers / work in the school during the holidays (have)
- 9 police officers / good communicators / be (have)

▷ page 151 **VOCABULARYBANK**

B Work in pairs. Think about three different jobs. Make sentences to describe what qualities are/aren't important for these jobs. Read your sentences to your partner. Can they guess which job it is?

A: *These people have to be motivated. They should be good communicators, especially when talking to children. And they have to be very patient.*

B: *Teachers?*

SPEAKING

- 6 A** Work in pairs. Do the quiz. Then check your score on page 160.
- B** Discuss. How many of the questions did you answer like a millionaire? Do you agree with the results on page 160? Is getting rich something which concerns you? Why?/Why not?

VOCABULARY PLUS

CONFUSING WORDS

- 7** Read the vocabulary notes and complete sentences 1 and 2.

job • work

Work is what you do to earn money:
What kind of work does he do?

A **job** is the particular type of work that you do:
Sam's got a job as a waiter.

Job can be plural, but **work** cannot.

- 1 I've finished my degree, so I'm looking for a _____.
- 2 It's not easy to find _____ when you're my age.

- 8 A** Underline the correct alternative in the sentences below. What is the difference between these words?

- 1 He suddenly *remembered/reminded* that he had to go to the bank.
- 2 I have to call my boss later. Can you *remember/remind* me?
- 3 I've *forgotten/left* my keys in the car. I really should get them.
- 4 Did you *hear/listen* that noise?
- 5 Can you say that again? I'm sorry, I wasn't *listening/hearing*.
- 6 Being ill on holiday isn't much *fun/funny*.

- B** Turn to page 160 to check your answers.

▷ page 151 **VOCABULARYBANK**

speakout TIP

To help you remember confusing words and vocabulary, write them in personalised sentences in your notebook. Write sentences about your life using some of the words from Exercise 8.

- 9 A** Complete questions 1–6 with a suitable word from Exercises 7 and 8.

- 1 What are the best paid _____ in your country?
- 2 Is there anything you often _____, like phone numbers or someone's name?
- 3 If you _____ carefully, what noises can you hear at the moment?
- 4 Do you write notes to _____ yourself about important things?
- 5 How much did you _____ for your first job? What did you buy?
- 6 What do you like doing for _____? Do you like playing games?

- B** Work in pairs. Take turns to ask and answer the questions above.

HAVE YOU GOT WHAT IT TAKES TO BE A MILLIONAIRE?

Do you answer these questions like a millionaire would?

- 1** Would you like to be ...

- a) a bit richer
- b) a lot richer
- c) mega rich

- 2** If you wanted a pair of shoes that you couldn't afford, would you ...

- a) buy them anyway
- b) wait until the sales and risk losing them
- c) walk away

- 3** How many credit cards do you carry with you?

- a) One or none
- b) Two
- c) More than two

- 4** If you could just afford to pay for it, would you splash out on ...

- a) a heated swimming pool
- b) a racehorse
- c) a big party for all your friends

- 5** Do you most enjoy stories about ...

- a) romance
- b) adventure
- c) mystery

- 6** Do you check that your bill is correct after a meal out?

- a) Yes
- b) No
- c) Only if I'm alone

- 7** What is 9 multiplied by 8?

- a) Did you get the answer right instantly?
- b) Or only after doing little sums in your head?
- c) Did you get the wrong answer?

- 8** If a favourite relative left you a watch that was not your style, would you ...

- a) sell it
- b) keep it to sell on a rainy day
- c) keep it to help you remember them

Suggested literature:

1. Antonia Clare and J J. Wilson. Speak out 2nd edition. Intermediate. Students' Book. Pearson Education Limited: Printed in Slovakia by Neografa, 2015.
2. Antonia Clare and J.J. Wilson and Diamond-Bayer. Speak out 2nd edition. Intermediate. Work Book. Pearson Education Limited: Printed in Slovakia by Neografa, 2015.
3. Damian Williams. Speak out 2nd edition. Intermediate. Teachers Book. Pearson Education Limited: Printed in Slovakia by Neografa, 2015.
4. Boqieva G va boshq. Scale up. Student's book. Course I. Darslik. Publishing house named after Gafur Gulyam: Tashkent, 2015.
5. Bakieva G., Rashidova F., Scale up lpart. Tashkent 2015.
6. Bakieva G., Rashidova F., Scale up 2 part. Tashkent 2015.
7. N. V. Solovey, I. V. Letunovskaya English for students of Mathematics. Kiev 2018

The 13th practical activity **The theme: Abu-Rayhon Beruniy**

Objective:

- To enable students (Ss) to practice language skills by discussing and sharing ideas on the given topic
- To enlarge their vocabulary on the topic by giving them appropriate words round the sub topic
- To give students an opportunity to practice listening for main ideas
- To encourage Ss to work in cooperation

Vocabulary: native, nickname, scientist, magician, treatise, account, modified, decimal, certain

Visuals:: handouts, cards, crosswords, posters.

Summary of the lesson.

Abu-Rayhon Beruniy



Abu-Rayhon Beruniy– a remarkable scientist, amazing with variety of his scientific interests, boldness of idea, the author of more than 150 works devoted to actual issues of natural sciences, philosophy, history, philology, great encyclopedic thinker, the humanist of the Middle Ages epoch. Outlook of Abu-Rayhon Beruniy was formed at the end of X – the beginning of XI century in Central Asia. He was born on 2 Zu-ul-hidja in 362 (on September 4, 973 A.D.) in suburb of Kyat, former feudal capital of Khorezm. On the native land he has received good education and from a youth began his scientific activity. Due to political events in Khoresm Beruniy left the native land and approximately in between 998-1004 lived in Gurgan, at southeast coast of Caspian Sea. At this time he has done a great work – «Monuments of the past generations ». In about 1005 Beruniy came back to Khorezm, where at a court yard of the Khorezm king Abu Abbas Mamun ibn Mamun (1009-1017) occupied honorable position. In 1017 Mahmud Gaznavi (998-1034) has subordinated to himself Khoresm, and in the same year Beruniy together with some other scientists had been compelled to follow the conqueror to Hansa where he stayed up to the end of his life. Despite the unfavorable conditions for him in the capital Mahmuda, Beruniy was entirely given to scientific researches. Together with the army of sultan, Beruniy had several times visited India. He has taken advantage of the trips for studying this country and as a result, by 4030 he had written an outstanding composition on India. Earlier, in 1025 Beruniy finished "Geodesy". To sultan Masud (1030-1041), the receiver Mahmud, Beruniy has devoted his main work on mathematics and astronomy – «Masudov kanon». At government of the subsequent sultan – Masud (1041 - 1048) – Beruniy wrote the big work on mineralogy, and at the end of a life – "Saydan". He died in Gazna 2 Radjab 440. (on December 11, 1048).

Activity 1.

Read the text and answer the questions

1. When was he born?
2. When he came back to Khorezm?
3. Who did Beruniy visit India?
4. What work did he write at the end of his life?
5. When did he die?

Activity 2

(T3) Listen to the tape and complete the table.

Inventions	Time	Place	Inventor
Chess			
Perfume			
Porcelain			
Syringe			
Mechanical water wheel			

Activity 3.

Change the verbs in brackets into the past simple or the past continuous.

- 0 For dinner, my sister (eat) **ate** pizza, but I (have) **had** soup.
- 1 My brother (drink) _____ coffee while he (do) _____ his homework.
- 2 He (walk) _____ into the classroom, then he (sit) _____ down.
- 3 While I (study) _____, Sue (run) _____ into the library.
- 4 When the class (finish) _____, the teacher (drive) _____ home.
- 5 Harry (sing) _____ a song when Jane (come) _____ in.
- 6 Nothing happened when I (turn on) _____ the DVD player.
- 7 It (start) _____ to rain while I (walk) _____ to the park.
- 8 Yuki (listen) _____ to the radio when the phone (ring) _____.
- 9 The children (go) _____ the cinema last night.
- 10 Mr. Jones (find) _____ some money when he (clean) _____ the cupboards.

Suggested literature:

1. Antonia Clare and J J. Wilson. Speak out 2nd edition. Intermediate. Students' Book. Pearson Education Limited: Printed in Slovakia by Neografa, 2015.
2. Antonia Clare and J.J. Wilson and Diamond-Bayer. Speak out 2nd edition. Intermediate. Work Book. Pearson Education Limited: Printed in Slovakia by Neografa, 2015.
3. Damian Williams. Speak out 2nd edition. Intermediate. Teachers Book. Pearson Education Limited: Printed in Slovakia by Neografa, 2015.
4. Boqieva G va boshq. Scale up. Student's book. Course I. Darslik. Publishing house named after Gafur Gulyam: Tashkent, 2015.
5. Bakieva G., Rashidova F., Scale up 1part. Tashkent 2015.
6. Bakieva G., Rashidova F., Scale up 2 part. Tashkent 2015.
7. N. V. Solovey, I. V. Letunovskaya English for students of Mathematics. Kiev 2018

The 14th practical activity

The theme: Studying with Multiple Sources

Objective:

- To enable students (Ss) to practice language skills by discussing and sharing ideas on the given topic
- To enlarge their vocabulary on the topic by giving them appropriate words round the sub topic
- To give students an opportunity to practice listening for main ideas
- To encourage Ss to work in cooperation

Vocabulary: Multiple, comprise, duplicates, handouts, fictional, fundamentally, process, single, complicated, confrontation, furthermore, implementing, acquired, effort, emphasized, sophistication, advantages, acquired, contrasting, concealment

Visuals: handouts, cards, crosswords.

Summary of the lesson.

Multiple sources comprise the following: lectures, textbooks, fictional stories, novels, interviews and biographies, duplicates handouts, original source materials, electronic media, Internet and others. Stahl, Et A1 found that using multiple text-sources can only be effective if we are taught to use them properly. Studying with multiple sources offers a fundamentally different view of the learning process from the traditional studying based on the use of single sources to complicated, up-to-date ways of the study i.e. studying with multiple sources, where new knowledge is achieved through confrontation among different sources. Furthermore, it is not only getting additional information and perspectives from different sources, but also implementing acquired knowledge in actions in real life.

As Kolb, D,A. (“Experiential Learning: Experience as the Source of Learning and Development”, Oxford University Press, 2010, p.138) points out: “..studying is a skill, being successful in life requires many different skills, such as time-management, self discipline, concentration, memorization, organization, and effort. We must understand the nature and forms of human knowledge and the processes whereby this is created. It has already been emphasized that this process of creation occurs at all levels of sophistication when studying with multiple sources”. Studying with multiple sources has a number of advantages and disadvantages:

To begin with advantages, it teaches learners to be effective and find proper use of the received material, which encourages students to be creative, selective and develop their analytical skills and the most important thing is adapting acquired knowledge, where needed and using it in real life.

Secondly, information from different sources arouses students’ curiosity and increases their comprehension of additional materials and assists interacting or engaging with facts, circumstances of the material, practicing and familiarizing with new material and concepts, improve their evaluative skills, like comparing, contrasting and analyzing which is a great experience and a big step forward towards a future career.

Thirdly, it helps learners to impede their learning by analyzing, reorganizing or synthesizing and filtering information as these skills impact the development of a person.

At the level of advantages, studying with multiple sources has a number of disadvantages like challenges in understanding of the received material because of their academic nature and tremendous size while processing, time consumptions owing to the variety of sources, concealment of bias and others. (Studying with multiple sources. Study guides and strategies. <http://www.studygs.net/multiplesrc.html>)

Finally, in addition to these practical benefits studying with multiple sources provides a wide range of opportunities in being more self-confident and enterprising. Furthermore, multiple sources can greatly improve and dress experience of learners if they know how to use them properly.

Activity 1

Answer the following questions.

- a. Which sources of study have been mentioned in the text?
- b. Are you more inclined to use traditional primary sources or up-to-date ways of studying? Why?
- c. To what extent do you think studying with multiple sources is better than using a single source?
- d. To what extent did the author use references in the text?

Activity 2

Look at the example and put the information in order.

As Kolb, D.A. ("Experimental Learning: Experience as the Source of Learning and Development" Oxford Union Press, 2010, p. 138) points out "...studying is a skill, being successful ..."

- a. Relevant page numbers _____
- b. The name or the location of the publisher _____
- c. The name and initials of the author _____
- d. The year of publication _____
- e. The title of the book in full _____
- f. For journal articles the name of the journal and the number of volume _____

Activity 3

Paraphrase the quotes. Use phrases for giving references from the box.

As x points out; According to x; to quote from x; X states/suggests that; X tells/shows us that; Referring to; X says that; X argues that;

- 1, The core reason for all my triumphs is my diligence. ("Institutions of Temur")
2. "There is no sun without shadow, and it is essential to know the night."
(Albert Camus)
3. "We learn from failure, not from success!" (Bram Stoker)
4. The more that you read, the more things you will know. The more that you learn, the more places you'll go." (Dr. Seuss)
5. "The only thing standing between you and your dreams is ... reluctance."
(Carroll Bryant)

Lesson 3

STUDYING WITH MULTIPLE SOURCES

Look at the people in the photos and tell what they are doing and what they have in common.



1 Fill in the gaps using the words from the box.

contend stumble undoubtedly commonalities
conception route

1. Additional readings and alternative sources undoubtedly create a richer understanding.
2. Scientists _____ that working with a primary source is more effective than with a secondary source.
3. When working with a single source you may _____ upon unclear information.
4. Learners should discern the _____ between materials.
5. When surfing through different sources, relating materials to the objective, helps to form a clear _____ of idea.
6. Secondary source materials are more indirect _____ to the same information than a primary source.

2 (T3) Read the statements. Listen to the conversation and put the statements in order they appear.

- a. 1 recent research works assert that learning with multiple sources is more effective than with a single one.
- b. _____ getting information in a less structured text is comparatively more challenging than in well structured texts.
- c. _____ strategies of working with multiple sources should be taught.
- d. _____ it's better to understand connection than to learn details by heart.
- e. _____ one should be able to filter the context.

3 Read the recommendations. Listen to the conversation again and tick (✓) the information mentioned.

1. Consider the impact of, and evaluate conflicts. _____
2. Try to use a primary source. _____
3. Analyze commonalities. _____
4. Use in-class or on-line discussion time. _____
5. Engage sources with facts. _____
6. Refer to a secondary source if a primary one is not available. _____
7. Practice and familiarize materials. _____
8. Practice with multiple texts to improve your evaluative skills. _____

4 Read the sentences below and decide whom they belong to according to the script.

- a. Multiple sources demand great analytical procedure.
- b. Refer to shorter, more focused sources.
- c. Seeing emotions and hearing their tone will surely improve the comprehension.

Speaker 1	Speaker 2	Speaker 3

Suggested literature:

1. Antonia Clare and J J. Wilson. Speak out 2nd edition. Intermediate. Students' Book. Pearson Education Limited: Printed in Slovakia by Neografa, 2015.
2. Antonia Clare and J.J. Wilson and Diamond-Bayer. Speak out 2nd edition. Intermediate. Work Book. Pearson Education Limited: Printed in Slovakia by Neografa, 2015.
3. Damian Williams. Speak out 2nd edition. Intermediate. Teachers Book. Pearson Education Limited: Printed in Slovakia by Neografa, 2015.
4. Boqieva G va boshq. Scale up. Student's book. Course I. Darslik. Publishing house named after Gafur Gulyam: Tashkent, 2015.
5. Bakieva G., Rashidova F., Scale up 1part. Tashkent 2015.
6. Bakieva G., Rashidova F., Scale up 2 part. Tashkent 2015.
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The 15th practical activity

The theme: On-line etiquette.

How to Use from the Internet.

Objective:

- To enable students (Ss) to practice language skills by discussing and sharing ideas on the given topic
- To enlarge their vocabulary on the topic by giving them appropriate words round the sub topic
- To give students an opportunity to practice listening for main ideas
- To encourage Ss to work in cooperation

Vocabulary: sense, polite, online, behaving properly, permission, kid, face to face, etiquette

Visuals: handouts, cards, crosswords, videoprojector .

Summary of the lesson.

Remember always to check your spelling and grammar before posting. Always be what you are talking about and make sense saying it. Be polite and pleasant to everyone.

You need to behave the same way online that you do in real life. You need to remember that you can get caught doing things you should not be doing online just like you can in real life. You are still talking to a real person with feelings even though you can't see him.

Remember people have other things to do besides read your email. You are not the center of their world. Keep your post and emails to a minimum by saying what you want to say. Remember everyone won't answer your questions.

There are Ten rules of Netiquette that everyone who goes on-line should follow. You should remember them every time you go online. Netiquette is a set of rules for behaving properly online. You need to remember that you are talking to a real person when you are online.

Remember this saying when sending an email: Would I say this to the person's face.

Do not read other people's mail without their permission. Going through other people's things could cost you your job or you could even go to jail. Not respecting other people's privacy is bad Netiquette.

Do not take advantage of other people just because you have more knowledge or power than them. Treat others as you would want them to treat you if the roles were reversed. Do not point out mistakes to people online. Remember that you were once the new kid on the block. You still need to have good manners even though you are online and can not see the person face to face.

Activity 1

Read the statements below and guess whether they are true or false.

Then listen and check your answers.

1. Any Internet user has a right to download 5 or 10 percent of any book, magazine or other sources without permission_____.
2. If some blogs have friendly-printed versions, anyone can download materials without asking permission_____.
3. Phishing is a condition when people are fully absorbed into Internet affairs forgetting a real life_____ .
4. Intellectual property law should be followed by any Internet user fully_____.

Activity 2

(T4.1) Listen to the tape and answer the questions.

1. What does Zuhra study for?
2. What was Zuhra doing when Rustam approached her?
3. How did Rustam find out that Zuhra had copied the presentation?
4. What is considered by plagiarism according to the tape script?
5. What does Zuhra need for downloading materials from Rustam's blog?
6. What does Rustam mean when he says "a friendly printed version"?
7. How did Rustam spell the word *phishing*?
8. What movie was mentioned in the tape script?
9. What should we do to prevent phishing?
10. What does a lady from international company ask from Zuhra?

Activity 3

Sort out expressions in the box into two columns.

- a) shaking hands
- b) using capital letters
- c) not mentioning the title in the mail you are sending
- d) listening attentively when smb. is speaking
- e) shouting at people
- f) putting private information to public which can be seen by everyone even criminals, government, future employers
- g) showing loyalty and good mood
- h) chain letters
- i) being very brief and clear

- j) being emotional
 - k) no one can guess your mood
 - l) citing others' work you use
- Real life behaviour

On-line behavior

a, _____

b, _____

Activity 4

(T4.2) Listen to the recording and choose the right answer.

1. Who is very easily flamed?
a) Zuhra b) Rustam c) Both of them
2. Who is referred back in this sentence under “they” “Maybe in some years when they are old enough they will look through their today's' web pages...”?
a) accounts b) Zuhra and Rustam c) youth d) adults
3. Why did Rustam send the folder of presentation to flash drive?
a) so that Zuhra is able to show it to her instructor
b) so that Zuhra is able to use it in class
c) so that Zuhra is able to share it with her friends
d) so that Zuhra took pleasure
4. What did Zuhra ask Rustam to do?
a) to teach to make up ppt presentations
b) to teach to download materials very fast
c) to teach to improve her IT skills
d) to teach to type properly

Suggested literature:

1. Antonia Clare and J J. Wilson. Speak out 2nd edition. Intermediate. Students' Book. Pearson Education Limited: Printed in Slovakia by Neografa, 2015.
2. Antonia Clare and J.J. Wilson and Diamond-Bayer. Speak out 2nd edition. Intermediate. Work Book. Pearson Education Limited: Printed in Slovakia by Neografa, 2015.
3. Damian Williams. Speak out 2nd edition. Intermediate. Teachers Book. Pearson Education Limited: Printed in Slovakia by Neografa, 2015.
4. Boqieva G va boshq. Scale up. Student's book. Course I. Darslik. Publishing house named after Gafur Gulyam: Tashkent, 2015.
5. Bakieva G., Rashidova F., Scale up 1part. Tashkent 2015.
6. Bakieva G., Rashidova F., Scale up 2 part. Tashkent 2015.
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The 16th practical activity

Theme: Mathematics and Computer Science

Objective:

- To enable students (Ss) to practice language skills by discussing and sharing ideas on the given topic
- To enlarge their vocabulary on the topic by giving them appropriate words round the sub topic

- To give students an opportunity to practice listening for main ideas
- To encourage Ss to work in cooperation

Vocabulary:

Visuals: handouts, cards, crosswords, mini tests, power point projector

Summary of the lesson:

Mathematics and Computers

It is well known that the development of computers and computer science was due to the effort of mathematicians, physicists, and engineers. But the early, theoretical work came from mathematicians.

The English mathematician Alan Turing, working at Cambridge University, introduced the idea of a machine that could perform mathematical operations and solve equations. The Turing machine, as it became known, was a precursor of the modern computer. Through his work, Turing brought together the elements that form the basis of computer science: symbolic logic, numerical analysis, electrical engineering, and a mechanical vision of human thought process.

Computer theory is associated with the name of the outstanding scientist von Neumann, who established the basic principles on which computers operate.

The first large-scale digital computers were pioneered in the 1940s. In 1945, von Neumann completed the EDVAC (Electronic Discrete Variable Automatic Computer) at the Institute of Advanced Study in Princeton. In 1946, the engineers John Eckert and John Mauchly built ENAC (Electronic Numerical Integrator and calculator), which operated at the University of Pennsylvania.

Complex computers have attracted the attention of researchers in the field of artificial intelligence. They are trying to develop computer systems that can imitate human thought processes.

The mathematician Norbert Wiener, who worked at the Massachusetts Institute of Technology (MIT), also became interested in automatic computing and developed the field known as cybernetics. Cybernetics grew out of Wiener's work on increasing the accuracy of bombsights during World War II. From this, came a broader investigation of how information can be translated into improved performance. Cybernetics is now applied to communication and control systems in living organisms.

Computers have exercised an enormous influence on mathematics and its applications. They have given great impetus to such branches of mathematics as numerical analysis and finite mathematics. Computer science has suggested new areas for mathematical investigation, such as the study of algorithms. Computers have also become powerful tools in diverse fields, such as number theory, differential equations, and abstract algebra. In addition, the computer has made possible the solution of several long-standing problems in mathematics which were proposed in the previous

centuries.

Answer the following questions.

1. What is the role of mathematicians in the development of computers and computer science?
2. Who was the idea of a computer introduced by?
3. Who is computer theory associated with?
4. When were the first large-scale digital computers pioneered?
5. Who was the first electronic numerical integrator and calculator built by?
6. Whose name is *Cybernetics* associated with?
7. What influence have computers exercised on mathematics and its applications?

3. Read the text below and do the tasks following it.

a) Choose the title to the text that suits best:

1. Computer applications
2. The age of modern computer technologies
3. The role of the computer in work and studies

Computers have become a part of our everyday life. We use them to do different mathematical and logical operations, to receive, store and transfer any kind of information, to work on the Internet, write e-mail letters, speak over the Skype, etc. We daily deal with different computer systems, such as calculators, car electronics, mobile phones, timers in microwave ovens or washing machines, programmers inside the TV sets and so on. The impact of the computer on our society is felt in every area

– government, business, science, medicine, sport, industry, agriculture, entertainment and leisure activities.

The computer is a high-speed calculating machine which speeds up your financial calculations. It is an electronic notebook which manages to collect tremendous quantities of data, such as databases of any school or university, studying programs, personal information, etc. It is a unique typewriter that allows every user to type and print any kind of written document, pictures or even photos. It is the greatest electronic entertainment system, so you can relax listening to your favourite music or watching your favourite film, or playing computer games. And finally, the computer is a personal communicator that enables us to communicate with other people all over the world without leaving your house.

b) Give your answers to the following questions.

1. What are the main spheres of computer usage?
2. What areas of human activity are affected by the computer?
3. Why is the computer so important in our life?
4. How do you use the computer in your every day life?
5. What recommendations could you give to those who use the computer in a big way?

4. Put the adjectives in brackets into the correct form (comparative or superlative degree) to make an accurate description of computer sizes.

Words and word combinations

mainframe computer – мэйнфрейм, «большой компьютер», суперкомпьютер minicomputer – миникомпьютер

microcomputer – микрокомпьютер portable – портативный desktop – настольный компьютер

laptop – лэптоп (*lap* – колени сидящего человека) notebook computer – ноутбук (компьютер типа «ноутбук») subnotebook – ультрапортативный ноутбук

handheld – ручной

palmtop computer – карманный персональный компьютер

There are different types of computer. The ... (large)¹ ... and ... (powerful)² ... are *mainframe* computers. *Minicomputers* are ... (small)³ ... than mainframes, but are still very powerful. *Microcomputers* are small enough to sit on a desk. They are the ... (common)⁴ ... type of computer. They are usually ... (powerful)⁵ ... than minicomputers. Portable computers are ... (small)⁶ ... than *desktops*. The ... (large)⁷ ... portable is a *laptop*. ... (Small)⁸ ... portables, about the size of a piece of writing paper, are called *notebook* computers. *Subnotebooks* are ... (small)⁹ ... than notebooks. You can hold ... (small)¹⁰ ... computers in one hand. They are called handheld computers, or *palmtop* computers.

5. Put questions to the following sentences.

1. Chemists have found that 100,000 chemical reactions take place in the brain every second.
2. We still don't know how languages are learnt.
3. We are only now really starting to learn the truth about how the human brain works.
4. As long as the brain is given plenty of exercise, it keeps its power.
5. It has been found that an old person who has always been mentally active has a quicker mind than a young person who has done only physical work.
6. The study of the physiology of memory is in its infancy, and researchers must thus still rely on analogy, on terms like *storage* and *retrieval*, to explain how we remember.
7. But even a rudimentary understanding of the physiology of memory is better than none at all.

6. Use the correct tense / voice form of the verb.

Model:

A lot of knowledge (*to accumulate*) in the second half of the 20th century. A lot of knowledge *was accumulated* in the second half of the 20th century.

1. In the early ages, primitive counting (*to do*) with the help of gestures,

objects, fingers and toes.

2. The work of Leibniz (to publish) several years before Newton's results appeared in print.
3. In the past, people could not foresee that their life (to change) radically due to technological advances.
4. Scientists (to make) their discoveries due to the achievements of their predecessors.
5. Mathematics (to be) a science of numbers before it became a science of relations.
6. Archimedes (to make) his discovery while (to take a bath).
7. All spheres of life (to benefit) from computers in the future.
8. Many problems of artificial intelligence (not to solve) yet.
9. A lot of useful gadgets (to appear) in the last 10 years.
10. Nowadays, science and technology (to develop) at a great speed.
11. It is believed that in the future computers (to make) people's life still more comfortable.
12. Mathematics (to contribute) the most to the development of computer science.
13. Without the computer, the present day achievements of many sciences (to be) impossible.
14. Very little (to know) to us about the life of Euclid.
15. Einstein (to be) young when he developed the theory of relativity.
16. Lobachevsky's new idea (to remain) unnoticed for a long time.
17. Till his dying day, Galileo was true to his ideas, though he (to renounce) them before under the pressure of the Inquisition.
18. Some new branches of mathematics (to develop) in the 20th century.
19. It (to take) mathematicians over three hundred years to prove Fermat's last theorem.
20. Mathematical language (to characterize) by its symbolic nature, brevity and precision.

Vocabulary

7. Match the most frequently used computer terms with their definitions or equivalents in Russian.

1. account	a) программа для создания и просмотра анимированных изображений
2. animator	b) модификация лицензионной программы
3. upload	c) логин + пароль для входа в систему
4. update	d) реклама в Интернете
5. applet	e) интернет-пейджер
6. ISQ	f) программа на языке Java
7. bugs	g) загрузка файла с компьютера пользователя на сервер
8. banner	

Suggested literature:

1. Antonia Clare and J J. Wilson. Speak out 2nd edition. Intermediate. Students' Book. Pearson Education Limited: Printed in Slovakia by Neografa, 2015.
2. Antonia Clare and J.J. Wilson and Diamond-Bayer. Speak out 2nd edition. Intermediate. Work Book. Pearson Education Limited: Printed in Slovakia by Neografa, 2015.
3. Damian Williams. Speak out 2nd edition. Intermediate. Teachers Book. Pearson Education Limited: Printed in Slovakia by Neografa, 2015.
4. Boqieva G va boshq. Scale up. Student's book. Course I. Darslik. Publishing house named after Gafur Gulyam: Tashkent, 2015.
5. Bakieva G., Rashidova F., Scale up lpart. Tashkent 2015.
6. Bakieva G., Rashidova F., Scale up 2 part. Tashkent 2015.
7. N. V. Solovey, I. V. Letunovskaya English for students of Mathematics. Kiev 2018

The 17th practical activity

Theme: The Internet, Relative Clause

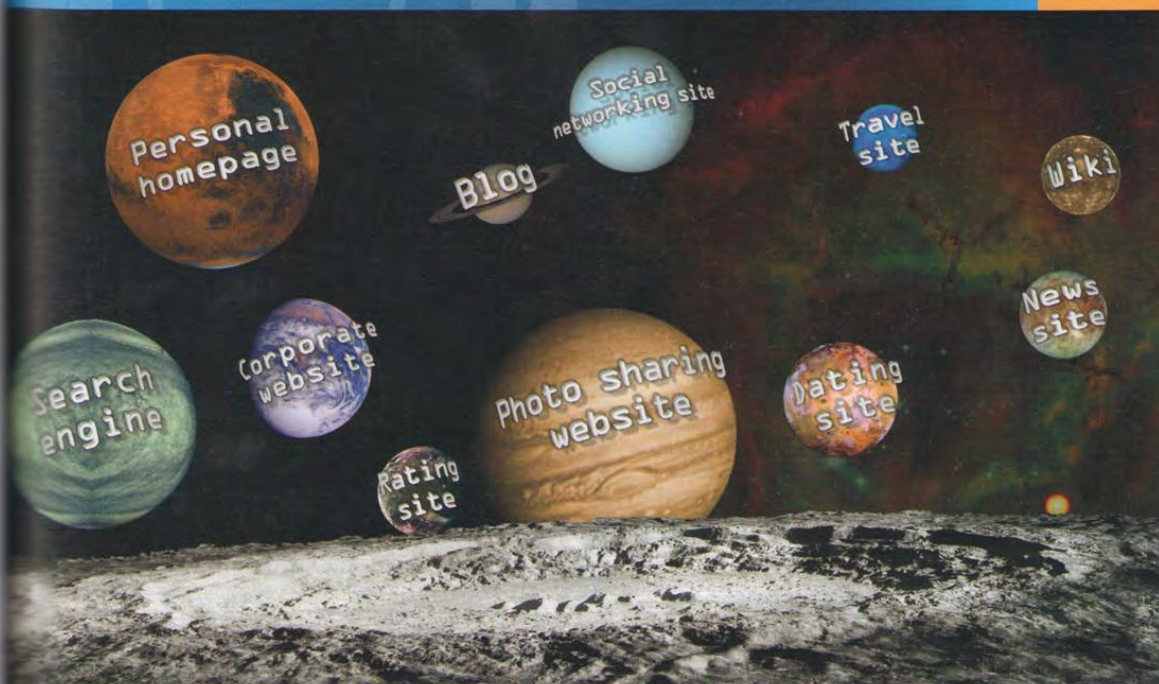
Objective:

- To enable students (Ss) to practice language skills by discussing and sharing ideas on the given topic
- To enlarge their vocabulary on the topic by giving them appropriate words round the sub topic
- To give students an opportunity to practice listening for main ideas
- To encourage Ss to work in cooperation

Vocabulary:

Visuals: handouts, cards, crosswords, mini tests, power point projector

Summary of the lesson:



VOCABULARY

THE INTERNET

1 A Work in groups. Look at the picture. Which type of website would you use to:

- 1 find out what is happening in the world?
- 2 book a holiday?
- 3 contact friends?
- 4 show your holiday pictures?
- 5 meet the partner of your dreams?
- 6 show your wedding video?
- 7 find out whether a new film or book is good?
- 8 find out about a big company?
- 9 share facts about yourself?
- 10 read and write opinions about anything and everything?
- 11 read or write factual information about a topic?
- 12 find information quickly?

B Rank these types of website in order of importance for you. Which are the five most important? Which are the two least important? Compare your ideas with other students.

LISTENING

2 A **8.2** Listen to three people talking about their online communities and answer the questions.

- 1 What does Speaker 1 use her website for?
- 2 What does she put on the website during 'a gig' (a concert)?
- 3 What does Speaker 2 write for his blog?
- 4 Why does he use Instagram?
- 5 What does Speaker 3 say is 'probably one of the best uses' of Facebook?
- 6 What does he like most about Facebook?

B Work in pairs. Listen to each speaker again. When the speaker finishes, take it in turns to use the words and phrases below to explain what the speakers say.

Speaker 1: band promote newsletters photos share reach thousands

Speaker 2: food blog review restaurants photos Instagram different dishes 2,000

Speaker 3: work from home stay in touch parties blanket invitation phone calls family photographs

3 Discuss the questions.

- 1 Do you think websites are real communities?
- 2 What are the benefits of online communities?
- 3 Are there any dangers or problems in spending a lot of time in online communities?

GRAMMAR

RELATIVE CLAUSES

- 4 Do you know how YouTube started? Read about its origins. Why did it become successful?

The rise and rise of YouTube

In 2005, three friends, Chad Hurley, Steve Chen and Jawed Karim, who were also colleagues, were having problems trying to email a video clip. Within two hours they came up with an idea which would solve the problem and change internet history. They created YouTube. It's a familiar story for anyone who follows the development of the internet: technology-minded entrepreneurs under thirty, a garage or bedroom where dreams become reality, little money and a big need. The site was an instant success. The key was a number of features: links to the videos, which made them easy to email; tell-a-friend functions; a feature that allowed YouTube videos to be played on social networking sites; and another feature that let users comment. This helped to develop a community: YouTube was a place where you posted videos but also chatted about them. Two years after the launch, Google Inc. bought YouTube for \$1.65 billion.

- 5 A Look at the underlined clauses in the sentences below. Which contains essential information? Which contains extra, non-essential information?

- a) Chad Hurley, Steve Chen and Jawed Karim, who were colleagues, were having problems trying to email a video clip.
b) YouTube was a place where you posted videos.

- B Read rules 1 and 2 to check your answers. Then complete rule 3 with *which*, *who*, *where* and *that*.

RULES

- 1 Defining relative clauses tell us exactly which thing, person or place we are talking about.
2 Non-defining relative clauses add extra information to a sentence. They tell us what a thing, person or place is or does. The sentence is still grammatically possible without the extra information.
3 _____ is used to talk about places.
_____ is used to talk about people.
_____ is used to talk about things.
_____ can be used to talk about places, people or things (in defining relative clauses only).

- C Read the text in Exercise 4A again. Find and underline eight relative clauses. What type of relative clauses are they: defining (D) or non-defining (ND)?

▷ page 142 LANGUAGEBANK

- 6 A Circle the correct alternatives to complete the text.



For people who liked to send and receive very short messages, Twitter.com was a dream come true. This social networking site, ¹that/which was/who was the fastest growing site in 2009, became amazingly popular in a short space of time. So how does it work? You write your message, ²of which must be/what

must be/which must be no longer than 140 characters, onto your profile via a web, SMS or phone application. Then the message, ³what is called/this is called/which is called a 'Tweet', is sent automatically to your subscribers or 'followers'. The people ⁴use/that use/are who use Twitter say it's fantastic. Jerry Jones, ⁵who works for/who works where/which works for an internet company, describes it as 'a mini-revolution'. He says that when Twitter arrived, it was the moment ⁶which online/for online/when online communication changed. No more boring blogs, ⁷what go/where people go/who people go on and on about nothing. 'Me and my friends, ⁸who all use/all use/we use Twitter, have a saying: Keep your Tweet short and sweet!'

- B Discuss the questions.

- 1 Do you or does anyone you know use Twitter?
- 2 What social networking websites do you know?
- 3 Which are the most popular now?

- 7 A ▶ 8.3 PAUSING FOR EFFECT Listen for the pauses where there are commas. Tick the sentence you hear.

- 1 a) The travel site which we developed is really popular.
b) The travel site, which we developed, is really popular.
- 2 a) Those children who spend too much time on the internet don't communicate well.
b) Those children, who spend too much time on the internet, don't communicate well.
- 3 a) Video sharing sites which are free are a great resource for students.
b) Video sharing sites, which are free, are a great resource for students.
- 4 a) On that dating site where I met my wife there are hundreds of single people.
b) On that dating site, where I met my wife, there are hundreds of single people.

- B Work in pairs. Take turns to choose a sentence from Exercise 7A and read it aloud. Your partner says which sentence you read, a) or b).



SPEAKING

- 8** Look at the activities in the box below. Do you prefer doing them online or in the real world? What are the advantages/disadvantages of doing them online? Discuss your opinions with other students.

I prefer shopping online because it's convenient and easy.

shopping meet new people find out the news learn a language
book flights/hotels watch films/programmes speak to friends
look up information explore new places

WRITING

A WEBSITE REVIEW; LEARN TO USE COMPLEX SENTENCES

- 9 A** Read the website review and answer the questions.

- 1 What type of website is it?
- 2 Why does the writer recommend it?
- 3 Who uses the website? Why?

Website of the Month for January is **magportal.com**. It's a website which you can use to find magazine articles on lots of different topics. One reason I'd recommend it is the range of subjects, which include health, finance, entertainment, science and technology, sports and even pets and animals.

The best thing about magportal.com is that the design is very simple, which makes it really easy to use. There's a menu of categories and a search engine if you want something specific. Another excellent feature is that you can get articles by typing the date - the most recent ones are shown first - or the name of a specific magazine.

I know several journalists who use magportal.com for research. I suggest that readers try it out; there's something for everyone.

- B** Number the features of a review in a logical order.

- a) Say the purpose of the website. _____
- b) Say who you'd recommend the website to. _____
- c) Introduce the name of the website. _____
- d) Say what special features the website has. _____

- C** Find and underline three phrases we use to recommend something.

- 10 A** Compare the pairs of sentences. Which sounds more fluent: a) or b)?

- 1 a) It's a website. You can use it to find magazine articles. The articles are on lots of different topics.
b) It's a website which you can use to find magazine articles on lots of different topics.
- 2 a) I know several journalists. They use magportal.com. They use it for research.
b) I know several journalists who use magportal.com for research.

speakout TIP

Think about using complex sentences. Simple sentences can be effective, but when we use many simple sentences together, it sounds childish: *I swim every day. I love the water. It's good exercise. We can make sentences more complex by using conjunctions (and, because, but, etc.) and relative clauses: I swim every day **because** I love the feel of the water **and** it's **also** good exercise.* How have the b) sentences in Exercise 10A been made more complex?

- B** Rewrite sentences 1-4 to make them sound more fluent.

- 1 The website is well-designed. The good design makes it user-friendly.
- 2 The site has too much animation. This makes it very slow. It takes a long time to upload.
- 3 The website's content comes from its users. Users send in their photos.
- 4 The site feels friendly. It has user profile areas. Here, users can say who they are.

- C** Work in pairs and compare your answers.

- 11 A** What is your 'Website of the Month'? Choose a website and think about the questions below.

- 1 What type of website is it (photo sharing, social networking, etc.)?
- 2 Why do you like it?
- 3 How often do you visit it?
- 4 Is there a community of users?
- 5 Who would you recommend it to?

- B** Write your review (120-150 words). Show it to other students. Which websites sound interesting to you?

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The 18th practical activity**Theme: The environment; word building: prefixes****Objective:**

- To enable students (Ss) to practice language skills by discussing and sharing ideas on the given topic
- To enlarge their vocabulary on the topic by giving them appropriate words round the sub topic
- To give students an opportunity to practice listening for main ideas
- To encourage Ss to work in cooperation

Vocabulary:**Visuals:** handouts, cards, crosswords, mini tests, power point projector

10.1) ETHICAL MAN

- G reported speech
 P weak forms: auxiliary verbs
 V the environment; word building: prefixes

VOCABULARY

THE ENVIRONMENT

- 1 A Work in pairs and discuss. How important is 'green living' to you?
- B Look at the sentences below and try to explain the meaning of the words/phrases in bold. Then use a dictionary to check.
- How much of the food you buy is **pre-prepared** or **processed**? How much is **organic**?
 - How much of the food you eat is produced in the country you live in?
 - How is your home heated? Do you use **energy-saving light bulbs**?
 - Is your house **insulated** and/or **double-glazed**?
 - Do you turn lights/machines off or leave them **on standby**?
 - When you're buying a product, do you consider how to recycle the **packaging**?
 - How often do you buy, sell or give away **secondhand items**?
 - How much of your rubbish is **recycled**?
 - How many hours a year, on average, do you spend flying?
 - How often do you use a car?

C Answer questions 1–10 above.

D Work in pairs and compare your answers.

▷ page 157 VOCABULARYBANK

READING

2 A Justin Rowlett, a BBC journalist, decided to try living a greener lifestyle for a year. What changes do you think he made?

B Read the article to find out.

C Work in pairs and answer the questions below.

- Why did Justin decide to try living ethically for a year?
- Did he and his family enjoy the experience?
- What kinds of things did they try to change?
- Why is Justin travelling to America?
- How does he plan to travel?
- What sorts of solutions is he looking for?

D Discuss. Do you think the 'Ethical Man' experiment is a good idea? Why?/Why not? How do you think society could reduce carbon emissions?

3 Read the article again. Underline words/phrases in the text that match meanings 1–6.

- the amount of damage we do (by our actions) to the air, water and land on Earth (paragraph 2)
- threw away or destroyed (paragraph 2)
- terrible – like a bad dream (paragraph 2)
- period of very hot weather (paragraph 2)
- the effects of trying very hard (paragraph 3)
- to follow something or someone (paragraph 6)



ETHICAL MAN

1 My name's Justin Rowlett and I'm the BBC's Ethical Man.

2 My family and I spent a year doing everything we could to try to reduce our impact on the environment. We changed the light bulbs in our house to energy-saving bulbs. We changed the way we heat and power our home. We stopped flying and we got rid of the car. Instead we walked, used bicycles, or took public transport. We did our supermarket shopping online, ate organic vegetables and I even stopped eating meat (for a month). My heavily pregnant wife, Bee, walked two miles to hospital in the middle of the night, to give birth to our third daughter, Elsa. When we went on holiday to France, instead of choosing a two-hour flight, we went on a nightmarish twelve-hour journey on the train, in a heatwave.

3 I had hoped our efforts would demonstrate how normal families could help to reduce their impact on the environment. But despite our best efforts, we only reduced our greenhouse gas emissions by 20 percent. Clearly the efforts of ethical men and women acting alone are not the answer. So what is?



4 I've had a new idea. And now I'm travelling across America in search of some solutions. Each American is responsible for twenty tons of carbon dioxide emissions, more than twice that of the average European.

5 The idea of the trip is simple. I think if we can solve it here we can solve it anywhere. But, as Ethical Man, I have to keep my environmental impact to a minimum. Of course I'm going to fly from Britain, but after that my challenge is to get around in the most low carbon way possible. I'll be travelling 6,500 miles, so it's not going to be easy, but I will use public transport wherever possible. During my trip, I'll talk to ordinary people, businessmen and politicians to hear their views on climate change and discuss ways in which we can try to reduce carbon emissions. And I'll drive an electric car.

6 You can track my progress on the map and watch our video reports along the way. Please give me advice; I want your thoughts on what we need to do as societies to make the cuts in emissions that are needed. Do you have an idea for a solution to climate change? Are you inventing the solution in your garage? If you are, please let me know.

GRAMMAR

REPORTED SPEECH

4 A Complete the table to show how tenses change in reported speech.

direct speech	reported speech
'I ¹ _____ across America ...'	He said he was travelling across America ...
'I ² _____ use public transport wherever possible.'	He said he would use public transport wherever possible.
'My heavily pregnant wife, Bee, ³ _____ two miles to hospital.'	He said he that his wife had walked to hospital.
'I think if we can solve it here ...'	He said he ⁴ _____ if they could solve it there ...'
'I ⁵ _____ a new idea.'	He said he'd had a new idea.
'I ⁶ _____ hoped our efforts would demonstrate ...'	He said he had hoped their efforts would demonstrate ...
'Do you have an idea ...?'	He asked if anyone ⁷ _____ an idea ...
'Each American ⁸ _____ responsible for twenty tons of carbon dioxide emissions'	He said each American is responsible for twenty tons of carbon dioxide emissions.

B Check your answers using the article in Exercise 2B.

C Look at the table again. Match each sentence to one of the rules.

RULES

- 1 When we report speech, we often move the tenses back (backshift), e.g. present simple → past simple, present continuous → past continuous, present perfect → past perfect, *will* → *would*.
- 2 If what the person says is still true, we can keep the tenses the same, e.g. 'It's the 16th.' → She said it's the 16th.
- 3 In reported speech, we may also need to change pronouns and time references, e.g. 'I'll see you tomorrow.' → He said he would see her the next day.
- 4 In reported questions, the word order is the same as that for statements.

▷ page 146 **LANGUAGEBANK**

5 A Complete the sentences by adding one word.

- 1 We changed the light bulbs in our house. [Justin]
He said they had changed the light bulbs in their house.
- 2 I have a new idea. [Justin to his wife]
He said he _____ a new idea.
- 3 We're going to live a more ethical lifestyle. [Justin to Bee]
They said that _____ were going to live a more ethical lifestyle.
- 4 I'm going to take a taxi to hospital. [Bee to Justin]
She said she _____ going to take a taxi to hospital.
- 5 We're hot. [children to parents]
The children said _____ were hot.
- 6 We've achieved a lot. [Justin and Bee]
They said they _____ achieved a lot.
- 7 I didn't eat meat for a month. [Justin]
Justin said he _____ eaten meat for a month.
- 8 I had expected the car to be slower. [Justin]
He said he _____ expected the car to be slower.

B **10.1 WEAK FORMS: auxiliary verbs** Listen to check your answers. Notice how *have/had/was/were* are weak forms or contractions. Listen again and shadow the sentences.

SPEAKING

- 6 A** Work in groups. Group A: look at the photo and read the fact file below. Discuss the questions and make notes about your discussion. Group B: look at the photo and read the fact file on page 163.

THE PLASTIC PROBLEM

Did you know ...?

- The world uses 1 million plastic bags per minute.
- Over the last ten years we have produced more plastic than during the whole of the last century.
- 50 percent of the plastic we use, we use just once and throw away.
- The 'Pacific Ocean Garbage Patch' is an area in the Pacific Ocean filled with waste plastic. The area may be as big as 5 million square kilometres (more than twice the size of the USA). Millions of marine animals die when they eat the plastic, become caught in it, or feed it to their young.
- Enough plastic is thrown away each year to circle the earth four times.



- 1 Why does the problem exist?
- 2 What should be done about it?
- 3 What laws/schemes would you introduce to deal with the problem?

B Look at your notes and prepare to tell another student about your discussion. Use reported speech.

*We talked about ... Juan said that ...
Caterina thought that ... Akiyo asked if ...*

C Work in pairs with a student from the other group. Tell them about the discussions you had in your group, and any ideas you had.

VOCABULARY PLUS

WORD BUILDING: PREFIXES

- 7 A** Look at the example sentences 1–10 and underline the prefixes.

un-

- 1 It's very unusual to have snow in April.
- 2 The whole situation was completely unreal.

re-

- 3 Most glass bottles and aluminium cans can be recycled.
- 4 Don't throw away the bottles. They are reusable.

dis-

- 5 I disagree with using the car for short journeys.
- 6 She would never disobey her parents.

mis-

- 7 Don't misunderstand me. I want to help.
- 8 I always mispronounce his name.

over-/under-

- 9 She hardly eats anything, and she's very underweight.
- 10 I think I've overcooked the pasta.

B Match the prefixes above with meanings 1–5.

- 1 not: un- and _____
- 2 again: _____
- 3 too much: _____
- 4 too little: _____
- 5 wrong: _____

8 Add prefixes to the words in brackets to complete the sentences.

- 1 He's lying. His story about how he cycled across Africa was completely _____ (believable).
- 2 It's easy to _____ (judge) somebody's character by looking at the clothes they wear.
- 3 Much of the snow in the Arctic has completely _____ (appeared).
- 4 These organic potatoes are delicious. Be careful not to _____ (cook) them.
- 5 Jessica decided not to accept the job because the company's policies were _____ (ethical).
- 6 I think I've done this all wrong. I probably _____ (understood) the instructions.
- 7 My house is always _____ (tidy). I don't have enough time to organise my things.
- 8 She walks to work every day, despite her _____ (ability).

▶ page 157 **VOCABULARYBANK**

speakout TIP

Use prefixes to guess the meaning of words you don't know. Look at the words in bold below. Can you use the prefix to guess their meaning?

- 9** Work in pairs and take turns. Ask and answer the questions.
- 1 Which professions in your country do people often **mistrust**?
 - 2 Who in your country is very famous now, but was **unknown** last year?
 - 3 What kinds of documents do you sometimes need to **renew**?
 - 4 Do you believe scientists have **overestimated** or **underestimated** the problem of climate change?
 - 5 Do you **disapprove** of people who drive their cars everywhere? Why?/Why not?

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The 19th practical activity
The theme: Mass Media

Objective:

- To enable students (Ss) to practice language skills by discussing and sharing ideas on the given topic
- To enlarge their vocabulary on the topic by giving them appropriate words round the sub topic
- To give students an opportunity to practice listening for main ideas
- To encourage Ss to work in cooperation

Vocabulary: compile, expand, competitive exams, frequently, arguably, rhythm, uncatalogued, horrendous, stupendous, amend, gain, arrange, protest

Visuals:: handouts, cards, projector, mini tests.

Summary of the lesson.**Mass Media**

Starter: Look at the pictures and answer the following questions.



Critical questions:

- 1 What sorts of differences would there be in a media less society?
- 2 How would you find out about national and world events?
- 3 Where would you get your ideas and opinions about those who are 'different' from you?
- 4 How would you know about the views and opinions of the powerful?
- 5 Would your conversations with family and friends be any different?
- 6 How would you entertain yourself?
- 7 How would your use of time be different in your daily life?

Pre-listening task.

Discuss this proverb in a small group and then with the class.

The more laws and order are made prominent, the more thieves and robbers there will be.

Lao Tzu

Vocabulary - Mass Media

Aerial - a radio antenna, especially one suspended in or extending into the air.

Advertising - a form of communication that typically attempts to persuade potential customers to purchase or to consume more of a particular brand of product or service. Many advertisements are designed to generate increased consumption of those products and services through the creation and reinforcement of "brand image" and "brand loyalty".

Blog - a Web site, usually maintained by an individual with regular entries of commentary, descriptions of events, or other material such as graphics or video. Entries are commonly displayed in reverse-chronological order. "Blog" can also be used as a verb, meaning to maintain or add content to a blog.

Many blogs provide commentary or news on a particular subject; others function as more personal online diaries.

Blogosphere - a collective term encompassing all blogs and their interconnections. It is the perception that blogs exist together as a connected community (or as a collection of connected communities) or as a social network.

Broadcast - the distribution of audio and/or video signals which transmit programs to an audience. The audience may be the general public or a relatively large sub-audience, such as children or young adults.

Television and radio programs are distributed through radio broadcasting or cable, often both simultaneously

Column - a recurring piece or article in a newspaper, magazine or other publication. Columns are written by columnists.

What differentiates a column from other forms of journalism is that it meets each of the following criteria:

It is a regular feature in a publication

It is personality-driven by the author

It explicitly contains an opinion or point of view

Editorial - an article in a newspaper or magazine that expresses the opinion of the editor, editorial board, or publisher.

The editorial board is a group of editors, usually at a print publication, who dictate the tone and direction that the publication's editorials will take. In much of the English-speaking world, editorials are typically not written by the regular reporters of the news organization, but are instead collectively authored by a group of individuals

High-tech politics -The current American political system in which the behavior of citizens and policy makers, as well as the political agenda itself, is increasingly shaped by technology.

Investigative journalism -The use of detective-like reporting methods to unearth scandals.

Journalism - the craft of conveying news, descriptive material and comment via a widening spectrum of media. These include newspapers, magazines, radio and television, the internet and, more recently, the cell phone. Journalists—be they writers, editors or photographers; broadcast presenters or producers—serve as the chief purveyors of information and opinion in contemporary mass society. "News is what the consensus of journalists determines it to be."

Journalist - (also called a newspaperman) is a person who practices journalism, the gathering and dissemination of information about current events, trends, issues, and people while striving for non-bias viewpoint.

Reporters are one type of journalist. They create reports as a profession for broadcast or publication in mass media such as newspapers, television, radio, magazines, documentary film, and the Internet. Reporters find sources for their work, their reports can be either spoken or written, and they are often expected to report in the most objective and unbiased way to serve the public good. A columnist is a journalist who writes pieces that appear regularly in newspapers or magazines.

Magazines, periodicals, glossies or serials - publications, generally published on a regular schedule, containing a variety of articles, generally financed by advertising, by a purchase price, by pre-paid magazine subscriptions, or all three. They are published weekly, biweekly, monthly ...

Mass Media - all the "tools" we have for communicating with large numbers of people... television, radio, film, on-line services, magazines and newspapers. All carry messages that reach masses of people in contrast to letters, telephone calls and one-to-one conversations known as interpersonal media.

Media bias - a term used to describe a real or perceived bias of journalists and news producers within the mass media, in the selection of which events will be reported and how they are covered. The term "media bias" usually refers to a pervasive or widespread bias contravening the standards of journalism, rather than the perspective of an individual journalist or article. The direction and degree of media bias in various countries is widely disputed, although its causes are both practical and theoretical.

Print media - portion of the mass media which include newspapers and magazines.

Propaganda - the dissemination of information aimed at influencing the opinions or behaviors of large numbers of people. As opposed to impartially providing information, propaganda in its most basic sense presents information in order to influence its audience. Propaganda often presents facts selectively (thus lying by omission) to encourage a particular synthesis, or gives loaded messages in order to produce an emotional rather than rational response to the information presented. The desired result is a change of the cognitive narrative of the subject in the target audience to further a political agenda.

Talking heads - a shot of a person's face talking directly to the camera.

Television (TV) - a widely used telecommunication medium for transmitting and receiving moving images, either monochromatic ("black and white") or color, usually accompanied by sound. "Television" may also refer specifically to a television set, television programming or television transmission. The word is derived from mixed Latin and Greek roots, meaning "far sight": Greek tele (τῆλε), far, and Latin visio, sight (from video, vis- to see, or to view in the first person).

Look at the chart and tick

Country	Quality daily newspapers	Quality Sunday newspapers	Popular daily newspapers	
UK				
USA				
Uzbekistan				

While listening tasks

Listening the text about Mass media and summarize.

Mass media

Text

The British are a nation of newspaper readers. Many of them have a daily paper delivered to their home just in time for breakfast.

British newspapers can be divided into two groups: quality and popular. Quality newspapers are more serious and cover home and foreign news thoughtfully while the popular newspapers like shocking, personal stories as well as some news. These two groups of newspapers can be distinguished easily because the quality papers are twice the size of the popular newspapers.

- Quality daily newspapers:

The Times

The Guardian

The Daily Telegraph

The Financial Times

The Independent

- Quality Sunday newspapers:

The Sunday Times

The Observer

The Sunday Telegraph

- Popular daily newspapers:

The News of the World

The People

The Mail on Sunday

The Sunday Mirror

The Sunday Express

Post listening

Divide students into 4 groups. Give each a poster with markers and ask groups to draw an announcement poster for tourists. In their posters groups should include information which will attract the most tourists.

Activity-1

... British are... nation of newspaper readers.

Many of them have... daily paper delivered to their home.

Fleet Street was... home of... nation's newspapers till... recent past.

Docklands is... newly developed business centre in... eastern part of London.

... *Financial Times* is widely read by businessmen.

Watching television is one of... great British pastimes. Broadcasting in... United Kingdom is controlled by... BBC and... IBA.

... BBC receives its income from... government.

... private companies controlled by... IBA earn money from advertising.

Here is... item on financial news published by.. *Financial Times*.

dollar and.. pound resumed their advances.

US currency was helped chiefly by... US stock and bond markets

... dollar was also boosted by US construction spending for November

... dollar rose where... fall had been forecast

The figures also say that... American economy has resumed stronger growth.

Activity-2. Insert prepositions:

The IBA is responsible... looking... the regional independent TV companies.

They also broadcast programmes they have bought... other regions.

National radio is controlled... the BBC.

Listeners can choose... four stations.

Some local stations are run... the BBC.

Their programmes consist mainly... music and local news.

3. Sum up what the text said about:

- English newspapers
- the BBC
- the IBA

Activity-3 Complete as much as you remember:

• The British are a nation...

Many of them have ... delivered.

British newspapers can be divided...

Quality newspapers .. while popular newspapers

These two groups... distinguished... British newspapers are often associated...

Fleet Street was the home...

But not long ago. . Docklands

Only... Fleet Street.

However... to mean 'the press'.

• Watching .. pastimes

Broadcasting... the BBC and... the IBA

The BBC receives... but... advertising .

The BBC... channels.

• National radio is controlled... and... four...

There are many local... private... the BBC.

Their programmes consist.

Suggested literature:

1. Antonia Clare and J J. Wilson. Speak out 2nd edition. Intermediate. Students' Book. Pearson Education Limited: Printed in Slovakia by Neografa, 2015.

2. Antonia Clare and J.J. Wilson and Diamond-Bayer. Speak out 2nd edition. Intermediate. Work Book. Pearson Education Limited: Printed in Slovakia by Neografa, 2015.

3. Damian Williams. Speak out 2nd edition. Intermediate. Teachers Book. Pearson Education Limited: Printed in Slovakia by Neografa, 2015.

4. Boqieva G va boshq. Scale up. Student's book. Course I. Darslik. Publishing house named after Gafur Gulyam: Tashkent, 2015.

5. Bakieva G., Rashidova F., Scale up lpart. Tashkent 2015.

6. Bakieva G., Rashidova F., Scale up 2 part. Tashkent 2015.

7. N. V. Solovey, I. V. Letunovskaya English for students of Mathematics. Kiev 2018

The 20th practical activity

Theme: Case study (A car manufacturer)

Objective:

- To enable students (Ss) to practice language skills by discussing and sharing ideas on the given topic
- To enlarge their vocabulary on the topic by giving them appropriate words round the sub topic
- To give students an opportunity to practice listening for main ideas
- To encourage Ss to work in cooperation

Vocabulary:

Visuals: handouts, cards, crosswords, mini tests, power point projector

Summary of the lesson:

3.1) MAKING PLANS

- G the future (plans)
- P fast speech: *going to*
- V organisation

VOCABULARY

ORGANISATION

1 A Work in pairs. Read the introduction to the questionnaire. Are you a planner or a procrastinator?

B In pairs ask and answer questions 1–4 in the questionnaire. Do you have similar answers?

C Find phrases in bold to match the definitions below.

- 1 not pay attention to the things you are supposed to be doing
- 2 delay (a job)
- 3 spend time doing things that aren't important
- 4 put jobs in order of which is most important
- 5 do lots of different jobs at the same time
- 6 complete tasks
- 7 do jobs just before the time they need to be done
- 8 do things in advance
- 9 be careful with your time
- 10 begin a job

D Work in groups. Answer the questions.

- 1 When was the last time you left something until the last minute?
- 2 Can you think of a job that you have put off for a while? When do you plan to do it?
- 3 What do you get distracted by when you're working? How do you try to avoid distractions?
- 4 Do you think it's a good idea to write to-do lists?

▶ page 150 **VOCABULARYBANK**

LISTENING

2 **3.1** Listen to three people discussing the questionnaire. Which of the following topics do they not talk about?

making plans
holidays
writing lists
work arrangements for tonight

3 A Work in pairs. Can you complete these sentences from the listening?

- 1 You generally like to do things ahead of _____.
- 2 It's the only way to get _____ done.
- 3 You might need to change your _____, so why bother making plans in the first place?
- 4 I much prefer to _____ and see what happens.
- 5 This evening a _____ of mine's coming over.
- 6 I'm going to try out a new _____ recipe.
- 7 I'll see how I _____. I might go out, or I might just stay at home and _____.
- 8 I do get jobs done, but I never get started _____ away.

B Listen again to check your answers.

C Discuss. Who would you prefer to work with, Laurie, Kenna or Javier? Why?

Are you a planner or a procrastinator?

Do you plan your day or do you prefer to see what happens? A planner will spend the night before work making lists, prioritising, and making sure everything is under control. They arrive early and get started on their first task. A procrastinator, on the other hand, is more likely to arrive at work just in time, with a coffee and breakfast in their hand and a stressed look on their face.

When you have a job to do, or you need to **meet a deadline**, do you:

- 1 generally **do things ahead of time** or **leave things until the last minute**?
- 2 prefer to **get started** on a difficult job or **put off** doing difficult jobs until later?
- 3 tend to **get distracted** easily and **waste time** or do you **use your time wisely** and **get things done**?
- 4 write to-do lists and **prioritise tasks** or do you prefer to **multitask**?

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GRAMMAR

THE FUTURE (PLANS)

4 Read the conversation and find examples of the structures described below.

Kenna: This evening a friend of mine's coming over. We're eating at my house – I'm going to try out a new pasta recipe. And then we're going to the cinema to see that new Argentinian film.

Laurie: Javier?

Javier: Uhhh ... I don't really know. I'll see how I feel. I might go out, or I might just stay at home and relax. I told you, I really don't like to plan.

RULES

- 1 Use present continuous to talk about plans or arrangements which have already been made, e.g. *A friend of mine is coming over.*
- 2 Use *going to* + infinitive without *to* to talk about a plan or intention. You have decided that you want to do this, but you may not have made the arrangements, e.g. _____
- 3 Use *might* + infinitive without *to* when you are undecided or not sure what the plan is, e.g. _____
- 4 Use *will* + infinitive without *to*, to talk about the future when you have no specific plan, or you make the decision at the time of speaking, e.g. _____

▶ page 132 LANGUAGEBANK

5 A **3.2** Listen and complete the sentences.

- 1 What _____ at the weekend?
- 2 We _____ my brother and his family.
- 3 Where _____ for them?
- 4 They _____ a party on Friday.
- 5 _____ with us tomorrow?
- 6 I'll ask Marion when she _____.

B FAST SPEECH: *going to* Listen again. Notice how the speakers sometimes pronounce *going to* /gəʊnə/ in fast speech. Tick the sentences where *going to* is pronounced /gəʊnə/.

C Listen again and practise saying the sentences fast.

What are you going to do at the weekend?

6 Underline the correct alternatives to complete the conversation.

Pete: Hey Dax. What ¹are you two doing/will you two do on Saturday night?

Dax: I don't know. We ²might/will go to the Death City Dread concert. What about you?

Pete: ³I'll have/I'm going to have a bit of a party. My parents ⁴are going/will go away for the weekend, so I've asked a few people to come over to my place. Kris ⁵will bring/is bringing his DJ equipment round, so ⁶we're having/we'll have music. And everyone ⁷is going to bring/might bring some food and drink. Euan ⁸will come/is coming with a few friends. Do you think you can make it?

Dax: It sounds great. ⁹I'm going to text/I'll text Leyla to ask her what she thinks. Then ¹⁰I'm calling/I'll call you back to let you know. Is that OK?

Pete: That's fine. ¹¹I'll speak/I'm going to speak to you later. Bye.

7 A Write sentences for situations 1–6 below.

Think about whether you have made arrangements already, then decide which tenses to use.

- 1 something you plan to do at the weekend
Some friends are coming to stay. (I've already arranged this.)
I might go out for a pizza on Friday night. (I don't know yet.)
- 2 something you are going to do after the class
- 3 something you might buy in the near future
- 4 something that someone in your family is planning to do
- 5 a plan or ambition you have, related to your work/studies
- 6 something that you plan to do for your next holiday

B Work in pairs. Compare your ideas. Ask and answer questions to find out more information.

A: *My sister's moving to Poland.*

B: *Really? That sounds exciting. Which city?*



SPEAKING

8 A Think about two or three plans or arrangements with other people that you have made recently. Use the questions below to make some notes.

- 1 What is the plan?
- 2 Who is involved?
- 3 How did you communicate to make the arrangements?

B Work in groups. Tell the other students about your plans and how you made the arrangements. Do you have similar or different ways of organising yourselves?

WRITING

MESSAGES; LEARN TO USE NOTE FORM

9 Work in pairs. Look at messages 1–4 and answer the questions.

- 1 What do you think the relationship is between the writer and the person they're writing to?
- 2 Are the messages formal or informal?

Leyla
Gone to the dentist.
Be back at 4p.m.
Jen

Pete
Please call Tricia on
07679 437 562 asap
Lucy

Hope you enjoyed
the concert.
Dinner's in the oven.
FX

Can you pick us up
from football tonight?
See you later
Ben + Max



speakout TIP

Leave it out! When we write notes and messages we don't always write complete sentences. We often miss out small grammatical words to make the message shorter.

10 A Look at messages 1–4 in Exercise 9. The words in the box have been left out. Which message do they belong to?

I We'll Your I've Can you I'll

B Rewrite messages 1–4 below using fewer words.

1 Are you feeling hungry? Do you want to meet me for lunch at Pavarotti's 1p.m.? Rx

2 We're going to see Elton John in concert. Would you like me to book you a ticket? Tonya

3 Pete called to say that he won't be able to come to dinner. Do you think you could call him back on 01954 627 823? Thanks. Jayne

4 I'm really sorry but I can't come to the cinema tonight because I've got too much work to do. I hope you enjoy the film. Bess

11 Write short messages for the situations below.

- 1 You're going away for the weekend and would like your flatmate to water the plants.
- 2 You want to invite a classmate to the cinema.
- 3 You need to apologise to a work colleague for missing a meeting.

Suggested literature:

1. Antonia Clare and J.J. Wilson. Speak out 2nd edition. Intermediate. Students' Book. Pearson Education Limited: Printed in Slovakia by Neografa, 2015.
2. Antonia Clare and J.J. Wilson and Diamond-Bayer. Speak out 2nd edition. Intermediate. Work Book. Pearson Education Limited: Printed in Slovakia by Neografa, 2015.
3. Damian Williams. Speak out 2nd edition. Intermediate. Teachers Book. Pearson Education Limited: Printed in Slovakia by Neografa, 2015.
4. Boqieva G va boshq. Scale up. Student's book. Course I. Darslik. Publishing house named after Gafur Gulyam: Tashkent, 2015.
5. Bakieva G., Rashidova F., Scale up 1part. Tashkent 2015.
6. Bakieva G., Rashidova F., Scale up 2 part. Tashkent 2015.
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The 21st practical activity

Theme: Computers and Computing

Objective:

- To enable students (Ss) to practice language skills by discussing and sharing ideas on the given topic
- To enlarge their vocabulary on the topic by giving them appropriate words round the sub topic
- To give students an opportunity to practice listening for main ideas
- To encourage Ss to work in cooperation

Vocabulary:

Visuals: handouts, cards, crosswords, mini tests, power point projector

Summary of the lesson:

Computers and Computing

A little over 3 decades ago, computers were small, not very reliable and comparatively slow in operation. Since then, several generations of complex electronic computing equipment have been developed, each being significantly better than the one before it.

Modern computers are of 3 kinds called *analog*, *digital*, and *hybrid*. An *analog computer* computes by using physical analogs of numerical measurements. A *digital computer* computes by using the numbers (*digits*) and *yeses* and *noes* usually expressed in 1's and 0's. A *hybrid computer* is a machine which combines some of the properties of digital and analog computers.

A computer can take in information or data, perform a sequence of reasonable operations on the information it has received, and put out answers. When it does this, it is *computing*.

A computing machine can take in and store information because the *hardware* inside the machine expresses arithmetical and logical relations, such as adding or subtracting, comparing or selecting. A computer can also put out information and display the answers when it receives them. Hardware is useless without *software* which is computer instructions and programs.

A computer is a general-purpose machine. It is the most important property which distinguishes it from all other kinds of machine constructed by man. Almost every day, a new use is found for these devices to help man. One and the same computer may be required on different occasions to help in the design of airplane wing sections, to detect errors in the design of a computer, to calculate the production of some large factory, to control the mixture of ingredients in some chemical process, or even to play a game of chess. In fact, a computer may be said to perform any task provided that the method of performance can be described in complete detail.

It is important, however, to realize from the beginning that the term *electronic brain* popularly applied to an automatic electronic digital computer is a misnomer.

The computer is only automatic in the sense that it can deal with explicit instructions which tell it exactly what to do: it cannot in itself, take steps, deal with difficulties which have not been foreseen by the person who presents the problem. The computer must, therefore, be supplied with a complete and detailed set of operating instructions to solve a given problem, together with the numerical values of the quantities which are to be operated upon.

A set of such operating instructions causing the computer to perform a particular calculation on any values of numerical data presented, and to print the results of the calculation, is called a program. The great merit of computers, that they will accept and obey any program presented to them, is lessened by the fact that they will interpret their instructions with a scrupulous accuracy even, when, as a result of a small mistake in the program, the results produced are obviously absurd. Such mistakes will often be of the sort which would be corrected, perhaps, even intuitively, by an intelligent operator. We would, therefore, stress that the program must be written in such a way that the computer carries out the desired operations in the right sequence, and that it must specify exactly what must be done under every circumstance that may arise in the computation.

The preparation of the problem for the solution by an electronic digital computer thus involves the following tasks: a) the precise definition of the problem to be solved; b) the planning of the sequence of operations required for the solution of the problem.

The writing of the program for the fulfillment of these tasks demands great attention to detail on the part of the programmer.

Once a program has been written, the computer is made to read it and store it in its memory. After the complete program has been read and stored, the computer starts to obey it.

Some of the instructions of the program will require the computer to read additional data, and others to print the results of its calculation; these results are then returned to the programmer.

If the program is correct, the results will give the correct answers to the original problem; otherwise, the program will have to be amended and presented again to the computer. The latter occurrence is a very common one, and many programmers find that more time is spent in correcting their programs than in writing them.

Phonetics 1. Read the following words according to the transcription.

Analog [ˈxnqlqg] – аналоговый digital [ˈdiGitql] – цифровой hybrid [ˈhQibrid] – гибридный data [ˈdeitq] – данные design [diˈzQin] – конструкция

misnomer [misˈnqumq] – неправильное употребление названия ingredient [inˈgrJdiqnt] – ингредиент, составная часть scrupulous [ˈskrHpjulqs] –

тщательный absurd [q'b'sWd] – абсурдный occurrence [q'kArens] – случай, событие

Vocabulary 2. Match the following.

1. physical variables 2. binary system 3. particular memory cell 4. numerical measurement 5. to do the sorting 6. matching 7. comparison 8. selection 9. to store 10. to take a square root 11. to raise to a power 12. reasonable operations 13. numerical quantities

a) особая ячейка памяти b) разумные операции c) физические переменные d) числовые величины e) числовое измерение f) двоичная система g) сортировать h) согласование i) извлекать квадратный корень j) сравнение k) выбор l) возводить в степень m) сохранять

3. Match the most frequently used computer terms with their definitions or equivalents in Russian.

1. binary 2. browser 3. hosting 4. user 5. web 6. wave 7. Winchester 8. World Wide Web

a) волновая таблица b) паутина c) жесткий диск d) сервис; составная часть Интернета e) двоичный f) управление сервером g) просмотрщик h) пользователь ПК

Text Comprehension 4. Answer the following questions.

1. How did the first computers differ from modern ones? 2. What are the three kinds of computers known in the computer world? 3. What is computing? 4. What two parts of a computer system are responsible for its functioning? 5. What is the most important property of a computer? 6. What is the most important condition for a computer to function properly? 7. What important tasks are to be fulfilled by the programmer in preparing a problem for solution by the computer? 8. What should be done if the program is not correct? 9. Does it take long to correct a program?

5. Read the text below and answer the following questions.

1. What are the features that computers and calculators have in common? 2. What are the points of difference?

Computers and Calculators

A computer is told how to process the information by instructions, which are stored in coded form inside the machine. In this respect, a computer differs radically from a calculator, which can do the same thing that a computer does, except that the instructions are not stored inside the machine. The coded instructions are called a program.

Any computer or calculator contains devices for five main functions: input, storage, arithmetic, control and output. Input refers to the process by which information is put into a machine. Output is the process by which the results are moved out of the machine. Storage refers to the mechanism that can retain information during calculation and furnish it as needed to other parts of the machine. The arithmetic unit is that part of the machine, which can carry out one or more of the basic arithmetic operations on the information held in storage. Finally, the control refers to those parts of the machine that dictate the functions to

be performed by all the other parts. The main difference between computers and calculators is that the instructions telling the computer what to do must be placed in storage before the computer proceeds with the solution of a problem. These instructions, which are made up of ordinary decimal digits, are placed in the same storage device that holds the data.

Translation 6. Translate the sentences into English.

1. Произведите умножение, а затем вычитание следующих чисел: $135 \times 7 - 210$.
2. Выдайте итог и возведите полученное число в третью степень.
3. Извлеките квадратный корень из числа 64.
4. Разумные операции, совершаемые компьютерной системой, бывают математическими и логическими.
5. Современный компьютер может выполнять более миллиона различных разумных операций в секунду, например, таких как сложение, вычитание, умножение, деление, сортировка, согласование, сравнение или выбор.
6. Любая информация для компьютера должна быть представлена в двоичной системе.
7. Адрес любой информации – это название определённой ячейки памяти, в которой она сохранена.
8. Чем больше внутренняя память компьютера, тем больше действий на нём можно выполнять

Grammar 7. Use the special questions in indirect speech according to the model.

Model:

1. What do you specialize in?
You've asked me what I specialize in.
2. What is the article about?
You've asked me what the article is about.
1. What conclusion was drawn?
2. When was the discovery made?
3. Where did the scientist live during World War II?
4. Which experiment in this article deals with our mental habits?
5. Where did he go to study higher mathematics?
6. Where will he work upon graduation?
7. Why do we habitually link together a person and his name?
8. When was the connection between man's classifying instinct and mathematics recognized?
9. Why can mathematics be applied to the world around us with relative ease?
10. Who was the law of gravitation discovered by?
11. How did people count in the early ages?
12. How long did it take them to create the first computer?

Suggested literature:

1. Antonia Clare and J J. Wilson. Speak out 2nd edition. Intermediate. Students' Book. Pearson Education Limited: Printed in Slovakia by Neografa, 2015.
2. Antonia Clare and J.J. Wilson and Diamond-Bayer. Speak out 2nd edition. Intermediate. Work Book. Pearson Education Limited: Printed in Slovakia by Neografa, 2015.

3. Damian Williams. Speak out 2nd edition. Intermediate. Teachers Book. Pearson Education Limited: Printed in Slovakia by Neografa, 2015.
4. Boqieva G va boshq. Scale up. Student's book. Course I. Darslik. Publishing house named after Gafur Gulyam: Tashkent, 2015.
5. Bakieva G., Rashidova F., Scale up 1part. Tashkent 2015.
6. Bakieva G., Rashidova F., Scale up 2 part. Tashkent 2015.
7. N. V. Solovey, I. V. Letunovskaya English for students of Mathematics. Kiev 2018

The 22nd practical activity

Theme: What Does a Computer System Consist of?

Objective:

- To enable students (Ss) to practice language skills by discussing and sharing ideas on the given topic
- To enlarge their vocabulary on the topic by giving them appropriate words round the sub topic
- To give students an opportunity to practice listening for main ideas
- To encourage Ss to work in cooperation

Vocabulary:

Visuals: handouts, cards, crosswords, mini tests, power point projector

Summary of the lesson:

What Does a Computer System Consist of?

A computer system consists of two parts: the *software*, which is instructions and programs of the computer, and the *hardware*, which consists of all electronic and mechanical parts of the computer. The basic structure of a computer system contains three main hardware sections: the central processing unit, or CPU, the main memory, or the internal memory, and the peripherals.

The *central processing unit* is the brain of the computer. Its function is to carry out program instructions of the software and to operate the processing of the other computer units. For better video and sound performances or networking, the user can add a specialized expansion card to the CPU of his computer.

The *main memory* stores all the instructions and data processed by the CPU. It usually consists of two sections: RAM (random access memory) and ROM (read only memory). RAM is the memory used for creating, loading and running computer programs. ROM is computer memory which holds the programmed instructions in the system.

The *peripherals* are the devices attached to the computer, which include *input/output units* (mouse, keyboard, monitor, scanner, printer, fax machines, headphones, etc.) and internal storage devices (floppy, hard or optical discs, blue-ray discs, external hard disk drive, flash disc drive, etc.) The input units, such as the mouse and the keyboard, give us an opportunity to

transfer data into computer's memory. The output units, for example, the monitor or the printer, enable us to give out the final result of the processing from the computer system. The internal storage devices are used to store both data and programs permanently.

The *software* includes programs for directing all computer operations and electronic data. Software programs are divided into two categories – the *systems software* and the *applications software*. The *systems software* enables the computer system to function. It includes the *operating system*, *drivers* for the hardware devices, *linkers* and *debuggers*. The *applications software* satisfies the user's specific needs. It is classified according to the sphere of usage, e. g. *games* or *financial software*, *office applications*, etc. Unfortunately, we also have a newer group of software related terms that have a negative association. While the applications software itself may be useful, it may also carry hidden programs or utilities that may cause undesirable effects.

Phonetics 1. Read the following words according to the transcription.

Processing [ˈprɒsɛsɪŋ] – обработка internal [ɪnˈtɜːnl] – внутренний peripherals [pəˈrɪfərəlz] – периферийные модули permanently [ˈpɜːmənəntli] – постоянно debugger [dɪˈbʌgɜː] – отладчик

Vocabulary 2. Match the following.

1. to load 2. flash card 3. systems software 4. applications software 5. internal storage unit 6. peripherals 7. the central processing unit 8. ROM 9. buffer (store) 10. memory space 11. linker 12. debugger 13. the main memory 14. input/output units 15. floppy disk 16. RAM 17. hardware 18. software

a) карта флэш-памяти b) загрузить c) периферийные устройства d) оперативная память e) внутреннее запоминающее устройство f) прикладные программы g) системное программное обеспечение h) центральный процессор i) главная память j) вводное и выходное устройства (блоки) k) гибкий магнитный диск l) буфер m) линкер, редактор связей n) объём памяти o) отладчик p) постоянная память q) программное обеспечение r) аппаратное оборудование

3. Match the most frequently used computer terms with their definitions or equivalents in Russian.

1. download 2. dithering 3. viewer 4. gamer 5. host 6. hypermedia 7. hyperlink 8. domain

a) осуществление связи между элементами интертекстовой системы b) просмотрщик для файлов c) скачивать информацию с Интернет-сервера на свой компьютер d) игрок e) механизм получения изображения в HiColor-режимах f) группа компьютеров, управляемых одним сервером g) узел; сервер h) гипермедиа

Text Comprehension 4. Complete the following sentences and translate them into Russian.

1. Software programs are usually divided into ... 2. The systems software controls ... 3. Applications software is classified ... 4. The hardware is all

mechanical parts of the computer which consists of ... 5. Specialized expansion cards are added to provide ... 6. The function of the central processing unit is ... 7. The mouse and the keyboard are used ... 8. The final results of the processing are given out ... 9. The main memory consists of ... 10. Software includes programs ...

5. Answer the following questions.

1. What two parts does a computer system consist of? 2. What are the three sections of the hardware? 3. What unit is called the brain of the computer? 4. What is the function of the main memory? 5. What units do the peripherals include? 6. What are the main two types of software? 7. What does the systems software include? 8. According to what principle is the applications software classified?

Translation 6. Translate from Russian into English.

1. Прикладные программы приводятся в действие только после установки системного обеспечения. 2. Программы компьютера разделяются на системное программное обеспечение и программное обеспечение по применению (*прикладные программы*).

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3. Системное программное обеспечение контролирует все стандартные действия компьютера, такие как включение и выключение, загрузка программ, информирование об объёме памяти и т. д. 4. Программное обеспечение содержит все программы и команды компьютера. 5. Периферийные устройства включают вводный, выходной блоки и внутреннее запоминающее устройство. 6. В системное программное обеспечение входят драйверы для аппаратного оборудования, линкеры и отладчики. 7. Компьютерная система состоит из аппаратного оборудования и программного обеспечения. 8. Прикладные программы классифицируются по сфере применения. 9. Внутреннее запоминающее устройство используется для постоянного хранения информации и программ. 10. Некоторые прикладные программы обладают свойствами, которые приводят к нежелательным последствиям.

Grammar 7. Use the general questions below in indirect speech. Follow the model.

Model:

Did the hypothesis prove to be correct?

You've asked me *if* the hypothesis proved to be correct 1. Does the image of a man usually accompany his name? 2. Is there a connection between the works of mathematicians of all times? 3. Do you visualize a man when hearing his name? 4. Was the theory of relativity a turning point in physical thinking? 5. Has Fermat's last theorem been proved? 6. Was the hypothesis based on the wrong assumption? 7. Does the new method have any advantages over the old one? 8. Do these two phenomena have anything in common? 9. Does he seem to have changed his point of view? 10. Do the results which have been obtained agree with the results that were ex-

pected? 11. Did you hear him speak at the conference? 12. Does this law hold for all similar cases? 13. Did you see him switch off the computer? 14. Was Christopher Columbus the first to have travelled from Europe to America? 15. Was your purpose to gain some time? 16. Will you make a report at the seminar? 17. Did you wish to express the same idea in a different way? 18. Did Einstein develop an absolutely new idea of the world we live in?

Suggested literature:

1. Antonia Clare and J J. Wilson. Speak out 2nd edition. Intermediate. Students' Book. Pearson Education Limited: Printed in Slovakia by Neografa, 2015.
2. Antonia Clare and J.J. Wilson and Diamond-Bayer. Speak out 2nd edition. Intermediate. Work Book. Pearson Education Limited: Printed in Slovakia by Neografa, 2015.
3. Damian Williams. Speak out 2nd edition. Intermediate. Teachers Book. Pearson Education Limited: Printed in Slovakia by Neografa, 2015.
4. Boqieva G va boshq. Scale up. Student's book. Course I. Darslik. Publishing house named after Gafur Gulyam: Tashkent, 2015.
5. Bakieva G., Rashidova F., Scale up 1part. Tashkent 2015.
6. Bakieva G., Rashidova F., Scale up 2 part. Tashkent 2015.
7. N. V. Solovey, I. V. Letunovskaya English for students of Mathematics. Kiev 2018

The 23rd practical activity

Theme: Antivirus Software

Objective:

- To enable students (Ss) to practice language skills by discussing and sharing ideas on the given topic
- To enlarge their vocabulary on the topic by giving them appropriate words round the sub topic
- To give students an opportunity to practice listening for main ideas
- To encourage Ss to work in cooperation

Vocabulary:

Visuals: handouts, cards, crosswords, mini tests, power point projector

Summary of the lesson:

Antivirus Software

Antivirus software can offer protection from the threat of malware: worms, Trojans, viruses and spyware. According to Top Ten Reviews, a good antivirus program can also protect your computer from *phishing scams*, *keyloggers*, *rootkits* and *email-borne threats*. *Phishing scams* are programs that appear to be legitimate sites in an attempt to obtain sensitive information from the user. *Keyloggers* track every key-stroke made on your computer to steal passwords and account information. A *rootkit* takes control of your computer without your knowledge.

Installation and setup of security software should be simple and quick. In addition, it should be user-friendly, even for beginners. Top Ten Reviews notes that every day users want to be able to install the program and forget about it, without the need for ongoing maintenance.

Antivirus software should include *updates* as new viruses are identified. Automatic updates are often built into the software. Consumer Search notes that most programs include one year of free updates before requiring the purchase of a subscription or a new version.

Signature checking is by far the most common method used by antivirus programs to detect malicious threats. The software has an extensive database of known viruses and malware, and each time it scans a file, it compares the results to the information contained in its database. If the software finds a “signature” match, it will either warn the user or remove it right away, mostly depending on the seriousness of the threat. Some threats can be quarantined by the antivirus program, as well. Basically, it encrypts the file with a different code to render it useless instead of removing it altogether. Of course, with new viruses coming out every day, the database must be kept completely up to date for the software to detect incoming threats.

Another way to detect malicious files or programs on a computer is through *monitoring its behaviour*. Programs that attempt to access certain parts of the root key registry or modify an existing executable file will send a red flag up, and the software will take action against the threat, if necessary. This approach is a good one to use because it can then detect malicious software that has not yet been added to the database simply by the way it is acting. However, this can also lead to the program warning the user about every single thing it finds, which may get irritating over time. Anti-virus software is becoming more advanced by the second, though, and these false warnings are being lessened every day.

The third common way for antivirus programs to pick out threats is to *emulate* the file in a safe environment created by the software itself. For instance, if a suspicious file has entered the computer, the program will take the executable files of the program and run them behind the scenes in a simulated setting to see what it does. If the software finds it is indeed malicious and a threat, it will then either quarantine or delete the harmful material before real damage can be done. This method can also trigger false warnings, and at that point it usually leaves it up to the user to decide what to do with the file. If the user recognizes and trusts the program, the antivirus software will let it remain. If the user chooses for the program to take action against it, the perceived threat will be removed.

Phonetics 1. Read the following words according to the transcription.

Antivirus [ˈxntiˈvQiqrqs] – антивирусный phishing scams [ˈfiSiN ˈskxms] – фишинг keyloggers [ˈkʃlOgqz] – кейлоггеры rootkits [ˈrHtkit] – руткиты threat [Tret] – угроза installation [ˌinstqˈleiSn] – установка (программы) maintenance [ˈmeintqnqns] – техническое обслуживание upgrade, v

[ˈApˈgreɪd] – обновить signature [ˈsɪgnɪʃə] – подпись quarantine [ˈkwɒrəntɪn] – карантин encrypt [ɪnˈkrɪpt] – зашифровать executable [ɪgˈzɛkjʊtəbəl] – исполняемая программа

Text Comprehension **2. Answer the following questions.**

1. What is the purpose of antivirus software? 2. What programs are called phishing scams? 3. What do keyloggers do? 4. What is the danger of a rootkit? 5. What should be done to protect the computer from viruses and malware? 6. Why does antivirus software need updating? 7. How can malicious threats be detected? 8. What does the software do if it detects a threat? 9. Are there any other ways of picking out threats? 10. What is the downside of antivirus programs picking out threats?

Vocabulary **3. Choose the Russian equivalent for the English words given below.**

(a) зашифровать – (b) исполняемая программа – (c) эмулировать – (d) устранить угрозу – (e) принять меры – (f) – замеченная угроза – (g) принести вред – (h) ликвидировать – (i) фишинг – (j) изолировать – (k) проникнуть в компьютер – (l) ложные предупреждения – (m) кейлоггер – (n) обновление – (o) пароль – (p) – нажатие клавиши – (q) руткит – (r) вредоносный (1) – to do damage – (2) to remove the threat – (3) to delete – (4) the perceived threat – (5) executable file – (6) keylogger – (7) to quarantine – (8) to encrypt – (9) rootkit – (10) password – (11) to emulate – (12) upgrading – (13) keystroke – (14) harmful – (15) phishing scams – (16) to enter the computer – (17) false warnings – (18) to take action

Check your skills (revision) **4. Match the following.**

1. input unit 2. hardcopy 3. keyboard 4. softcopy 5. the mouse 6. the central processing unit

7. malware 8. floppy disc 9. hardware 10. software 11. spyware 12. adware 13. antivirus software

a) a hand-held device connected with the computer by means of a small cable or Bluetooth b) the part of the computer that takes in information c) the output that can be held in your hands (text, pictures) d) the part of the computer that coordinates the activity of all other units e) the output displayed on a monitor f) an input device that looks like an electric typewriter g) devices attached to the computer h) malicious software i) electronic and mechanical parts of a computer j) a program installed unknowingly to monitor the user's activity k) programs for directing all computer operations

14. peripherals l) internal storage device m) a program offering protection from worms, Trojans, spyware, viruses and malware n) a legitimate alternative for those who do not wish to pay for software (“sponsored” freeware until you pay to register)

5. Choose the right variant.

1. A machine that performs a sequence of reasonable operations is called a) hardware b) internet c) computer d) buffer 2. A computer system which includes programs for directing all computer operations and

electronic data is computer's a) operative system b) software c) hardware d) main memory 3. The basic structure of ... contains three hardware units: the central processing unit, the main memory and the peripheral devices. a) monitor b) software c) input unit d) hardware 4. ... coordinates and controls the activities of all other computer units, reads, interprets software instructions and performs all activities applied to data. a) Bluetooth b) CPU c) hardcopy d) keyboard 5. The ... stores all the instructions and data being currently processed by the CPU.

a) main memory b) flash memory c) external memory d) secondary memory

6. The brain of the computer is its ... a) mouse b) printer c) CPU d) flash drive

7. Computations are performed by a) RAM b) ROM c) the arithmetic and logic unit d) a power supply unit

8. ...give us an opportunity to transfer data into computer's memory a) input units b) floppy discs c) storage devices d) CD discs

9. The final result of the processing from the computer system is given out by a) control unit b) keyboard c) buffer d) output unit

10. The computer virtual display device is called a) internet b) processor c) peripheral device d) monitor

6. Match the most frequently used computer terms with their definitions or equivalents in Russian.

1. CODEC

2. creative 3. hosting 4. unit 5. cash memory 6. log in 7. macro 8. master-disk

a) буферная память b) основной диск c) вход d) последовательность действий или команд e) программно-аппаратные средства для работы с аудио- и видеоинформацией f) творческий, создающий что-л. g) управление сервером h) модуль

Grammar 7. Use the imperative sentences in indirect speech.

Model.

1. Don't contradict him.

You've told me not to contradict him. 2. Come at 8.30, please.

You've asked me to come at 8.30. 1. Don't change the conditions of the experiment. 2. Use the rule that you have learnt today. 3. Don't postpone the discussion. 4. Speak louder, please. 5. Don't go into details. 6. Read and memorize the terms. 7. Don't continue working until you process the obtained results. 8. Don't apply the same rule for the two different procedures. 9. Use the same words to denote the same notions. 10. Don't fail to switch off the printer. 11. Read the task carefully so as to avoid the possible errors. 12. Don't test the new method without being given additional time. 13. Copy out the new words. 14. Don't start working on the project without speaking to the head of the laboratory. 15. Don't sign the contract until you have read it to the end.

Suggested literature:

1. Antonia Clare and J J. Wilson. Speak out 2nd edition. Intermediate. Students' Book. Pearson Education Limited: Printed in Slovakia by Neografa, 2015.
2. Antonia Clare and J.J. Wilson and Diamond-Bayer. Speak out 2nd edition. Intermediate. Work Book. Pearson Education Limited: Printed in Slovakia by Neografa, 2015.
3. Damian Williams. Speak out 2nd edition. Intermediate. Teachers Book. Pearson Education Limited: Printed in Slovakia by Neografa, 2015.
4. Boqieva G va boshq. Scale up. Student's book. Course I. Darslik. Publishing house named after Gafur Gulyam: Tashkent, 2015.
5. Bakieva G., Rashidova F., Scale up 1part. Tashkent 2015.
6. Bakieva G., Rashidova F., Scale up 2 part. Tashkent 2015.
7. N. V. Solovey, I. V. Letunovskaya English for students of Mathematics. Kiev 2018

The 24th practical activity **Theme: ALBERT EINSTEIN**

Objective:

- To enable students (Ss) to practice language skills by discussing and sharing ideas on the given topic
- To enlarge their vocabulary on the topic by giving them appropriate words round the sub topic
- To give students an opportunity to practice listening for main ideas
- To encourage Ss to work in cooperation

Vocabulary:

Visuals: handouts, cards, crosswords, mini tests, power point projector

Summary of the lesson:

ALBERT EINSTEIN

Albert Einstein is known as the greatest mathematical physicist. His relativity theory was one of the five or six great discoveries comparable to those of Galilei and Newton. Albert Einstein was born in southern Germany in 1879. As a boy, Albert was unsociable, slow and very honest. His unusual talent for mathematics and physics began to show very early. He was very good at mathematics, and at the age of twelve, he worked out his own methods for solving equations.

In 1896, Albert Einstein was admitted to the Zurich Polytechnic as a student in mathematics and physics. He soon realized that he was a physicist rather than a mathematician. At the age of 21, after four years of study at the university, which he graduated brilliantly, he began to work as a clerk at an office. And in 1905, he made some revolutionary discoveries in science. He published three papers. In his first paper, he explained the photoelectric effect with the help of M. Plank's quantum theory. His second paper was a mathematical development of the theory of Brownian motion. His third paper was entitled "Special Theory of Relativity". It must be mentioned that a great

contribution to the theory of relativity had been made earlier by the great mathematicians Lorenz and Poincare. Einstein's work was published in a physical journal. It stated that energy equals mass multiplied by the square of the speed of light. This theory is expressed by the equation: $E = mc^2$ [si'skwFqd]. Scientists all over the world met this work with interest and surprise. But only very few physicists realized the importance of his theory at that time.

The word *relativity* refers to the fact that all motion is purely relative; in a ceaselessly moving universe, no point can be fixed in place and time from which events can be measured absolutely. Another of Einstein's great discoveries was *unified field theory*. It was the result of 35 years of intensive research work. He expressed it in four equations where he combined the physical laws that control forces of light and energy with the mysterious force of gravitation. After his discoveries, Albert Einstein became famous. Soon he was appointed Professor of Physics at Zurich Polytechnic. Then he got the professorship at Prague, where he remained until 1913.

Albert Einstein gave all his life to science. He was an extremely talented man and a great thinker. He was always looking at the world around him with his eyes wide open, and he was always asking: "Why? Why is that so?" Einstein was a very simple, open man. His greatest quality was modesty. He was always highly critical of his own work. Einstein improved the old law of gravitation to satisfy more of the facts. In 1921, he received the Nobel Prize for physics and was elected member of the Royal Society.

When the Nazis came to power in Germany in the 1930s, Einstein, who hated them, went to England, living in semi-secrecy and appearing from time to time at public protest meetings. In 1933, he went to America where he took up the post of Professor of Theoretical Physics at the Institute of Advanced Studies at Princeton.

Albert Einstein died in 1955 at the age of 76. His ideas made a revolution in natural sciences of the 20th century, and his contribution to science is so great that his name is now familiar to all educated people on the planet.

Pronunciation guide

Albert Einstein [ˈxlɒt ˈQinstQin] – Альберт Эйнштейн Zurich [ˈzu(q)rik]
– Цюрих Prague [prRg] – Прага the Royal Society [ˈrOiqɪ sq'sQiqti] –
Академия наук

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the Nazis [ˈnRtsiz] – нацисты Princeton [ˈprinstɒn] – Принстон

Comprehension check

1. Is Albert Einstein known mostly as a mathematician or as a physicist? 2. Whose discoveries was his relativity theory comparable to? 3. What country was he born in? 4. What qualities did he reveal in his childhood? 5. How old was Albert when he worked out his own methods for solving equations? 6. Where did he study when he realized the he preferred

physics to mathematics? 7. Where did he work as professor when he became famous? 8. What kind of man was Einstein? 9. When was he awarded the Nobel Prize for physics? 10. Why did Einstein emigrate to England? 11. Where did he work in America? 12. Is Einstein one of the best known scientists of the world?

Suggested literature:

1. Antonia Clare and J J. Wilson. Speak out 2nd edition. Intermediate. Students' Book. Pearson Education Limited: Printed in Slovakia by Neografa, 2015.
2. Antonia Clare and J.J. Wilson and Diamond-Bayer. Speak out 2nd edition. Intermediate. Work Book. Pearson Education Limited: Printed in Slovakia by Neografa, 2015.
3. Damian Williams. Speak out 2nd edition. Intermediate. Teachers Book. Pearson Education Limited: Printed in Slovakia by Neografa, 2015.
4. Boqieva G va boshq. Scale up. Student's book. Course I. Darslik. Publishing house named after Gafur Gulyam: Tashkent, 2015.
5. Bakieva G., Rashidova F., Scale up 1part. Tashkent 2015.
6. Bakieva G., Rashidova F., Scale up 2 part. Tashkent 2015.
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The 25th practical activity

Theme: Future

Objective:

- To enable students (Ss) to practice language skills by discussing and sharing ideas on the given topic
- To enlarge their vocabulary on the topic by giving them appropriate words round the sub topic
- To give students an opportunity to practice listening for main ideas
- To encourage Ss to work in cooperation

Vocabulary:

Visuals: handouts, cards, crosswords, mini tests, power point projector

Summary of the lesson:

3.1

3.1
FUTURE

VOCABULARY ORGANISATION

1 A Match 1–5 with a)–e) to make sentences.

- 1 Will you be able to **meet**
 - 2 Well I'm ready! Shall we **get**
 - 3 Do you think she's going to **put things**
 - 4 My son always **gets**
 - 5 I'm going to **use my time**
- a) **started** and open the meeting?
 b) **distracted** when he's doing his homework.
 c) **off?** She already has a lot of work to do.
 d) **wisely** and check my luggage while I'm waiting for the taxi.
 e) **the deadline** on this job or will you be late?

B Match the sentences in Exercise 1A with the responses below. Complete the responses with the words in the box.

ahead prioritising multitasking
 leave waste

- 1 Don't worry. I'll finish. I don't usually _____ time.
- 2 Tell him to finish it all _____ of time and then it won't be such a problem.
- 3 I don't think so. She probably wants to get it done fast and she is pretty good at _____.
- 4 Good idea as we have limited time. I'd like to start by _____ our most important tasks.
- 5 Yes, better not to _____ things to the last minute or you'll miss your flight.

LISTENING

2 A  **3.1** Listen to three people talking about planning things. Who thinks he/she:

- a) is a procrastinator? _____
- b) is a good planner? _____
- c) plans too much? _____

B Listen again and circle the correct option.

- 1 Where is Ruth planning to stay?
 - a) in city hotels
 - b) in youth hostels
 - c) in hostels and cheap hotels
- 2 What does she plan to do in Lodz?
 - a) go out and find artwork
 - b) do a city tour
 - c) shop in the city centre
- 3 What has Kieron done to prepare for his trip?
 - a) packed his sports bag
 - b) booked his bus ticket
 - c) written a list of things to pack
- 4 What does he think he will forget?
 - a) his bag
 - b) his boots
 - c) the tickets
- 5 What type of party is Amber organising?
 - a) a beach party for a diving group
 - b) a birthday party at a swimming pool
 - c) a birthday party with diving
- 6 What does Amber enjoy about her job?
 - a) arranging large events
 - b) scuba diving
 - c) meeting new people

C Match the underlined words and phrases in extracts 1–5 with meanings a)–e).

- 1 I'm afraid I have to organise things in massive detail ...
 - 2 ... you see them as you wander around the city.
 - 3 I'm going to a sports tournament next week ...
 - 4 ... we've made it to the final matches.
 - 5 I think planning comes naturally to me.
- a) walk around slowly in a relaxed way with no specific purpose
 b) be successful in or achieve something
 c) do something easily without learning it
 d) a competition with different matches leading to a winning team
 e) a large amount



Ruth



Kieron



Amber

GRAMMAR


THE FUTURE (PLANS)

- 3** Underline the correct alternatives to complete the conversation.
- A: ¹Do you go/Are you going anywhere this weekend?
 B: Yes, we ²re going/'ll go up to Edinburgh to see some of the sights.
 A: That's nice. Where ³are you going/might you to stay?
 B: I don't know yet. I ⁴have/'m going to have a look online later.
 A: I've got some friends in Edinburgh. They ⁵might/are going to have some space. I ⁶'ll give/'m going to give you their number.
 B: Thanks. That's great. What about you? ⁷Do you do/Are you doing anything exciting?
 A: No, I think I ⁸'ll spend/'m spending the weekend watching DVDs.
- 4** Complete the email. Use the present continuous, will/might or be going to. There may be more than one possibility.

Hi Ros

¹_____ (you/do) anything at the weekend?
 Do you want to come out with us? Danny and I
²_____ (go out) on Saturday night. It would be great if you could come. We ³_____ (try) one of the restaurants in Trastevere – it's really nice round there. One thing we've planned is we ⁴_____ (meet) up with a few people from the course for a drink first, in Piazza Santa Maria. Do you know it? We ⁵_____ (be) outside Café Marzo from about 6.30, if you want to join us. I'm not sure how late we ⁶_____ (be). If anyone still has enough energy at the end of the evening, a DJ friend of mine ⁷_____ (play) at the Gioia Music Restaurant, so we ⁸_____ (go) there and dance a bit afterwards. We'll see how things go. I ⁹_____ (call) you tomorrow to see what your plans are.

Speak soon,
 Silvia

- 5 A**  3.2 Listen to the sentences. Which words are stressed? Circle the option you hear.

- a) They're going to play squash.
 b) They're going to play squash.
- a) I'm going to buy a new phone.
 b) I'm going to buy a new phone.
- a) She's going to spend a week in Greece.
 b) She's going to spend a week in Greece.
- a) He isn't going to eat anything.
 b) He isn't going to eat anything.
- a) Are you going to walk to the station?
 b) Are you going to walk to the station?
- a) He's going to change his job.
 b) He's going to change his job.

B Listen again and repeat. Focus on the pronunciation of *going to* in fast speech.

WRITING

MESSAGES; LEARN TO USE NOTE FORM

- 6 A** Match messages 1–6 with situations a)–f).



- a brother leaving a message for his sister
- a mother leaving a message for her son
- a secretary leaving a message for his/her boss
- a colleague leaving a message for other colleagues
- a son leaving a message for his mother
- a person leaving a message for self as a reminder

B Which words have been deliberately left out of the messages? Rewrite the messages in full.

- _____
- _____
- _____
- _____
- _____
- _____

C Write notes for these situations.

- To your boss: Tell him that Mr Ali telephoned and that you have arranged for them to meet at Mr Ali's office tomorrow morning at 9a.m.
- To your brother: Invite him out to the cinema this evening.
- To your colleague: Say that you have gone home and will be back in the office tomorrow.

Suggested literature:

- Antonia Clare and J.J. Wilson. Speak out 2nd edition. Intermediate. Students' Book. Pearson Education Limited: Printed in Slovakia by Neografa, 2015.
- Antonia Clare and J.J. Wilson and Diamond-Bayer. Speak out 2nd edition. Intermediate. Work Book. Pearson Education Limited: Printed in Slovakia by Neografa, 2015.
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- Bakieva G., Rashidova F., Scale up 1part. Tashkent 2015.
- Bakieva G., Rashidova F., Scale up 2 part. Tashkent 2015.
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The 26th practical activity

Theme: Jobs

Objective:


- To enable students (Ss) to practice language skills by discussing and sharing ideas on the given topic
- To enlarge their vocabulary on the topic by giving them appropriate words round the sub topic
- To give students an opportunity to practice listening for main ideas
- To encourage Ss to work in cooperation

Vocabulary:

Visuals: handouts, cards, crosswords, mini tests, power point projector


Summary of the lesson:

4.2



DREAM JOB turns into NIGHTMARE

- 1 It was advertised as the best job in the world. And it certainly looked good. You would be paid (\$189,000 for six months) to surf, sail and swim. The job came with a beachside mansion, with its own swimming pool, and fantastic views of the ocean. All you had to do was look after tiny Hamilton Island, situated off the coast of Queensland. Duties included feeding the fish and writing a blog of your experiences to help encourage tourism in the area. There were more than 34,000 applicants for the job from all over the world, so Ben Southall was delighted when he beat them all and won the contract.
- 2 But, as it turned out, it wasn't quite the dream job that some people might have expected. Firstly, it was incredibly busy. Ben found himself working seven days a week and up to nineteen hours a day. He had a busy schedule of events to attend, with promotional events, press conferences, training courses and administrative duties. 'It has been very busy, busier than most people would have imagined, and certainly busier than I had imagined,' Mr Southall told reporters when he finished his contract.
- 3 In fact, during his six months, Ben visited ninety 'exotic locations', made forty-seven video diaries and gave more than 250 media interviews – including a chat with popular US TV host Oprah Winfrey. He also posted more than 75,000 words in sixty separate blogs, uploaded more than 2,000 photos and 'tweeted' more than 730 times.
- 4 That didn't leave much time for surfing, sailing or simply relaxing and enjoying the sea views. And when he did get the chance to try out his water sports, things didn't always go well. On one trip, Ben was stung by a deadly jellyfish. Irukandji jellyfish are transparent and very small, so they are very difficult to see in the water.
- 5 In his blog, Ben describes how he was enjoying jet skiing with some friends, when as he climbed off the jet ski, he felt a sting on his arm. Within thirty minutes, Ben was feeling the venom. He was hot and sweaty, with a headache, pains in his chest and high blood pressure. Ben had to be rushed to a doctor who diagnosed the symptoms and gave him some medication. Luckily, Ben was fine, but it was an unwelcome end to his stay in paradise, and not how he expected to spend his last few days on Hamilton Island. Ben was lucky to survive.
- 6 However, he still insists that he enjoyed himself immensely. In fact, Tourism Queensland is offering him a new contract, and he will also write a book about his experiences.



READING

1 A Ben Southall got a 'dream job': looking after Hamilton Island, off the coast of Queensland, Australia. The article describes how the job turned into a nightmare. Which of these problems do you think it will mention?

loneliness free time feeling bored
problems with animals illness
money other

B Read the article to see if you were right. Then answer the questions.

- 1 What three things help to make the job 'the best job in the world'?
- 2 Why was the job not as 'ideal' as it seemed at first?
- 3 What happened to Ben towards the end of his contract?
- 4 What is he going to do now?

2 Tick the things which Ben did as part of his job.

- 1 gave speeches
- 2 made video diaries
- 3 managed a big team of people
- 4 gave interviews
- 5 attended press conferences
- 6 learned a new language
- 7 met politicians
- 8 wrote a novel
- 9 wrote a blog about his experiences
- 10 learned to surf and sail

3 Find words or phrases in the text to match definitions 1–8.

- 1 a large house by the sea (paragraph 1) _____
- 2 a plan that includes a lot of things to be done in a short time (paragraph 2) _____
- 3 meetings at which someone answers questions asked by people from newspapers, television, etc. (paragraph 2) _____
- 4 activities involved in managing the work of a company or organisation (paragraph 2) _____
- 5 posted a comment using the website Twitter (paragraph 3) _____
- 6 have an opportunity (paragraph 4) _____
- 7 taken very quickly (paragraph 5) _____
- 8 very, very much (paragraph 6) _____

LISTENING

4 A Look at the pictures. What qualities do you think are important for these jobs?



B 4.1 Listen to six people talking about their jobs. Match pictures A–F above with speakers 1–6.

C Listen again. Who says these things? Write the number of the speaker next to each statement.

- 1 You have to be organised and have a good memory, too.
- 2 And you need to pay attention to detail.
- 3 You shouldn't get stressed too easily.
- 4 You have to care about the people you're looking after.
- 5 You always have to be on time.
- 6 And you have to be able to work well under pressure.
- 7 You must be very accurate and observant.
- 8 You have to be able to stay calm.

VOCABULARY PLUS

CONFUSING WORDS

5 A Complete the conversations with the words in the box.

job work remember remind forget leave
hear listen fun funny

- 1 A: Oh no, _____ to that. It's raining and I don't have an umbrella.
B: Why not? Did you _____ it at home?
A: Yes, I did.
B: Here. Use mine.
- 2 A: Can you _____ me to post that letter on the way home?
B: Sure. Just _____ to bring it with you.
- 3 A: Did you have a good night last night?
B: Yes, it was really _____. We danced until two in the morning, but today I feel terrible.
- 4 A: I got the _____, by the way.
B: Congratulations! That's brilliant news.
A: Yes, I'm so excited. Finally, I'm going to earn a proper salary.
B: That's great. Well done.
- 5 A: I've got to go to _____ now. I'll see you later.
B: Yes, don't _____ we're meeting Chaz at 7.30.
A: Don't worry. I'll be there.
- 6 A: Did you _____ the joke about the scarecrow?
B: No.
A: He won an award for being outstanding in his field.
B: That's not even _____.



B Complete the sentences with words from Exercise 5A.

- 1 Can you _____ me to call my brother later? It's his birthday.
- 2 Did you _____ about that couple who won millions of pounds on the Euro lottery?
- 3 I don't get paid enough. I need to get a new _____.
- 4 We're having a meeting tomorrow morning. Don't _____!
- 5 I really enjoy my _____. I find it interesting, and the people I work with are good _____.
- 6 He's so _____. He always makes me laugh.

Suggested literature:

1. Antonia Clare and J J. Wilson. Speak out 2nd edition. Intermediate. Students' Book. Pearson Education Limited: Printed in Slovakia by Neografa, 2015.
2. Antonia Clare and J.J. Wilson and Diamond-Bayer. Speak out 2nd edition. Intermediate. Work Book. Pearson Education Limited: Printed in Slovakia by Neografa, 2015.
3. Damian Williams. Speak out 2nd edition. Intermediate. Teachers Book. Pearson Education Limited: Printed in Slovakia by Neografa, 2015.
4. Boqieva G va boshq. Scale up. Student's book. Course I. Darslik. Publishing house named after Gafur Gulyam: Tashkent, 2015.
5. Bakieva G., Rashidova F., Scale up 1part. Tashkent 2015.
6. Bakieva G., Rashidova F., Scale up 2 part. Tashkent 2015.
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The 27th practical activity

Theme: Social responsibility

Objective:

- To enable students (Ss) to practice language skills by discussing and sharing ideas on the given topic
- To enlarge their vocabulary on the topic by giving them appropriate words round the sub topic
- To give students an opportunity to practice listening for main ideas
- To encourage Ss to work in cooperation

Vocabulary:




Visuals: handouts, cards, crosswords, mini tests, power point projector

Summary of the lesson:


Lesson 8 SOCIAL RESPONSIBILITY

Lesson 8 SOCIAL RESPONSIBILITY

Look at the following photos and discuss them.

1 Look at the picture and answer the questions.



- How are the parts connected?
- What are the impacts of human involvement in these areas? Think about human obligations in the community, environment, profession and education.
- What are your social responsibilities as a student?

2 Guess what the song «Man in the Mirror» is about.

- a. The man becoming conscious of his deeds
- b. The man having an eye on other lives
- c. The man revenging for his past
- d. The man feeling sorry for his community

3 (T8) In pairs guess the main message of the song "Man in the Mirror" by Michael Jackson and choose the best option. Listen and compare your answers

Personal responsibility	Social responsibility
- Make it right	- Make the world better
-	-
-	-

4 Listen to the song again and complete the table.

Short form	Complete form
Gonna	going to
b.....	blowing _____
y.....	you _____
w.....	want to _____
g.....	get to _____

5 Work in groups of three. Read and give solutions to the case. Follow the steps below. Act out the situation showing how you would behave in the character's position.

Steps for making ethical decisions

1. Identify the ethical problem.
 2. List the facts that have an influence on the decision.
 3. Identify anyone who might be affected by your decision and how.
 4. Explain what each affected person would want you to do about the issue.
 5. List three alternative actions and identify the best and worst case scenario for each alternative, anyone who would be harmed by this choice (and how), any values that would be compromised by selecting this alternative, and any automatic reasons why this alternative should not be selected (legal issues, rules, etc.).
- 6 Fill in the gaps with proper verb forms and compare with your partner's answers.



Cat saved a family from house fire

Damira Nashirova _____ (be waken up) at 4:45 a.m. by the cries of the family cat, Momiqoy, coming from the garage. Damira _____ (go) down stairs to see what the fuss _____ (be) about. What she _____ (see) was smoke and flames; she quickly _____ (grab) the cat and _____ (rush) back inside to wake up her husband and their children.

The fire _____ (destroy) the garage and a bedroom. None of the family _____ (get harmed) thanks to the cat's cries. As an interesting side note, none of the family _____ (be fond of) the cat before this incident. Damira Nashirova _____ (claim) "We love it now. This thing is getting some tuna tonight!"

7 Work in pairs. Fill in the gaps and compare them.



Gorilla saved a boy from being attacked

On August 16, 1996 in the Brookfield Zoo, a 3 year old boy _____ (fall) into a Gorilla enclosure and _____ (lose) consciousness. Binti Jua a female Lowland Gorilla, _____ (guard) the young boy from the other Gorillas in the enclosure, she then _____ (cradle) him in her arms, while her own 17 month old baby _____ (be) on her back and _____ (carry) the boy 60 feet to an entrance where zoo-keepers _____ (can retrieve) him.

8 Read the quotes and discuss them with your partner.

"The only time you should look down at someone, is when you are helping them up." Jesse Jackson

"All that is required for evil to prevail is for good men to do nothing." ~ Edmund Burke

9 Read the stories of different people on page 44 and tick the relevant column boxes.

Statements	story 1	story 2
The story relates to a family and friends		
The story relates to physical needs		
I saw what happened in the story		
What happened in the story relates to an ethnic group or tribe		
What happened in the story relates to a community, region, or country		
The story relates to food and shelter		
The story makes me feel inspired		

16 December 2012, UK, Victoria Soto, 27, was a true hero managing to hide pupils in cupboards at the Sandy Hook Elementary School as the gunman Adam Lanza was killing others. Ms Soto was then shot dead but her actions meant that many of her young students survived. Ms Soto's selfless act of bravery undoubtedly has drawn worldwide admiration.



Suggested literature:

1. Antonia Clare and J J. Wilson. Speak out 2nd edition. Intermediate. Students' Book. Pearson Education Limited: Printed in Slovakia by Neografa, 2015.
2. Antonia Clare and J.J. Wilson and Diamond-Bayer. Speak out 2nd edition. Intermediate. Work Book. Pearson Education Limited: Printed in Slovakia by Neografa, 2015.
3. Damian Williams. Speak out 2nd edition. Intermediate. Teachers Book. Pearson Education Limited: Printed in Slovakia by Neografa, 2015.
4. Boqieva G va boshq. Scale up. Student's book. Course I. Darslik. Publishing house named after Gafur Gulyam: Tashkent, 2015.
5. Bakieva G., Rashidova F., Scale up 1part. Tashkent 2015.
6. Bakieva G., Rashidova F., Scale up 2 part. Tashkent 2015.
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The 28th practical activity**Theme: World awards****Objective:**

- To enable students (Ss) to practice language skills by discussing and sharing ideas on the given topic
- To enlarge their vocabulary on the topic by giving them appropriate words round the sub topic
- To give students an opportunity to practice listening for main ideas
- To encourage Ss to work in cooperation

Vocabulary:

Visuals: handouts, cards, crosswords, mini tests, power point projector

Summary of the lesson:

Lesson 16

WORLD AWARDS

Look at the pictures and name the awards.



Work in small groups. Match the awards above and the nominations in the table. Find out the awardees for each nomination. Share your findings with the whole group.

Sport career	Professional photographer	The best song of the year	Great contribution to science	For the best piece of writing	For healthy generation	Young talented singers	For gifted girls of Uzbekistan

1 Alice Munroe is a «Master of the Contemporary Short Story” and she is an awardee of the Nobel Prize for Literature 2013. You are going to have a short interview with Alice. Work in groups list down 5 questions you would like to ask her.

1. _____
2. _____
3. _____
4. _____
5. _____

2 Work in pairs. Look through the words and constructions below. Explain their meaning. Make up sentences using them. If necessary consult the dictionary.

this may change my mind, wander around, the press, I haven't gotten over the delight yet, you have produced an enormous body of work over the decades, bring a great new readership, it is time to take it easy

Suggested literature:

1. Antonia Clare and J J. Wilson. Speak out 2nd edition. Intermediate. Students' Book. Pearson Education Limited: Printed in Slovakia by Neografa, 2015.
2. Antonia Clare and J.J. Wilson and Diamond-Bayer. Speak out 2nd edition. Intermediate. Work Book. Pearson Education Limited: Printed in Slovakia by Neografa, 2015.
3. Damian Williams. Speak out 2nd edition. Intermediate. Teachers Book. Pearson Education Limited: Printed in Slovakia by Neografa, 2015.
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The 29th practical activity

Theme: Revision

Objective:

- To enable students (Ss) to practice language skills by discussing and sharing ideas on the given topic
- To enlarge their vocabulary on the topic by giving them appropriate words round the sub topic
- To give students an opportunity to practice listening for main ideas
- To encourage Ss to work in cooperation

Vocabulary:

Visuals: handouts, cards, crosswords, mini tests, power point projector

Summary of the lesson:

R2 REVIEW 2: UNITS 3-4

GRAMMAR THE FUTURE (PLANS)

1 Circle the correct option to complete the sentences.

- 1 I'm working hard so that I _____ the deadline.
 - a) meet
 - b) do
 - c) find
- 2 Let's _____ started and not waste time.
 - a) make
 - b) try
 - c) get
- 3 I usually prioritise _____ at the start of the day.
 - a) tasks
 - b) time
 - c) job
- 4 I hope you aren't going to _____ off doing that!
 - a) put
 - b) place
 - c) stop
- 5 Concentrate please! Don't _____ distracted.
 - a) been
 - b) get
 - c) have
- 6 Who _____ invite?
 - a) will you
 - b) will you going to
 - c) you might
- 7 Peter _____ fifty on Saturday!
 - a) is being
 - b) is going to be
 - c) might be
- 8 _____ a Thai curry. I'm expecting about twenty people.
 - a) I'm going to cook
 - b) I will to cook
 - c) I'm cooking

- 7 He is really easily _____ from the main task.
- 8 If you can _____ your time wisely, you will get more done.
- 9 If you have small children, you have to learn to _____ and do several things at once.
- 10 I don't know which tasks to _____ in this project.

2 B Underline the correct alternatives.

- 1 We'd like to buy our own house in a *term/year* or two.
- 2 In the long *term/year*, I think she made the right decision.
- 3 I'd like to start my own business at some point in the future, but that will be a *short/long* time from now.
- 4 In the *short/long* term, over the next few weeks, we want to see business improve.
- 5 In ten *next/years'* time, I hope to be a surgeon.
- 6 *Next/Years'* month, we will celebrate twenty years of marriage.

GRAMMAR THE FUTURE (PREDICTIONS)

3 Underline the correct alternative to complete the text.

THE FUTURE OF DRIVING

So, with improvements in technology and people becoming more and more environmentally aware, what is the future of motorised transport? We asked some experts for their opinions.

Matthew G – car salesman, USA

'Honestly? I think things ¹*aren't likely to/are going to* change a lot. People ²*may/might not* like it, but governments ³*may/aren't going to* introduce more laws and taxes to 'punish' people who use their own cars instead of public transport. This ⁴*is going to/isn't going to* force people to leave their cars at home and some people might even sell their cars. It's already happening and I think in the future this trend ⁵*won't to/is likely to* continue.'

Ian M – bus driver, UK

'I think the future ⁶*will/is likely* be very different. Vehicles ⁷*couldn't/won't* need people to drive them. I think they ⁸*are going to/may* have robot drivers, so people like me will have to find different jobs. I think we ⁹*are going to/may not* see more and more cities begin to use buses like this. There ¹⁰*might/couldn't* be fewer jobs for lorry drivers, too, as companies won't have to pay people to transport their products.'

VOCABULARY ORGANISATION; FUTURE TIME MARKERS

2 A Complete the sentences with the words in the box.

meet gets multitask last get distracted of prioritise time use

- 1 I always try to meet my deadlines and finish my work without delays.
- 2 My friend usually leaves things till the _____ minute.
- 3 Can you get your homework done ahead _____ time if possible?
- 4 She is a great manager. She always _____ meetings started on time.
- 5 Don't waste _____ with small jobs – focus on the most important ones.
- 6 I like to _____ things done as well as possible.

VOCABULARY PLUS IDIOMS

- 4 Write the second sentence so that it means the same as the first. Use idioms which include the words in capitals.
- It's so easy. CAKE
It's _____.
 - He was in trouble. WATER
He was _____.
 - I said something really inappropriate. FOOT
I put _____.
 - It's an issue which is very important to me. HEART
It's an issue which is _____.
 - He left his job in the city to go and become a coffee farmer. RAT
He decided to leave _____ and become a coffee farmer.
 - Could you help me sort out these papers? HAND
Could you _____ sorting out these papers?
 - I am trying to lose weight. FACE

I'm a bit too heavy at the moment.
 - I don't really like R&B music. TEA
R&B music isn't _____.
 - I like to follow what's happening in politics. EYE
I like to _____ what's happening in politics.
 - I'm afraid we have no more time. RUN
I'm afraid we've _____.

FUNCTION DEALING WITH MISUNDERSTANDINGS; REFORMULATING

- 5 Complete the conversations with the words in the box.

saying mean catch get other repeat what say exactly lost

- A: The picture dates back to the sixteenth century when it was ...
B: I didn't _____ any of that.
- A: So, you take the third turning on the right, go straight on for 200 metres, turn left, take the first right again and it's straight in front of you.
B: I'm sorry. You've _____ me.
- A: If you don't have a pink stripe on your ticket, then I'm afraid staff are not allowed to let you in.
B: Apologies, but I'm afraid I don't _____ what you're saying.
- A: We had a very minor incident involving your new car.
B: What _____ do you mean?
- A: We are sorry to report that all trains have been cancelled.
B: Do you _____ to say we can't travel today?

- A: I've come to collect a parcel for Mr Wainwright.
B: Can you _____ that again?
- A: There's one stop-over, for twenty-four hours, in Bahrain.
B: Could you _____ the last thing you said?
- A: This desk is now closed.
B: So, you're _____ that we need to move to another desk?
- A: I'm afraid you need to vacate the premises.
B: So _____ you mean is we need to go?
- A: We anticipate inconveniences along the route.
B: In _____ words, we're going to be late.

VOCABULARY REVIEW

- 6 Complete the words in the sentences.

- He always wants to win. He's very co_____.
- Part of being a good le_____ is being able to listen to people.
- It's one of the most am_____ films I've ever seen. It's very moving.
- I have to go to bed as soon as possible. I'm absolutely ex_____.
- To be a successful entrepreneur, you need to be a ri_____ ta_____.
- It's minus ten degrees outside. It's fr_____!
- It's a fa_____ story, really interesting. It's about a man who ...
- I love my job, but I should be earning a much bigger sa_____.
- He was always telling the bo_____ what to do and in the end, he got fi_____.
- I'm very nervous, because I've got to go for this job in _____ tomorrow.
- I can't believe how angry he was. He was absolutely fu_____.
- I'm sure she'll do well in her new job. She's very ha_____ -wo_____.

- 7A Put the words in the box into the correct place in the table according to the stress pattern.

amazing salary tasty competitive successful leader interview furious delicious boiling difficult freezing exhausted impossible

oOo	Ooo
amazing	salary
Oo	oOoo

- B R2.1 Listen and check.

Suggested literature:

- Antonia Clare and J J. Wilson. Speak out 2nd edition. Intermediate. Students' Book. Pearson Education Limited: Printed in Slovakia by Neografa, 2015.
- Antonia Clare and J.J. Wilson and Diamond-Bayer. Speak out 2nd edition. Intermediate. Work Book. Pearson Education Limited: Printed in Slovakia by Neografa, 2015.
- Damian Williams. Speak out 2nd edition. Intermediate. Teachers Book. Pearson Education Limited: Printed in Slovakia by Neografa, 2015.
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- Bakieva G., Rashidova F., Scale up lpart. Tashkent 2015.
- Bakieva G., Rashidova F., Scale up 2 part. Tashkent 2015.
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The 30th practical activity

Theme: EMOTION

Objective:

- To enable students (Ss) to practice language skills by discussing and sharing ideas on the given topic
- To enlarge their vocabulary on the topic by giving them appropriate words round the sub topic
- To give students an opportunity to practice listening for main ideas
- To encourage Ss to work in cooperation

Vocabulary:

Visuals: handouts, cards, crosswords, mini tests, power point projector

Summary of the lesson:

VOCABULARY

-ING/-ED ADJECTIVES

1 A Underline the correct alternative.

- 1 In three days we cycled 250 km. It was really *exhausted/exhausting*.
- 2 Everyone is very *worried/worrying* about losing their jobs.
- 3 The instructions were so *confused/confusing* that no one understood them.
- 4 I was *annoyed/annoying* because the class was cancelled again.
- 5 The car was travelling at a *frightened/frightening* speed.
- 6 I felt *embarrassed/embarrassing* about how untidy the house was.
- 7 He was totally *confused/confusing* by the tax form.
- 8 I'm going to have a nice, *relaxed/relaxing* bath.
- 9 I'm not really *satisfied/satisfying* with the way he cut my hair.
- 10 We were so *frightened/frightening* by the film we didn't sleep very well.

B Find adjectives in Exercise 1A to match definitions 1–8.

- 1 feeling fear _____
- 2 angry or irritated _____
- 3 very tiring _____
- 4 content, pleased _____
- 5 unclear or difficult to understand _____
- 6 feeling uncomfortable and shy _____
- 7 unhappy and nervous _____
- 8 calming, helping you to rest _____

Stressed out? TAKE CONTROL

We all know how it feels to get angry. Sometimes anger is mild, when you're just irritated with someone. But at other times anger can be more extreme, with explosive rages. You start to shout and throw things around. You lose control. Your blood pressure increases, your heart races and you can't think about anything else. But what exactly *is* anger?

Anger is a normal response to a situation where you feel you are being attacked, treated unfairly, let down by others, hurt or rejected. Anger can help you to defend yourself, deal with the problem and let others know how you feel. But anger can also cause problems. If you always lose control, people might start to avoid you. Friends and colleagues may be afraid of your temper and leave you alone. Getting angry might make you feel better, giving you energy and making you feel like you're in control. But it might also leave you feeling hurt and misunderstood. Also, getting angry doesn't usually solve the problem.

So, what can you do about your anger?

- 1 Work out what makes you angry** – You need to understand what situations make you angry. Is it when people make comments about your work or criticise you? Is it that you get angry when you're frustrated and can't do the things you want? Do you get angry when you're tired? Understanding what makes you angry can help you to deal with the problem.
- 2 Understand the signals** – Learn to identify the signs that you're getting angry. Do you start to shout and feel tense? Do you pace about the room? You need to recognise your own signs before you can change your behaviour.
- 3 Take control of your mind and body** – Try taking a step back and distancing yourself from the situation, both physically and emotionally. Check your breathing and take some deep breaths to slow you down and calm your heartbeat. Ask yourself, 'Am I overreacting?', 'Am I listening to what people are saying?' Can you find a way to be assertive, rather than aggressive? Try to speak calmly, rather than shout. Try the 'Is it worth it?' test. Ask yourself, 'Will it really matter in one month, one year?' Do some physical exercise, like going for a run or a swim. Or try some meditation or listen to music. Do whatever helps to calm you down.

3 Complete the statements with information from the article.

- 1 When you get angry, your blood pressure _____ and your heart speeds up.
- 2 Being angry about something can help others to _____ how you feel.
- 3 Getting angry is not usually a good way to _____ problems.
- 4 It's a good idea to understand what _____ make you angry.
- 5 If you recognise the signs that you are getting angry, then you can start to _____ your behaviour.
- 6 When you are angry, you should try to _____ yourself from the situation.
- 7 Deep _____ will help to calm your heartbeat.
- 8 Try to speak _____ rather than shout.

6.1
 9) EMOTION

Suggested literature:

1. Antonia Clare and J J. Wilson. Speak out 2nd edition. Intermediate. Students' Book. Pearson Education Limited: Printed in Slovakia by Neografa, 2015.
2. Antonia Clare and J.J. Wilson and Diamond-Bayer. Speak out 2nd edition. Intermediate. Work Book. Pearson Education Limited: Printed in Slovakia by Neografa, 2015.
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Glossary

Absolute value: The magnitude of a number. It is the number with the sign (+ or -) removed and is modulus.

Abstract number: A number with no associated units.

Acute angle: An angle with degree measure less than 90.

Addition: The process of finding the sum of two numbers, which are called addend and the augend symbolised using two vertical straight lines ($|5|$). Also called (sometimes both are called the addend).

Algorithm: Any mathematical procedure or instructions involving a set of steps to solve a problem.

Arctan: The inverse of the trigonometric function **tangent** shown as $\arctan(x)$ or $\tan^{-1}(x)$. It is useful in vector conversions and calculations

Arithmetic mean: $M = (x_1 + x_2 + \dots + x_n) / n$ ($n =$ sample size).

Arithmetic sequence: A sequence of numbers in which each term (subsequent to the first) is generated by adding a fixed constant to its predecessor.

Associative property: A binary operation (*) is defined associative if, for $a*(b*c)$

$= (a*b)*c$. For example, the operations addition and multiplication of natural numbers are associative, but subtraction and division are not.

Asymptote: A straight line that a curve approaches but never meets or crosses. The curve is said to meet the asymptote at infinity. In the equation $y = 1/x$, y becomes infinitely small as x increases but never reaches zero.

Axiom: Any assumption on which a mathematical theory is based.

Average: The sum of several quantities divided by the number of quantities (also called mean).

Avogadro's number: The number of molecules in one mole is called Avogadro's number (approximately 6.022×10^{23} particles/mole).

Binary operation: An operation that is performed on just two elements of a set at a time.

Binomial distribution: A [probability distribution](#) that summarizes the likelihood that a value will take one of two independent values under a given set of parameters or assumptions.

Butterfly effect: In a system when a small change results in an unpredictable and disproportionate disturbance, the effect causing this is called a butterfly effect.

Calculus: Branch of mathematics concerned with rates of change, gradients of curves, maximum and minimum values of functions, and the calculation of lengths, areas and volumes. It involves determining areas (integration) and tangents (differentiation), which are mutually inverse. Also called [real analysis](#)..

Cartesian coordinates: Cartesian coordinates (x,y) specify the position of a point in a plane relative to the horizontal x and the vertical y axes. The x and y axes form the basis of two-dimensional Cartesian coordinate system.

Chaos: Apparent randomness whose origins are entirely deterministic. A state of disorder and irregularity whose evolution in time, though governed by simple exact laws, is highly sensitive to starting conditions: a small variation in these conditions will produce wildly different results, so that long-term behaviour of chaotic systems cannot be predicted. This sensitivity to initial conditions is also known as the **butterfly effect** (when a butterfly flaps its wings in Mexico, the result may be a hurricane in Florida a month later).

Chord: A straight line joining two points on a curve or a circle. See also **secant line**.

Circle: A circle is defined as the set of points at a given distance (or radius) from its centre. If the coordinates of the centre of a circle on a plane is (a,b) and the radius is r, then $(x-a)^2 + (y-b)^2 = r^2$. The equation that characterises a circle has the same coefficients for x^2 and y^2 . The area of a circle is $A = \pi r^2$ and circumference is $C = 2 \pi r$. A circle with centre (a,b) and radius r has parametric equations: $x = a + r \cdot \cos \pi$ and $y = b + r \cdot \sin \pi$ ($0 \leq \pi \leq 2 \pi$). A 'tangent' is a line, which touches a circle at one point (called the point of tangency) only. A 'normal' is a line, which goes through the centre of a circle and through the point of tangency (the normal is always perpendicular to the tangent). A straight line can be considered a circle; a circle with infinite radius and centre at infinity.

Circumference: A line or boundary that forms the perimeter of a circle.

Closure property: If the result of doing an operation on any two elements of a set is always an element of the set, then the set is closed under the operation. For example, the operations addition and multiplication of natural numbers (the set) are closed, but subtraction and division are not.

Coefficient: A number or letter before a variable in an algebraic expression that is used as a multiplier.

Common denominator: A denominator that is common to all the fractions within an equation. The smallest number that is a common multiple of the denominators of two or more fractions is the **lowest (or least) common denominator (LCM)**.

Common factor: A whole number that divides exactly into two or more given numbers. The largest common factor for two or more numbers is their **highest common factor (HCF)**.

Common logarithm: Logarithm with a base of 10 shown as \log_{10} [$\log_{10} 10^x = x$].

Common ratio: In a geometric sequence, any term divided by the previous one gives the same common ratio.

Commutative property: A binary operation (*) defined on a set has the commutative property if for every two elements, a and b, $a*b = b*a$. For example,

the operations addition and multiplication of natural numbers are commutative, but subtraction and division are not.

Complementary angles: Two angles whose sum is 90° . See also **supplementary angles**.

Complex numbers: A combination of real and imaginary numbers of the form $a + bi$ where a and b are real numbers and i is the square root of -1 (see **imaginary number**). While real numbers can be represented as points on a line, complex numbers can only be located on a plane.

Composite number: Any integer which is not a prime number, i.e., evenly divisible by numbers other than 1 and itself.

Congruent: Alike in all relevant respects.

Constant: A quality of a measurement that never changes in magnitude.

Coordinate: A set of numbers that locates the position of a point usually represented by (x,y) values.

Cosine law: For any triangle, the side lengths a, b, c and corresponding opposite angles A, B, C are related as follows: $a^2 = b^2 + c^2 - 2bc \cos A$ etc. The law of cosines is useful to determine the unknown data of a triangle if two sides and an angle are known.

Counting number: An element of the set $C = \{1,2,3,\dots\}$.

Cube root: The factor of a number that, when it is cubed (i.e., x^3) gives that number.

Curve: A line that is continuously bent.

Decimal: A fraction having a power of ten as denominator, such as $0.34 = 34/100$

(102) or $0.344 = 344/1000 (10^3)$. In the continent, a comma is used as the decimal point (between the unit figure and the numerator).

Degree of an angle: A unit of angle equal to one ninetieth of a right angle. Each degree ($^\circ$) may be further subdivided into 60 parts, called minutes ($60'$), and in turn each minute may be subdivided into another 60 parts, called *seconds* ($60''$). Different types of angles are called acute ($<90^\circ$) < right (90°) < obtuse ($90^\circ-180^\circ$) < reflex ($180^\circ-360^\circ$). See also **radian** (the SI unit of angle).

Denominator: The bottom number in a fraction.

Derivative: The derivative at a point on a curve is the gradient of the tangent to the curve at the given point. More technically, a function ($f'(x_0)$) of a function $y = f(x)$, representing the rate of change of y and the gradient of the graph at the point where $x = x_0$, usually shown as dy/dx . The notation dy/dx suggests the ratio of two numbers dy and dx (denoting infinitesimal changes in y and x), but it is a single number, the limit of a ratio (k/h) as they both approach zero. Differentiation is the process of calculating derivatives. The derivatives of all commonly occurring functions are known.

Differential Equations: Equations containing one or more derivatives (rate of change). As such these equations represent the relationships between the rates of change of continuously varying quantities. The solution contains constant terms (constant of integration) that are not present in the original differential equation. Two general types of differential equations are ordinary differential equations (ODE) and partial differential equations (PDE). When the function involved in

the equation depends upon only a single variable, the differential equation is an ODE. If the function depends on several independent variables (so that its derivatives are partial derivatives) then the differential equation is a PDE.

Diameter: A straight line that passes from side to side through the centre of a circle.

Differential calculus: Differentiation is concerned with rates of change and calculating the gradient at any point from the equation of the curve, $y = f(x)$.

Differential equation: Equations involving total or partial differentiation coefficients and the rate of change; the difference between some quantity now and its value an instant into the future.

Digit: In the decimal system, the numbers 0 through 9.

Dimension: Either the length and/or width of a flat surface (two-dimensional); or the length, width, and/or height of a solid (three-dimensional).

Distributive property: A binary operation (*) is distributive over another binary operation (^) if, $a*(b^c) = (a*b)^{a*c}$. For example, the operation of multiplication is distributive over the operations of addition and subtraction in the set of natural numbers.

Division: The operation of ascertaining how many times one number, the *divisor*, is contained in another, the *dividend*. The result is the *quotient*, and any number left over is called the *remainder*. The dividend and divisor are also called the *numerator* and *denominator*, respectively.

Dynamics: The branch of mathematics, which studies the way in which force produces motion.

e: Symbol for the base of natural logarithms (2.7182818285...), defined as the limiting value of $(1 + 1/m)^m$.

Equilibrium: The state of balance between opposing forces or effects.

Even number: A natural number that is divisible by two.

Exponent (power, index): A number denoted by a small numeral placed above and to the right of a numerical quantity, which indicates the number of times that quantity is multiplied by itself. In the case of X^n , it is said that X is raised to the power of n. When a and b are non-zero real numbers and p and q are integers, the following rules of power apply:

$$a^p \times a^q = a^{p+q}; (a^p)^q = a^{pq}; (a^{1/n})^m = a^{m/n}; a^{1/2} \times b^{1/2} = (ab)^{1/2}.$$

Exponential function: A function in the form of $f(x) = a^x$ where x is a real number, and a is positive and not 1. One exponential function is $f(x) = e^x$.

Extrapolation: Estimating the value of a function or a quantity outside a known range of values. See also **interpolation**.

Factorial: The product of a series of consecutive positive integers from 1 to a given number (n). It is expressed with the symbol (!). For example, $5! = 5 \times 4 \times 3 \times 2 \times 1 = 120$. As a rule $(n!+n)$ is evenly divisible by n.

Factor: When two or more natural numbers are multiplied, each of the numbers is a factor of the product. A factor is then a number by which another number is exactly divided (a divisor).

Factorisation: Writing a number as the product of its factors which are prime numbers.

Fermat's little theorem: If p is a prime number and b is any whole number, then $b^p - b$ is a multiple of p ($2^3 - 2 = 6$ and is divisible by 3).

Fermat prime: Any prime number in the form of $2^{2^n} + 1$ (see also **Mersenne prime**).

Fibonacci sequence: Sequence of integers, where each is the sum of the two preceding it. 1,1,2,3,5,8,13,21,... The number of petals of flowers forms a Fibonacci series.

Fractals: Geometrical entities characterised by basic patterns that are repeated at ever decreasing sizes. They are relevant to any system involving self-similarity repeated on diminished scales (such as a fern's structure) as in the study of chaos.

Fraction (quotient): A portion of a whole amount. The term usually applies only to ratios of integers (like $2/3$, $5/7$). Fractions less than one are called common, proper or vulgar fractions; and those greater than 1 are called improper fraction.

Function (f): The mathematical operation that transforms a piece of data into a different one. For example, $f(x) = x^2$ is a function transforming any number to its square.

Geometric mean: $G = (x_1 \cdot x_2 \dots x_n)^{1/n}$ where n is the sample size. This can also be expressed as $\text{antilog}((1/n) \sum \log x)$.

Geometric sequence: A sequence of numbers in which each term subsequent to the first is generated by multiplying its predecessor by a fixed constant (the **common ratio**).

Goldbach conjecture: Every even number greater than 4 is the sum of two odd primes ($32 = 13 + 19$). Every odd number greater than 7 can be expressed as the sum of three odd prime numbers ($11 = 3 + 3 + 5$).

Gradient: The slope of a line. The gradient of two points on a line is calculated as rise (vertical increase) divided by run (horizontal increase), therefore, the gradient of a line is equal to the tangent of the angle it makes with the positive x-axis (y/x).

Harmonic mean: Of a set of numbers (y_1 to y_i), the harmonic mean is the reciprocal of the arithmetic mean of the reciprocal of the numbers [$H = N / \sum(1/y)$].

Hierarchy of operations: In an equation with multiple operators, operations proceed in the following order: (brackets), exponentiation, division/multiplication, subtraction/summation and from left to right.

Highest common factor (HCF): The greatest natural number, which is a factor of two or more given numbers.

Hypotenuse: The longest side of a right triangle, which lies opposite the vertex of the right angle.

i: The square root of -1 (an **imaginary number**).

Identity element: The element of a set which when combined with any element of the same set leaves the other element unchanged (like zero in addition and subtraction, and 1 in multiplication or division).

Imaginary number: The product of a real number x and i , where $i^2 + 1 = 0$. A complex number in which the real part is zero. In general, imaginary numbers are the square roots of negative numbers.

Improper fraction: A fraction whose numerator is the same as or larger than the denominator; i.e., a fraction equal to or greater than 1.

Infinite: Having no end or limits. Larger than any quantified concept. For many purposes it may be considered as the reciprocal of zero and shown as an 8 lying on its side (∞).

Infinitesimal: A vanishingly small part of a quantity. It equals almost zero.

Integer: Any whole number: positive and negative whole numbers and zero.

Integral calculus: This is the inverse process to differentiation; i.e., a function which has a given derived function. For example, x^2 has derivative $2x$, so $2x$ has x^2 as an integral. A classic application of integral is to calculate areas.

Integration: The process of finding a function given its derived function.

Intersection: The intersection of two sets is the set of elements that are in both sets.

Intercept: A part of a line/plane cut off by another line/plane.

Interpolation: Estimating the value of a function or a quantity from known values on either side of it.

Inverse function: A function which 'does the reverse' of a given function. For example, functions with the prefix arc are inverse trigonometric functions; e.g. $\arcsin x$ for the inverse of $\sin(x)$.

Irrational number: A real number that cannot be expressed as the ratio of two integers, and therefore that cannot be written as a decimal that either terminates or repeats. The square root of 2 is an example because if it is expressed as a ratio, it never gives 2 when multiplied by itself. The numbers $\pi = 3.141592645\dots$, and $e = 2.7182818\dots$ are also irrational numbers.

Iteration: Repeatedly performing the same sequence of steps. Simply, solving an algebraic equation with an arbitrary value for the unknown and using the result to solve it again, and again.

Least squares method: A method of fitting a straight line or curve based on one minimisation of the sum of squared differences (residuals) between the predicted and the observed points. Given the data points (x_i, y_i) , it is possible to fit a straight line using a formula, which gives the $y=a+bx$. The gradient of the straight line b is given by $[\sum (x_i - m_x)(y_i - m_y)] / [(\sum (x - m_x))^2]$, where m_x and m_y are the means for x_i and y_i . The intercept a is obtained by $m_y - bm_x$.

Linear: A model or function where the input and output are proportional.

Linear expression: A polynomial expression with the degree of polynomial being 1, i.e., that does not include any terms as the power of a variable. It will be something like, $f(x)=2x^1+3$, but not x^2+2x+4 (the latter is a **quadratic expression**). Linear equations are closely related to a straight line.

Literal numbers: Letters representing numbers (as in algebraic equations).

Logarithm: The logarithm of a number N to a given base b is the power to which the base must be raised to produce the number N . Written as $\log_b N$. Naturally, $\log_b b^x = x$. In any base, the following **rules** apply: $\log(ab) = \log a + \log b$; $\log(a/b) = \log a - \log b$; $\log(1/a) = -\log a$; $\log a^b = b \log a$; $\log 1 = 0$ and $\log 0$ is undefined. S

Logistic model (map, sequence)

Lowest common multiple (LCM): The smallest non-zero natural number that is a common multiple of two or more natural numbers (compare with the highest common factor).

Matrix: A matrix (plural: matrices) is a rectangular table of data.

Mechanics: Study of the forces acting on bodies, whether moving (dynamics) or stationary (statics).

Mean: 1. The expected value of a random variable 2. The arithmetic mean is the average of a set of numbers, or the sum of the values divided by the number of values

Median: The middle number or average of the two middle numbers in an ordered sequence of numbers

Mersenne prime: A Mersenne number, M_p , has the form 2^p-1 , where p is a prime. If M_p itself a prime, then it is called a Mersenne prime. There are 32 such primes known (i.e., not all primes yield a Mersenne prime).

Mixed number: A number that contains both a whole number and a fraction.

Mode: The most frequent value.

Modulus: The absolute value of a number regardless of its sign, shown as $|x|$ or $\text{mod } x$. For a vector \mathbf{u} , the modulus $|\mathbf{u}|$ is used to indicate its magnitude calculated using **Pythagoras' theorem**: $|\mathbf{u}| = (a^2 + b^2)^{1/2}$.

Multiplication: The process of finding the *product* of two quantities that are called the *multiplicand* and the *multiplier*.

Natural logarithm: Logarithm with a base of e , usually abbreviated \ln ($\ln e^x = x$).

Natural number: Any element of the set $N = \{0,1,2,3,\dots\}$ (positive integers). The inclusion of zero is a matter of definition.

Normal distribution:

Numerator: The top number in a fraction.

Obtuse angle: An angle with a degree measure between 90 and 180

Odd number: A natural number that is not divisible by 2.

Odds: The odds of a success is defined to be the ratio of the probability of a success to the probability of a failure ($p/(1-p)$).

Ordinate: The vertical coordinate on a plane.

Origin: The point on a graph that represents the point where the x and y axes meet: $(x,y) = (0,0)$.

Parallel: Lines or planes that are equidistant from each other and do not intersect.

Perfect number: A number which is equal to the sum of its proper divisors. 6, 28, and 496 are the three of seven known perfect numbers. [6 is a perfect number because its proper divisors (1,2, and 3) total 6.]

Permutation: A permutation of a sequence of objects is just a rearrangement of them.

Perpendicular: At right angles to a line or plane.

Pi(π): The ratio of the circumference of a circle to its diameter. The value of π is 3.1415926, correct to seven decimal places. The sum of the three angles of a triangle is π radians.

Poisson distribution: The probability distribution of the number of occurrences of random (usually rare and independent) events in an interval or time or space.

Polar equation: A system which describes a point in the plane not by its Cartesian coordinates (x,y) but by its polar coordinates: angular direction (θ) and distance r from the origin (r, θ) .

Polygon: A geometric figure that is bound by many straight lines such as triangle, square, pentagon, hexagon, heptagon, octagon etc.

Polynomial: An algebraic expression of the form $a_0x^n + a_1x^{n-1} + \dots + a_n$, where a_0, a_1, \dots, a_n are members of a field (or ring), and n is the degree of the polynomial.

Prime factors: Prime factors of a number are a list of prime numbers the product of which is the number concerned. When $n=1$, for example, $f(x)=2x^1+3$, this is a linear expression. If $n=2$, it is quadratic (for example, $x^2 + 2x + 4$); if $n=3$, it is cubic, if $n=4$, it is quartic and if $n=5$, it is quintic.

Prime number: A natural number other than 1, evenly divisible only by 1 and itself. The numbers 2,3,5,7,11,13,17,19,... Apart from 2, all primes are odd numbers and odd primes fall into two groups: those that are one less than a multiple of four (3,7,11,19) and those one more than a multiple of four (5,13,17). Every natural number greater than 1 may be resolved into a product of prime numbers; eg $8316 = 2^2 \times 3^3 \times 7 \times 11$.

Probability density function: A function representing the relative distribution of frequency of a continuous random variable from which parameters such as its mean and variance can be derived and having the property that its integral from a to b is the probability that the variable lies in this interval. Its graph is the limiting case of a histogram as the amount of data increases and the class intervals decrease in size.

Product: The result of a multiplication problem.

Proper divisor: Any number divides another without leaving a remainder.

Proper fraction: A fraction in which the numerator is smaller than the denominator; i.e., a fraction smaller than 1.

Proportion: A type of ratio in which the numerator is included in the denominator. It is the ratio of a part to the whole ($0.0 \leq p \leq 1.0$) that may be expressed as a decimal fraction (0.2), vulgar fraction ($1/5$) or percentage (20%).

Pythagoras' Theorem: For any right-angled triangle, the square on the hypotenuse equals the sum of the squares on the other two sides.

Quadratic equation: An algebraic equation of the second degree (having one or more variables raised to the second power). The general quadratic equation is $ax^2 + bx + c = 0$, in which a, b, and c are constants (or parameters) and 'a' is not equal to 0.

Quotient (fraction): An algebraic expression in which the numerator is divided by the denominator. Turning a fraction upside down gives the fraction's **reciprocal**.

Radian (rad): The SI unit for measuring an angle formally defined as 'the angle subtended at the centre of a circle by an arc equal in length to the radius of the circle' (the angle of an entire circle is 2π radians; radians equal 180^0 (sum of the three angles of a triangle); this is the basis of circumference of a circle formula $2\pi r$). Sum of angles of a triangle equals π radians.

Radius: The distance between the centre of a circle and any point on the circle's circumference.

Random variable: A quantity that may take any of a range of values, either continuous or discrete, which cannot be predicted with certainty but only described probabilistically.

Rate: The relationship between two measurements of different units such as change in distance with respect to time (miles per hour).

Ratio: The relationship between two numbers or measurements, usually with the same units like the ratio of the width of an object to its length. The ratio a:b is equivalent to the quotient a/b.

Rational number: A number that can be expressed as the ratio of two integers,

e.g. $6/7$. The set of rational numbers is denoted as '**Q**' for quotient.

Real number: **Rational** (fractions) and **irrational** (numbers with non-recurring decimal representation) numbers. The set of real numbers is denoted as '**R**' for real. In computing, any number with a fractional (or decimal) part. Basically, real numbers are all numbers except imaginary numbers (such as the square root of -1).

Reciprocal: The multiplicative inverse of a number (i.e., $1/x$). It can be shown with a negative index (x^{-1}).

Reflex angle: An angle with a degree measure between 180 and 360.

Repeating decimal: A decimal that can be written using a horizontal bar to show the repeating digits.

Right angle: An angle with a degree measure 90. An angle which is not a right angle is called oblique angle.

Root: If, when a number is raised to the power of n gives the answer a , then this number is the n^{th} root of a ($a^{1/n}$).

Rounding: To give a close approximation of a number by dropping the least significant numbers. For example 15.88 can be rounded up to 15.9 (or 16) and 15.12 can be rounded down to 15.1 (or 15).

Scalar: A real number and also a quantity that has magnitude but no direction, such as mass and density.

Scientific notation (exponential notation, standard form): One way of writing very small or very large numbers. In this notation, numbers are shown as $(0 < N < 10) \times 10^q$. An equivalent form is $N.Eq$. For example; 365,000 is 3.65×10^5 or 3.65E5.

Secant line: A line that intersects a curve. The **intercept** is a **chord** of the curve.

Sequence: An ordered set of numbers derived according to a rule, each member being determined either directly or from the preceding terms.

Sigma (S, s): Represents summation (Σ , \sum).

Significant figure (s.f.): The specific degree of accuracy denoted by the number of digits used. For example 434.64 has five s.f. but at 3 s.f. accuracy it would be shown as '435 (to 3 s.f.)'. From the left, the first nonzero digit in a number is the first significant figure, after the first significant number, all digits, including zeros, count as significant numbers (Both 0.3 and 0.0003 have 1 s.f.; both 0.0303 and 0.303000 have 3 s.f.). If a number has to be reduced to a lower s.f., the usual rounding rules apply (2045.678 becomes 2046 to 4 s.f. and 2045.7 to 5 s.f.). The final zero even in a whole number is not a s.f. as it only shows the order of magnitude of the number (2343.2 is shown as 2340 to 3 s.f.).

Sine law: For any triangle, the side lengths a , b , c and corresponding opposite angles A , B , C are related as follows: $\sin A / a = \sin B / b = \sin C / c$. The law of sines is useful for computing the lengths of the unknown sides in a triangle if two angles and one side are known.

Skew lines: Two lines in three-dimensional space, which do not lie in the same plane (and do not intersect).

Skewness: A measure of the symmetry of a distribution around its mean, esp. the statistic $B_1 = m_3 / (m_2)^{3/2}$ where m_2 and m_3 are respectively the second and third moments of the distribution around the mean. In a normal distribution, $B_1 = 0$.

Standard deviation: A measure of dispersion obtained by extracting the square root of the mean of the squared deviations of the observed values from their mean in a frequency distribution.

Stationary point: Point at which the derivative of a function is zero. Includes maximum and minimum turning points, but not all stationary points are turning points. **Straight line:** A straight line is characterised by an equation ($y = a + bx$), where a is the intercept and b is the gradient/slope. One of the methods for fitting a straight line is the **least squares method**.

Subtend: To lie opposite and mark out the limits of an angle.

Subtraction: The inverse operation of addition. In the notation $a - b = c$, the terms a , b , and c are called the *minuend*, *subtrahend* and *difference*, respectively.

Supplementary angles: Two angles whose sum is 180° . See also **complementary angles**.

Tangent: The tangent of an angle in a right-angled triangle is the ratio of the lengths of the side opposite to the side adjacent [$\tan(x) = \sin(x) / \cos(x)$]. A tangent line is a line, which touches a given curve at a single point. The slope of a tangent line can be approximated by a secant line.

Tangent law: For any triangle, the side lengths a , b , c and corresponding opposite angles A , B , C are related as follows: $(a+b) / (a-b) = \{\tan[1/2(A+B)]\} / \{\tan[1/2(A-B)]\}$.

Transcendental number: A real number that does not satisfy any algebraic equation with integral coefficients, such as $x^3 - 5x + 11 = 0$. All transcendental numbers are irrational and most irrational numbers (non-repeating, non-terminating decimals) are transcendental. Transcendental functions (such as exponential, sine and cosine functions) can burst into chaos under certain circumstances.

Triangle: A three-sided figure that can take several shapes. The three inside angles add up to 180° . Triangles are divided into three basic types: obtuse, right and acute; they are also named by the characteristics of their sides: equilateral, isosceles, and scalene. The area of a triangle is $1/2 \times$ perpendicular height \times base. **Trigonometry:** The branch of mathematics that is concerned with the trigonometric functions. Trigonometric identities are the results that hold true for all angles. Sin, Cos and Tan are trigonometric ratios; Cosec, Sec and Cot are reciprocal of trigonometric ratios; Arcsin (\sin^{-1}), Arccos (\cos^{-1}) and Arctan (\tan^{-1}) are inverse of trigonometric functions.

Union: The union of two sets is the set of elements that are in either of the two sets (compare with intersection).

Unit: A standard measurement.

Variable: An amount whose value can change.

Variance: A measure of dispersion obtained by taking the mean of the squared deviations of the observed values from their mean in a frequency distribution.

Vector: A quantity characterised by a magnitude and a direction represented by (1) column form: two numbers (components) in a 2×1 matrix; (2) geometric form: by arrows in the (x,y) -plane; or (3) component form: the Cartesian unit vectors \mathbf{i} (x -axis unit vector) and \mathbf{j} (y -axis unit vector). The magnitude of a vector $|\mathbf{u}|$ is the length of the corresponding arrow and the direction is the angle (θ) the vector makes with the positive x -axis. When a_1 and a_2 are the components of the vector \mathbf{a} (magnitude $|\mathbf{a}| = (a_1^2 + a_2^2)^{1/2}$), it equals to $\mathbf{a} = a_1\mathbf{i} + a_2\mathbf{j}$ in component form, which equals to $\mathbf{a} = |\mathbf{a}| \cos(\theta)\mathbf{i} + |\mathbf{a}| \sin(\theta)\mathbf{j}$. The angle (θ) can be found as $\arctan(a_2 / a_1)$. **Cosine rule** and **sine rule** are used for conversion of vectors from one form to another.

Vertex: The point where lines intersect.

Whole number: Zero or any positive number with no fractional parts.