



ДЕПАРТАМЕНТ ОБРАЗОВАНИЯ ГОРОДА МОСКВЫ
ГОСУДАРСТВЕННОЕ БЮДЖЕТНОЕ ПРОФЕССИОНАЛЬНОЕ
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**МЕТОДИЧЕСКИЕ РЕКОМЕНДАЦИИ ПО ПРОВЕДЕНИЮ
ПРАКТИЧЕСКИХ ЗАНЯТИЙ**

**Дисциплина «Технический английский язык» для студентов
техникума.**

ПРАКТИЧЕСКОЕ ЗАНЯТИЕ.

Тема занятия

Математическая символика и аббревиатуры.

ЗАДАНИЯ К ПРАКТИЧЕСКИМ ЗАНЯТИЯМ, КОТОРЫЕ НУЖНО ВЫПОЛНИТЬ СТУДЕНТАМ

I. Фонетическая и речевая зарядка.

Повторение лексики предыдущего урока. Составление предложений с выученной лексикой.

II. Чтение и перевод текста. Ответы на вопросы.

1. How many founders of mathematics were there according to the text?
2. Did they study only mathematics?
3. What else do you know about them?
4. What is the origin of the symbolism according to some information?
5. What word makes you doubt?
6. Why does it make you doubt?
7. What do you learn from the section of the origin of the mathematical symbols?
8. What plays the main role in creating symbols?
9. How ancient are mathematical symbols?
10. What famous scientists are mentioned in the text?

Studying the history of mathematics as a separate science, you can find many interesting facts. For example, according to some, the founders of modern mathematics are ten people, in the opinion of others, twenty of the most famous people. This information is open to any person.

It is interesting to read the biography of each of these "founders" of mathematics. All these people studied philosophy, religion, physics, astronomy, celestial mechanics and other sciences. They studied at the Jesuit schools, belonged to certain orders, and were members of various societies.

In general, information on the origin of the symbolism in mathematics is posted about these words: "a certain person has thinks such a sign". В общем доступе выложена информация о происхождении символики в математике примерно такими словами: «знак такой-то придумал некий человек».

He thinks up a thought for a reason. На размышления наводит слово придумал. But mathematics has always been considered the most accurate science. А ведь математика всегда считалась самой точной наукой. These ten or twenty famous personalities lived in different epochs, in different territories, and often, never crossed each other on the path of life. Эти десять или двадцать известнейших личностей жили в разные эпохи, на разных территориях, и зачастую, никогда не пересекались между собой на жизненном пути. How could it happen that they suddenly come up with certain signs and symbols for mathematical expressions and abstractions? Как же могло получиться, что все они вдруг придумывают некие знаки и символы для обозначения

математических выражений и абстракций?

It is clear that none of the founders of mathematics himself did not come up with anything. Понятно, что ни один из основателей математики ничего сам не придумал. And at the same time, being familiar with the ancient knowledge, he himself or someone else used the symbol as it was convenient or profitable for him. И вместе с тем, будучи знакомым с исконными знаниями, они либо сами, либо некто другой, употребил тот или иной символ так, как ему было удобно или выгодно.

Developed civilizations never shared one science from another.

In the section on the origin of mathematical symbols and signs, one can get acquainted with the "general" opinion that their origin is unclear and most likely earlier such symbols were used in trade business, in buying and selling.

For example, Henri Poincaré, in his books *Science and Hypothesis*, *The Value of Science*, *Science and Method*, described his vision of mathematical creativity, in which the main role, in his opinion, is played by intuition, and he assigned logic to the logic of intuitive insights. Poincaré created his own creative method. He presented it to the Paris Psychological Society in the report "Mathematical creativity".

Descartes is also considered one of the founders of the science of mathematics. He formulated the main theses in his work "The First Principles of Philosophy".

According to the scattered data given on the Internet, we will review the most famous symbols of mathematics. It should be noted that these symbols, according to archaeological finds, were known to mankind since the Paleolithic times.

III Знакомство с основными математическими знаками.

«+» - plus - плюс

«-» - subtraction sign – знак вычисления

«x» - multiplication sign – знак умножения

«/» slash ... divided by – косая линия. Этот математический символ в английском языке также употребляется в качестве знака деления.

«÷» division sign - знак деления

«:» - colon – двоеточие; или ratio sign - знак отношения или деления в английском языке

«=» equal sign – знак равенства

«%» Percent symbol – математический символ в английском языке, который употребляется для обозначения процентов

«[]» square brackets – квадратные скобки

«±» plus/minus sign - знак плюс/минус

«≈» approximate equal sign - приближенное равенство

«<» inequality sign (less than – меньше чем) - знак неравенства

«>» inequality sign (greater than – больше чем) - знак неравенства

«≤» inequality sign (less than or equal to ... - меньше чем или соответствует ...)

«{ }» curly brackets (the quantity the set ...- общее количество) - фигурные скобки

«√» surd (... root of ... – корень из) - иррациональное число

«√» square root – квадратный корень

«∫» - integral - интегральный

«i» - imaginary unit - мнимая единица

«z*» - complex conjugate - комплексно сопряжённая величина

«∇» - nabla/del - набла

«δ» - delta function - дельта-функция

«∞» - infinity symbol – символ бесконечности

«∅» null symbol - нуль или недействительный; несущественный

«⊥» - perpendicular – перпендикулярный

«||» - parallel – параллельный

«≡» - congruent to – соответствующий (эквивалентность геометрических форм и размеров)

« \angle » angle symbol – знак, который используют в геометрии для обозначения угла

Это лишь небольшой список наиболее употребляемых математических знаков и символов на английском, но, если углубиться в специализированную тематику, можно увидеть еще много знаков и символов, характеризующих различные понятия в данной сфере.

IV Знакомство с новой лексикой.

math (mathematics)	математика
do the math	считать (матем. действия)
problem (sum)	арифметическая задача
to solve	решать
answer	ответ
digit	цифра
number	число
odd number	нечетное число
even number	четное число
to add	прибавлять
to subtract	вычитать
to multiply by	умножать на
to divide by	делить на
to be equal to	равняться
plus	плюс
minus	минус
times	умножить
divided by	разделить
equals to	равно
common fractions	простые дроби
numerator	числитель
denominator	знаменатель
mixed number	смешанное число (дробь)
half	половина
quarter	четверть
decimals (decimal fractions)	десятичные дроби
point	точка (в дес. дробях)
percent	процент
to the power of five	в пятой степени
two squared	два в квадрате
two cubed	два в кубе
square root	квадратный корень
round brackets	круглые скобки
brackets	квадратные скобки
to round up the numbers	округлять числа

V Решение примеров на английском языке.

Учебник Английский язык. А. П. Голубев стр. 116

VI Дополнительно при наличии времени. Логические загадки и задачи на логику на английском языке

БЛОК 1. *Для того, чтобы решить следующие логические загадки на английском, вам понадобится лишь смекалка, особых знаний английского они не требуют, загадки построены на базовой лексике.*

1. What is the largest ant in the world?
2. David's father has 3 sons: Adam, Bob and who?
3. What appears once in every minute, twice in every moment, but not once in thousand years?
4. What part of London is in Brazil?
5. What is the beginning of everything, also the end of life?

БЛОК 2. *Логические загадки второго блока потребуют от вас более глубокого знания лексики.*

1. What starts with E, ends with E and only has one letter?
2. What start with a «t» ,end with a «t» and is full of «t»?
3. What runs but never walks?

БЛОК 3. *Сложный или нет, решать вам, но для того, чтобы успешно справиться с логическими загадками данного уровня вам потребуется неплохое знание устойчивых выражений в английском, так как загадки в той или иной степени построены на игре слов.*

1. Which is faster, hot or cold?
2. What kind of dog never bites?
3. Why did I throw the butter out of the window?
4. What is that you ought to keep after you give it to somebody else?
5. When you say this word, it disappears. What is it?

Задача 1. Who's who?

In Red Street, there live five people with five different jobs. Their names are Nick, Simon, Gregory, Mike and Nelly.

Their jobs are a vet, entrepreneur, doctor, writer and lawyer.

Their annual incomes are 3 million, 4 million, 5 million, 10 million, 20 million.

Their ages are 25, 35, 40, 50, 60.

They all have between 0-3 kids.

Read the facts about the people and complete the chart below:

Name	Age	Kids	Job	Income
Nick			lawyer	
Simon	60			
Gregory	40	3	vet	
Mike				

Nelly

3 million

- Nick earns half as much money as Simon.
 - The entrepreneur earns the most.
 - Mike has as many children as Nick.
 - The oldest earns the second highest salary.
 - Nick is twice as old as Nelly.
 - The doctor has no kids.
 - Mike is younger than Gregory.
 - Nick has twice as many kids as Simon.
 - The person who has one kid is a writer.
-
- Dan is sitting beside Marik.

Задача2. Friends.

Fill in the chart according to the info below.

1. Alex, whose birthday is in August is in the middle and he's 8 years old
2. Kate is 6 years old and she is the first, her birthday is 2 months before Alex's
3. On the right is Sam and she is 10 years old. Her birthday is 2 months after Alex's
4. Sophie's birthday is in July and she is 7 years old,
5. Jack is between Sam and Alex he is 9 years old, and his birthday is 3 months after Kate's

Name

Birthday

Age

ОТВЕТЫ:

Блок 1.

1. Elephant
2. David
3. Letter M
4. Letter L
5. Letter E

Блок 2

1. envelope
2. teapot
3. Nose, river, etc.

Блок 3.

1. Hot, you can easily catch cold
2. A hot dog

3. Because I wanted to see the butterfly.
4. A promise
5. Silence

Who's who?

Name	Age	Kids	Job	Income
Nick	50	2	lawyer	5
Simon	60	1	write	10
Gregory	40	3	vet	4
Mike	35	2	entrepreneur	20
Nelly	25	0	doctor	3

Friends

Name	Kate	Sophie	Alex	Jack	Sam
Birthday	June	July	August	September	October
Age	6 years old	7 years old	8 years old	9 years old	10 years old

VI. Подведение итогов урока и задание на дом.

Выучить лексику

Дополнительно при наличии времени. Перевести на английский язык.

Как появились математические знаки и символы

С той поры как появилась письменность, люди стали стремиться ее упростить, но так, чтобы смысл оставался понятным для любого читателя. Переход от иероглифической записи текста к буквенной резко упростил как сам механизм написания послания, так и чтение написанного. Если разобраться детальнее, то математика представляет собой то же самое письмо, которое нужно максимально унифицировать, чтобы написанное было понятно всем людям на планете. Для этой унификации используются 10 цифр и некие математические знаки или символы.

Подобная унификация делает восприятие математических текстов гораздо проще, нежели использование букв вместо цифр и слов вместо символов.

Знаки сложения и вычитания

Плюс и минус.

В 15 веке символы «+» и «-» уже активно использовались человечеством, правда откуда они точно взялись и кто их ввел в обиход достоверно неизвестно. Предполагают, что эти символы были введены в оборот виноторговцами. Когда часть вина из бочки продавали, то владелец наносил на тару горизонтальную черточку, чтобы отметить новый уровень. Затем такие черточки появлялись ниже и ниже. При доливании вина ранее нанесенные горизонтальны

черточки пересекали вертикальной черточкой. Так и вышло, горизонтальная черточка «-» означала убавление, а 2 перпендикулярных «+» - прибавление.

Есть и альтернативная версия появления символа «+». Поначалу для записи выражения «a + b» использовали текст «a et b». Латинское слово «e» означает буквально союз «и». То есть было выражение «a и b». Со временем для ускорения записи отказались от «e», а «t» утратило свой хвостик и несколько сократилось в размерах.

Умножение

До 17 века умножение чисел обозначали латинской буквой «M», от слова мультипликация. Но в 17 веке часть математиков вслед за англичанином Уильямом Отредом стали использовать для обозначения умножения косой крестик, который используется и в наши дни. Но не все согласились с нововведением. Предлагались для умножения звездочка «*», буква «x» и даже символ прямоугольника в начале выражения и запятая в конце.

Готфрид Лейбниц оставил заметный след в истории многих областей знаний, именно он призвал отказаться от косого крестика, поскольку его легко спутать с буквой «x» и предложил для умножения использовать точку. Однако математики, приняв обозначение Лейбница, предпочли саму точку, по возможности, не писать, впрочем, отсутствие косого крестика или точки никого не смущает, все понимают и так, что перед нами 2 сомножителя.

Деление

Знак деления в виде горизонтальной черты дроби использовали еще такие математики древности как Диофант и Герон, а также арабские ученые Средневековья. Уже упоминавшийся Отред предложил использовать не горизонтальную черту, а косую. Приложил к делению свою руку и Лейбниц, он придумал для обозначения этого действия использовать двоеточие «:». Все упомянутые варианты сохранились до нашего времени.

Знак равенства

Знак «=» предложил врач и математик из Уэльса Роберт Рекорд в 1557 году, правда, начертание было значительно длиннее современного. Как объяснил смысл знака сам ученый, что невозможно представить нечто более равное, чем 2 параллельных отрезка. Вот параллельность отрезков и мешала привычному нам знаку равенства. В конце концов пришли к соглашению знак параллельности также обозначать 2 параллельными отрезками, но уже развернутыми вертикально.

Знак бесконечности

Символ бесконечности в виде лежащей на боку несколько вытянутой цифры 8 предложил использовать в первой половине 17 века англичанин Джон Уоллис. Правда, француз Рене Декарт предлагал этот знак использовать для обозначения равенства, но сей проект был забаллотирован.

Знак неравенства

Символ «не равно» в виде знака равенства перечеркнутого крестиком скорее всего первым начал применять Леонард Эйлер, во всяком случае он активно использовал этот знак в своих сочинениях. Две волнистые линии для знака приближительного равенства придумал математик из германии Зигмунд Гюнтер. Было это в 1882 году.

Знак процента

Знак % для обозначения сотой части чего-либо появился сразу в нескольких работах 17 века различных математиков. Как он был придуман не ясно, есть предположение, что не обошлось без ошибки наборщика, который вместо сокращения «сто» (обозначавшего сотую часть) набрал деление ноль на ноль - 0/0.

Интеграл

Развитие интегрального исчисления в 17 веке требовало введение специального значка интеграла. Интегралы вычислялись как пределы интегральных сумм, поэтому Лейбниц в своей рукописи использовал для его обозначения латинскую букву «S», обозначавшую тогда в математике сумму. Но все же сумму требовалось как-то отличать от интеграла, вот «S» и вытянули по вертикали.

Матрицы

Можно встретить как обозначения с круглыми скобками «(...)», так и обозначения с квадратными скобками «[...]». Реже можно встретить обозначения с двойными прямыми линиями «||...||»

В 1843 году англичанин Артур Кэли работал над теорией матриц. Чтобы обозначить матрицу он числа в нее заключенные стал помещать в пространство ограниченное с 2 сторон, для чего использовал по 2 прямые линии. Но современные математики предпочитают для матриц использовать большие круглые скобки. Все же идея Кэли продержалась до нашего времени. Если матрица ограничена не круглыми скобками, а вертикальными чертами (по одной с каждой стороны), то каждый математик знает, сто перед ним определитель.

Тригонометрические функции

Современные обозначения «*sin*», «*tg*» (*tan*), «*sec*» ввел датчанин Томас Финке в 1583 году. Однако датский ученый писал эти символы с точкой на конце. От этой точки избавился в 1632 году Уильям Отред.

«*Cos*», «*ctg*» (*cot*), «*cosec*» (*csc*) - эти символы встречались у различных авторов, среди которых следует упомянуть Джонаса мура (1674 год) и Сэмюэля Джейка (1696 год), но они их писали также с точкой на конце. Точку у косинуса убрал в 1729 году Леонард Эйлер, а у котангенса и косеканса Авраам Кестнер в 1758 году.

Обратные тригонометрические функции с приставкой «арс» начал обозначать австрийский математик Карл Шерфер. Однако в среде ученых это обозначение прижилось только после выхода в свет работ Лагранжа. Правда немецкая и английская школы долгое время старались обозначать эти функции как *1/sin* и аналогично.

ПРАКТИЧЕСКОЕ ЗАНЯТИЕ.

Тема занятия

Системы счета и математические операции.

ЗАДАНИЯ К ПРАКТИЧЕСКИМ ЗАНЯТИЯМ, КОТОРЫЕ НУЖНО ВЫПОЛНИТЬ
СТУДЕНТАМ

I. Выполнение заданий на повторение темы предыдущего урока.

II. Выполнение упражнений по теме урока.

1. Выписать подчеркнутую лексику.

2. Прочитать и перевести текст.

3. Ответить на вопросы.

Numerals

Numerals are **signs** or symbols for graphic representation графическое изображение of numbers. The earliest forms of **numerical notation** числовое обозначение were simply groups of straight lines, either vertical or horizontal, each line corresponding to the number 1. Such a system was inconvenient when dealing with large numbers.

Roman Numerals

The system of number symbols created by the **Romans** expresses all numbers from 1 to 1 000 000 with the help of seven symbols:

I = 1

V = 5

X = 10

L = 50

C = 100

D = 500

M = 1 000

Roman numerals are read from left to right. The symbols are usually added together. For example: IV = 4; VI = 6; LX = 60; XL = 40; MMII = 2002; MCMLVII = 1957

A small **bar** placed over the numeral multiplies the numeral by 1000.

Thus, theoretically, it is possible, by using an infinite number of bars, to express the numbers from 1 to infinity. In practice, however, one bar is usually used; two are rarely used, and more than two are almost never used. Roman numerals are still used day, more than 2000 years after their introduction. The Roman system's only drawback is that it is not suitable for rapid written calculations.

Arabic Numerals

The Arabic system of numerical notation is used in most parts of the world today. This system was first developed in India in the 3rd century BC. At that time the numerals 1, 4, and 6 were written in the same form as today.

The important innovation in the Arabic system was the use of positional notation, in which individual number symbols assume different values according to their position in the written numeral. Positional notation is made possible by the use of a symbol for zero. The symbol 0 makes it possible to differentiate between 11, 101, and 1,001 without the use of additional symbols, and all numbers can be expressed in terms термин, понятие, условие, слагаемое of ten symbols, the numerals from 1 to 9 plus 0. Positional notation also greatly simplifies all forms of written numerical calculation.

The binary system of numerals.

The binary system plays an important role in computer technology. For example, the first 20 numbers in the **binary notation** двоичная система счисления are 1, 10, 11, 100, 101, 110, 111, 1000, 1001, 1010, 1011, 1100, 1101, 1110, 1111, 10000, 10001, 10010, 10011, 10100.

Any number can be expressed in the binary system by the sum of different powers степень of two. For example, starting from the right, 10101101 represents $(1 \times 2^0) + (0 \times 2^1) + (1 \times 2^2) + (1 \times 2^3) + (0 \times 2^4) + (1 \times 2^5) + (0 \times 2^6) + (1 \times 2^7) = 173$. That is: 10101101 in the binary code is equal to 173.

Arithmetic operations in the binary system are extremely simple. The basic rules are: $1 + 1 = 10$, and $1 \times 1 = 1$. Zero plays its usual role: $1 \times 0 = 0$, and $1 + 0 = 1$. Addition, subtraction, and multiplication are done in a fashion similar to that of the decimal system:

$$100101 + 110101 = 1011010$$

$$1011010 - 110101 = 100101$$

$$\times 101$$

$$\underline{1001}$$

$$\underline{101}$$

Because only two digits (or **bits**) are involved, the binary system is used in computers, since any binary number can be represented by, for example, the positions of a series of on-off switches выключатель. The *on* position corresponds to 1, and the *off* position corresponds to 0. Instead of switches, magnetized **dots** намагниченные точки on a magnetic disk or small dots on a laser CD-ROM disk also can be used to represent binary numbers: a dot stands for the digit 1, and the absence of a dot is the digit 0. Electronic devices, called flip-flops, can be used to represent binary numbers. They can only carry two different voltages at their outputs несут два разных напряжения на своих выходах, and they can be switched from one state to the other state by an electric impulse. **Logic circuits** Логическая схема in computers carry out the different arithmetic operations in binary numbers. The conversion преобразование of decimal numbers to binary numbers for processing, and of binary numbers to decimal numbers for the readout считывание, is done electronically.

Addition, subtraction, multiplication, divisions are mathematical operations.

1) Are Roman numerals still used today?

Roman numerals are still used day, more than 2000 years after their introduction.

2) What is the only drawback of Roman system of numerical notation?

The Roman system's only drawback is that it is not suitable for rapid written calculations.

3) Who developed the Arabic system of numerical notation?

This system was first developed in India in the 3rd century BC. At that time the numerals 1, 4, and 6 were written in the same form as today.

4) How many symbols are necessary to express all numbers in the Arabic system of numerical notation?

all numbers can be expressed in terms of ten symbols, the numerals from 1 to 9 plus 0

5) How can any number be expressed in the binary system? *Any number can be expressed in the binary system by the sum of different powers степеней of two. For example, starting from the right, 10101101 represents $(1 \times 2^0) + (0 \times 2^1) + (1 \times 2^2) + (1 \times 2^3) + (0 \times 2^4) + (1 \times 2^5) + (0 \times 2^6) + (1 \times 2^7) = 173$. That is: 10101101 in the binary code is equal to 173.*

6) Where is the binary system used?

the binary system is used in computers, since any binary number can be represented by, for example, the positions of a series of on-off switches выключатель.. The on position corresponds to 1, and the off position corresponds to 0.

7) What are mathematical operations? *Addition, subtraction, multiplication, divisions are mathematical operations.*

III.Выполнение самостоятельной работы.

1)Решите примеры и напишите ответы словами.

1) $2+4=$

2) $39+49=$

3) $81+16=$

4) $64+36=$

5) $53+28=$

6) $16-7=$

7) $87-24=$

8) $65-37=$

9) $19-15=$

10) $43-18=$

11) $6*6=$

12) $8*9=$

13) $5*5=$

14) $6*8=$

15) $3*13=$

16) $45:5=$

17) $63:9=$

18) $121:11=$

19) $36:3=$

20) $81:9=$

ОТВЕТЫ

- 1) Six
- 2) Eighty-eight
- 3) Ninety-seven
- 4) One hundred
- 5) Eighty-one
- 6) Nine
- 7) Sixty-three
- 8) Twenty-eight
- 9) Four
- 10) Twenty-five
- 11) Thirty –six
- 12) Seventy-two
- 13) Twenty-five
- 14) Forety-eight
- 15) Thirty-nine
- 16) Nine
- 17) Seven
- 18) Eleven
- 19) Twelve
- 20) nine

2). Самостоятельно.

1.Найдите пары: слова из первого столбика и соответствующие цифры из второго.

Н-р: 1 - d

1. seventy-two

2. thirteen

a) 31

b) 11

- | | |
|----------------------------------|--------|
| 3. fifty-six | c) 660 |
| 4. eighty | d) 72 |
| 5. eighteen | e) 315 |
| 6. twenty-three | f) 100 |
| 7. eleven | g) 13 |
| 8. ninety | h) 49 |
| 9. twelve | i) 925 |
| 10. twenty | j) 18 |
| 11. nineteen | k) 80 |
| 12. forty-nine | l) 504 |
| 13. one hundred | m) 217 |
| 14. thirty-one | n) 410 |
| 15. four hundred and ten | o) 90 |
| 16. six hundred and sixty | p) 56 |
| 17. five hundred and four | q) 23 |
| 18. nine hundred and twenty-five | r) 20 |
| 19. two hundred and seventeen | s) 19 |
| 20. three hundred and fifteen | t) 12 |

2. Решите пример и напишите ответ словами.

Н-р: twenty + fifty-eight = seventy-eight (20+58=78)

- sixty-two + fourteen = ...
- fifteen + two hundred and forty-six = ...
- ninety + ten = ...
- thirty-one + nineteen = ...
- seventy-three + eighty-two = ...
- three thousand one hundred and twelve + ninety-nine = ...

3. Преобразуйте количественные числительные в порядковые.

Н-р: one (один) – the first (первый), thirty (тридцать) – the thirtieth (тридцатый), sixty-four (шестьдесят-четыре) – the sixty-fourth (шестьдесят четвертый)

- two
- eighty-three
- seven hundred and sixteen
- twelve
- eleven
- twenty-five
- ninety-six
- thirty-eight
- ten
- two thousand and nine

4. Напишите указанные в скобках даты словами.

Н-р: I was born on (13.05.1976). (Я родился) – I was born on the thirteenth of May, nineteen seventy-six.

- My son was born on (02.12.2000).
- Our dog was born on (21.08.2008).
- My granddad was born on (23.06.1900).
- My granny was born on (18.02.1910).

5. Напишите дроби словами.

Н-р: $\frac{5}{6}$ – five sixths, $\frac{2}{3}$ – two thirds

- $\frac{1}{2}$
- $\frac{9}{10}$

- | | |
|------------------|--------------------|
| 2. $\frac{5}{8}$ | 6. $\frac{11}{12}$ |
| 3. $\frac{1}{3}$ | 7. $\frac{2}{5}$ |
| 4. $\frac{4}{7}$ | 8. $\frac{3}{4}$ |

Ответы:

1.

2 – g, 3 – p, 4 – k, 5 – j, 6 – q, 7 – b, 8 – o, 9 – t, 10 – r, 11 – s, 12 – h, 13 – f, 14 – a, 15 – n, 16 – c, 17 – l, 18 – i, 19 – m, 20 – e

2.

1. seventy-six 2. two hundred and sixty-one 3. one hundred 4. fifty 5. one hundred and fifty-five 6. three thousand two hundred and eleven

3.

1. the second 2. the eighty-third 3. the seven hundred and sixteenth 4. the twelfth 5. the eleventh 6. the twenty-fifth 7. the ninety-sixth 8. the thirty-eighth 9. the tenth 10. the two thousand and ninth

4.

1. the second of December, two thousand.
2. the twenty-first of August, two thousand and eight.
3. the twenty-third of June, nineteen hundred.
4. the eighteenth of February, nineteen hundred and ten.

5.

- | | |
|------------------|--------------------|
| 1. one half | 5. nine tenths |
| 2. five eighths | 6. eleven twelfths |
| 3. one thirds | 7. two fifths |
| 4. four sevenths | 8. three fourths |

1. Повторение правила.

Дроби бывают двух типов: обыкновенные, которые пишутся через черточку (common fractions или simple fractions) и десятичные, которые имеют точку (decimals)

Обыкновенные дроби

Чтение простых дробей довольно несложное, и очень похоже на то, как мы читаем их в русском языке. Обыкновенная дробь имеет две составляющих: числитель (Число над чертой) и знаменатель (число под чертой). Верхнее число (числитель) читается как **количественное числительное** (Сколько?), а нижнее число (знаменатель) – как **порядковое** (Какой по порядку?).

При этом числитель one может читаться как артикль a:

$\frac{1}{3}$ – one third/ a third

$\frac{1}{7}$ – one seventh/ a seventh

$\frac{1}{9}$ – one ninth/ a ninth

Если числитель больше единицы, то знаменатель приобретает окончание множественного числа:

$\frac{2}{3}$ – two thirds

$\frac{3}{5}$ – three fifths

Запомните, что половина при чтении дробей – half, а четверть может читаться как (a/one) quarter или (a/one) fourth:

1/2 – one half / a half NOT one second

1/4 – one quarter / a quarter / one fourth

3/4 – three quarters / three fourths

Если в дроби присутствует целое число, то оно связывается с дробным при помощи слова *and*:

1 1/2 – one and a half

3 2/3 – three and two thirds

2 1/4 – two and a quarter / two and a forth

Чтение десятичных дробей (decimals)

Прежде всего важно запомнить, что в английских десятичных дробях используется точка, а не запятая. В английских десятичных дробях мы не говорим слова: *дестых, сотых, тысячных*, а *просто называем числа. И при чтении десятичных дробей говорится слово point и каждая цифра* называется по-отдельности:

*2.25 – two **point** twenty five*

*1.4 – one **point** four*

*6.785 – six **point** seven eight five*

Если целого числа нет, а есть числа только после точки, то говорят **nought** или **zero** (в американском английском), или вообще опускают ноль и в речи и на письме:

0.2 – nought (zero) point two / point two

0.75 – nought (zero) point seven five / point seven five

0.03 – nought (zero) point nought three / point nought three

Проценты

Часто в десятичных дробях указываются проценты: *per cent* [p?'sent] (*percent* AmE). Слово *per cent* употребляется в единственном числе:

2.2 % – two point two per cent

3.5% – three point five per cent

50 % – fifty per cent

99 % – ninety-nine per cent

Употребление слова *percents* возможно только относительно к школьной теме «Проценты», но с конкретными цифрами использоваться не может.

Телефонные номера на английском языке читаются совершенно не так, как в русском. В русском мы можем произнести код города или код оператора по цифрам, но в самом номере очень редко произносим каждую цифру, а объединяем цифры в десятки и сотни:

098 629 550 441 – Ноль девяносто восемь, шестьсот двадцать девять, пятьсот пятьдесят, четыреста сорок один.

В английском же все цифры номера произносятся по-отдельности, причем ноль чаще всего читается, как *oh* /?u/. Одинаковые цифры, стоящие рядом, объединяются словом **double**:

33 – double three NOT thirty three

88 – double eight NOT eighty eight

00 – double oh

Все цифры номера произносятся в группах по три. Интонация повышается после каждой группы цифр (как при перечислении), а в конце используется нисходящий тон:

098 629 550 441 – oh nine eight, six two nine, double five oh, double four one

Если в комбинации из трех цифр два нуля в конце, то можно сказать так:

500 – five hundred

100 – one hundred

Банковские счета и паспортные данные

При чтении номеров банковских и кредитных карт и подобных числовых рядов, цифры читаются группами по четыре с восходящей интонацией, причем каждая цифра называется по-отдельности (как в телефонных номерах):

2047 5290 5402 9327 – two oh four seven, five two nine oh, five four oh two, nine three two seven.

В паспортных данных, где присутствуют и цифры и буквы, буквы называются своими алфавитными названиями, а цифры - каждая по-отдельности.

Цены

В ценах значок валюты стоит до самой цены, а произносится в конце в единственном или множественном числе (если сумма круглая):

€ 1 – one Euro

£ 30 – thirty pounds

\$ 100 – one hundred dollars

Если сумма представлена десятичной дробью, то можно указывать валюту после целого числа.

При чтении соблюдаются те же правила, что и при чтении десятичных дробей, но **не произносится слово point**. Если целое во множественном числе, то и существительное, обозначающее валюту, тоже во множественном числе:

\$ 1.75 – one (dollar) seventy five

€ 5.55 – five (Euros) fifty five

£ 7.39 – seven (pounds) thirty nine

\$ 89.99 – eighty nine (dollars) ninety nine

Даты

При чтении дат используются [порядковые числительные](#) определенным артиклем the, перед месяцем стоит предлог of:

May 1- the first of May

July 22 - the twenty-second of July

December 4 – the fourth of December

В американском варианте английского (AmE) первым читается и пишется месяц, а не число и не употребляется определенный артикль the:

9/12 – September twelfth

12/26 – December twenty sixth

5/30 – May thirtieth

Если называется определенный год, то четырехзначное число делится на две группы по две и каждое произносится по-отдельности, ноль – oh (не zero):

1485 – fourteen eighty five

1604 – sixteen oh four

1919 – nineteen nineteen

Цифры в годах с 2000 по 2009 не делятся на группы по две, они читаются, как обычные числительные:

2003 - two thousand and three

2008 – two thousand and eight

Годы после 2009 имеют два варианта чтения:

2010 - twenty ten / two thousand and ten

2012 – twenty twelve / two thous and and twelve

Когда говорят о десятилетиях, то количественное числительное употребляется во множественном числе с артиклем the:

the 30th – the thirties

the 90th – the nineties

IV Подведение итогов урока, и задание на дом.

Выучить слова. Найти 5 формул по математике, физике или химии, записать их и подготовить чтение этих формул.

ПРАКТИЧЕСКОЕ ЗАНЯТИЕ.

Тема занятия

Что такое компьютер.

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ЗАДАНИЯ К ПРАКТИЧЕСКИМ ЗАНЯТИЯМ, КОТОРЫЕ НУЖНО ВЫПОЛНИТЬ СТУДЕНТАМ

I. Выполнение заданий на повторение темы предыдущего урока.

II. Выполнение упражнений по теме урока.

1. Знакомство с новой лексикой.

to intricate	capabilities	a microcomputer
tiny	addition	a circuit
a core	subtraction	unfortunately
to manipulate	division	dull
to magnetize	multiplication	a routine
to perform	exponentiation	a judgement
to supply	to feed	instantaneously

2. Чтение и перевод текста. Read the text and translate it without the help of the dictionary.

What is a Computer?

A computer is a machine with an intricate network of electronic circuits that operate switches or magnetize tiny metal cores. The switches, like the cores, are capable of being in one of two possible states, that is, on or off; magnetized.

The machine is capable of storing and manipulating numbers, letters and characters.

The basic idea of a computer is that we can make the machine do what we want by inputting signals that turn certain switches on and turn others off, or that magnetize or do not magnetize the cores.

The basic job of computers is the processing of information. For this reason, computers can be defined as devices which accept information in the form of instructions called a program and characters called data performing mathematical and logical operations on the information, and then supply results of these operations.

The program or a part of it, which tells the computers what to do and the data, which provide the information needed to solve the problem, are kept inside the computer in a place called memory.

Computers are thought to have many remarkable powers. Most computers, whether large or small have three basic capabilities.

First, computers have circuits for performing arithmetical operations, such as: addition, subtraction, division, multiplication and exponentiation. Second, computers have means of communicating with the user. If we couldn't feed information in and get results back these machine wouldn't be of much use.

However, certain computers (commonly minicomputers and microcomputers) are used to control directly things such as robots, aircraft navigation systems, medical instruments, etc. Some of the most common methods of inputting information are to use terminals, diskettes, disks and magnetic tapes.

The computer's input device (which might be a disk drive depending on the medium used in inputting information) reads the information into the computer. For outputting information, two common devices are used a printer which prints the new information on paper, or a cathode-raytube (CRT) display screen which shows the results on a TV-like a screen. Third, computers have circuits which can make decisions. The kinds of decisions which computer circuits can make are not of the type: 'Who would win a war between two countries?' or 'Who is the richest person in the world?' Unfortunately, the computer can only decide three things, namely: 'Is one number use more often than another?' 'Are two numbers equal?' and, 'Is one number greater than another?'

A computer can solve a series of problems and make hundreds even thousands of logical operations without becoming tired or bored. It can find the solution to a problem in a fraction that it takes a human being to do the job. A computer can replace people in dull routine, but it has no originality, it works according to the instructions given to it and cannot exercise value judgements.

There are times when a computer seems to operate like a mechanical «brain», but its achievement are limited by the minds of human beings. A computer cannot do anything unless a person tells it what to do and gives the appropriate information, but because of electric pulses can move at the speed of light, a computer can carry out vast numbers of arithmetical-logical operations almost instantaneously.

A person can do the same, but in many cases that person would be deal long before the job was finished.

3.Translate these into your own language.

- | | |
|----------------------------------|--------------------------------|
| 1. an intricate network | 9. an input device |
| 2. tiny metal cores | 10. for outputting information |
| 3. by inputting signals | 11. a decision |
| 4. the processing of information | 12. to replace |
| 5. to define | 13. appropriate |
| 6. to provide | 14. to carry out |
| 7. to solve | 15. vast |
| 8. memory | |

4. Translate these into English.

- | | |
|---|------------------------------|
| 1. переключатель, подобный
металлическому сердечнику | 9. непосредственно управлять |
|---|------------------------------|

- | | |
|--|-----------------------|
| 2. буквы и знаки (символы) | 10. схема |
| 3. намагничивать металлический сердечник | 11. механический мозг |
| 4. обработка информации | 12. ограниченный |
| 5. выполнять металлические и логические операции | 13. до тех пор пока |
| 6. данные | 14. подходящий |
| 7. замечательный | 15. скорость света |
| 8. средства связи с пользователем | |

5. Fill in the necessary words.

1. A computer is a with an intricate network of electronic circuits.
2. The machine is of storing and manipulating numbers, letters and characters.
3. The basic job of a computer is the of information.
4. Most computers have three basic
5. Computers have for performing arithmetical operations.
6. Certain computers are used directly things such as robots, medical instruments, etc.
7. For outputting information two common are used.
8. A computer can people in dull routine.

6. Fill in the gaps the prepositions.

1. A computer is a device an intricate network.
2. The switches are capable of being one or two states.
3. We can make the machine do what we want inputting signals.
4. Computers accept information the form of instructions called a program.
5. Computers have circuits performing operations.
6. Computers have means of communicating the user.
7. Input device may be a disk drive depending the medium used inputting information.
8. Computers can solve a series of problems becoming tired or bored.

7. Match the names on the left with the definitions on the right.

- | | |
|-------------------|---|
| 1. video recorder | a) a kind of sophisticated typewriter using a computer |
| 2. photocopier | b) a machine which records and plays back sound |
| 3. fax machine | c) a machine which records and plays back pictures |
| 4. tape recorder | d) a camera which records moving pictures and sound |
| 5. modem | e) a machine for chopping up, slicing, mashing, etc. |
| 6. camcorder | f) a machine which makes copies of documents |
| 7. robot | g) a machine which makes copies of documents and sends them down telephone lines to another place |
| 8. word-processor | h) a machine which acts like a person |
| 9. food-processor | i) a piece of equipment allowing you to send information from one computer down telephone lines to another computer |

8. Write descriptions like those in exercise VII, for the following objects.

- | | | | |
|-------------|----------------|-----------|------------|
| TV set | sewing-machine | microwave | disks |
| iron | telephone | printer | mouse |
| alarm-clock | ventilator | keyboard | CD-players |

9. Give the appropriate definitions of the following terms.

computer, data, memory, input, device, output

10. Find the synonyms to the following words in the text.

Work, difficult, to fulfill, fundamental, to end, equipment
complex, way, uninterested, an accomplishment

11. Find the antonyms to the following words in the text.

output, smaller, interesting, poor, dark, alive, large, receiving, reject, unusual

12. Arrange the items of the plan in a logical order according to the text.

1. A computer can solve a series of problems and make hundreds even thousands of logical operations.
2. The basic job of computers is the processing of information.
3. A computer is a machine with an intricate network of electronic circuits.
4. Computers have circuits for performing arithmetic operations.
5. The machine is capable of storing and manipulating numbers, letters and characters.
6. Some of the most common methods of inputting information are to use terminals.
7. For outputting information only two common devices are used.

13. Answer the following questions.

1. What is a computer?
2. What is it capable to do?
3. The basic job of a computer is the processing of information, isn't it?
4. How do we call a program, which tells the computer what to do?
5. Computers have many remarkable powers, don't they?
6. What can computer solve?
7. Can computers do anything without a person?

14. Give a short summary of the text.

III. Подведение итогов урока и задание на дом.

Подготовить сообщение на тему урока.

ПРАКТИЧЕСКОЕ ЗАНЯТИЕ.

Тема занятия

Персональный компьютер.

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ЗАДАНИЯ К ПРАКТИЧЕСКИМ ЗАНЯТИЯМ, КОТОРЫЕ НУЖНО ВЫПОЛНИТЬ
СТУДЕНТАМ

I.Организационный момент и проверка домашнего задания.

II Выполнение упражнений по теме урока.

1.Look up in the dictionary how to pronounce the following words. Write them down in the dictionary.

regardless	to monitor	to fit
to enter	a hardware	representative
a routing	peripheral	available
to direct	a variety	to purchase
a property	an occurrence	a competitor
to modify	to afford	incredibly
solely	to confine	to convince

2.. Read the text and do the exercises that follow it.

Kinds of Computers

All computer systems, regardless of their size, have the same four hardware components:

1. A processor or CPU, where the data input is processed according to the program.
2. Input/output devices or peripherals such as the keyboard and printer, which receive data from people and enter it into the computer for processing, then send it back to people so it can be used.
3. Storage components such as disk drives or tape drives keep data for later use.
4. Routing and control components, which direct the instructions and/or data from one component to the next making sure each does its task properly.

Computers are generally classified as general-purpose or special purpose machine. A general-purpose computer is one used for a variety of tasks without the need to modify or change it as the tasks change. A common example is a computer used in business that runs many different application.

A special-purpose computer is designed and used solely for one application. The machine may need to be redesigned and certainly reprogrammed, if, it is to perform another task. Special-purpose computers can be used in a factory to monitor a manufacturing process; in research to monitor seismological, meteorological and other natural occurrences; and in the office.

So all computers have in common, but certain computers differ from one another. These differences often have to do with the way a particular computer is used. That is why we can say there are different types of computers that are suited for different kinds of work or problem solving.

Personal computer is a computer system that fits on a desktop, that an individual can afford to buy for personal use, and that is intended for a single use.

Personal computers include desktops, laptops and workstation. Each type of a personal computer shares many characteristics in common with its counterparts, but people use them in different ways.

The Desktop Personal computer is a computer that:

- fits on a desktop
- is designed for a single user
- is affordable for an individual to buy for personal use.

Desktop personal computers are used for education, running a small business, or in large corporation, to help office workers be more productive. There are some common desktop personal computers:

- The IBM PC and PC-compatible
- The Compaq Deskpro 386
- The IBM PS/2
- The Apple Macintosh

The Laptop Personal Computer is a computer that people can take with them, laptop is used by a single individual but can be used in many different places, it is not confined by its size or weight to a desktop. It has the same components as a desktop machine but in most cases the monitor is built in. The printer is usually separate.

Laptops fall into the same general categories as desktop personal computers:

- PC-compatibles
- IBM PC/2
- Apple Macintosh portable

Managers and employees who travel frequently use laptops to keep in touch with their office. Sales representatives keep company information on their laptops to show prospective clients, and send electronic orders into the company computers. Writers use laptops so they can work on their manuscript no matter where they are.

There are many portables available today, some weigh as much as 15 pounds, while others weigh as little as 3 pounds. There are laptops so small they fit in the palm of your hand. There are laptops that fit in a briefcase, called notebook computers.

The Workstation is a computer that fits on a desktop, but is more powerful than a desktop computer. The workstation has a more powerful microprocessor, is able to service more than one user, has an easy to use interface and is capable of multitasking. While these three characteristics used to be unique to workstation, they are being adapted to the more powerful 386 and 486 personal computers over time.

Workstations are designed for three major tasks: scientific and engineering, office automation and education.

The Minicomputer, or mini, is a versatile special or general-purpose computer designed so that many people can use it at the same time. Minis operate in ordinary indoor environments; some require air conditioning while others do not. Minis also can operate in less hospitable places such as on ships and planes.

Like all computers, the minicomputer is designed as a system. CPUs, terminals, printers and storage devices can be purchased separately. Mini systems are more mobile, easier to set up and install. A minicomputer system combined with specialized equipment and peripherals is designed to perform a specific task. A popular minicomputer is the Digital VAX Computer.

Mainframe is the largest general-purpose computer. It is designed to be used by hundreds even thousands of people. A mainframe uses the same basic building blocks of a computer system: the CPU, various I/O devices and external memory.

Most mainframe computers are general-purpose machines. In 1964 introduced the System/360 mainframe computer. It became the most popular mainframe in the computer history.

A Supercomputer is a very fast special-purpose computer designed to perform highly sophisticated or complex scientific calculations. For example calculating a prime number (one that is divisible only by 1 and itself), or the distance between planets. But computers permit turning many other problems into numbers, such as molecular modeling, geographic modeling and image processing.

Cray is a leading supercomputer maker, with IBM and Fujitsu as major competitors.

A Cray X-MP Supercomputer was used to help to make a movie called 'The last starfighter' Computer animation isn't new but using the X-MP added a whole new dimension of sophistication. Its most remarkable accomplishment was creating the entire bridge of the alien's starship, complete with animated aliens walking around next to real actors. Because the Cray could process the image in incredibly fine detail, the average viewer would think it looked absolutely real. The X-MP allowed animators to make illusion as convincing as reality itself.

It is interesting to know that ...

PCs and PC-compatibles are used in organization of all sizes. PCs are an office time saver, allowing the staff to write press releases and legislative testimony, performs accounting tasks, and prepares mailing lists more quickly. It also paves the way for organization to complete more effectively with other public interest groups. Today, over 80 percent of Public Citizen's employees use PC-compatibles. Word processing has replaced typewriters, hard disk drive storage has reduced the amount of paper kept in filing cabinets, and laser printing has cut their outside printing costs dramatically.

Banks have traditionally used the latest computer technology to automate their own operations, but First Banks for Business found a way to use personal computers to improve customer service. In the past, when a customer wanted to cash a check, the signature card had to be compared to verify identity. That meant looking through a card file or containing central book-keeping, which could take as long as 30 minutes.

Now Banks for Business installed PC-2s with special graphics capabilities and software called Signet to perform the task. When the letters retrieve customer account information from the

computer, they see the authorized signatures appear right on the screen. The system also tells them what other signatories are permitted on the account or if two signatures are required to cash a check. The banks say the main reason customers change banks is due to bad service. Using the powerful PS-2s signet, they can cash a customer's check in a minute or less.

People use laptops for many of the same tasks that they use desktops and more.

Astrophysicists use Sun Microsystems workstations for their engineering work. They routinely sketch graphs and diagrams on the screen using computer-aided drafting software, as well as sophisticated calculation software to test mathematical equations. They also exchange ideas and information with each other in electronic messages. One project they have worked on in cooperation with NASA is the Advanced X-Ray Astrophysics Facility. It is an observatory in space that will measure cosmic X-rays, which are invisible on earth. The astrophysicists hope that the information provided will help them understand better how the universe was formed and what its eventual fate will be.

The Sun workstation performed an additionally important task: helping gather visual and textual information into a comprehensive report for NASA to explain how an X-ray telescope would function aboard the observatory. Using electronic publishing software, they combined graphics screens, mathematical equations, and textual explanations into a document that took just six hours to prepare. Previously, it would have taken two days.

3. Fill in the necessary words.

1. are generally classified as general – or special-purpose machine.
2. A special-purpose computer is designed and used for one application.
3. Personal computer on a desktop.
4. Each type of a personal computer many characteristics in common with their counterparts.
5. There are many portables today.
6. CPUs, terminals, printers and storage devices can be separately.

4. Agree or disagree with the following statements.

1. All computer systems have the same five hardware components.
2. Input/output devices receive data, enter it into the computer for processing, then send it back to people so it can be used.
3. Storage components don't keep data for later use.
4. Computers are general-purpose machines.
5. The machine may need to be redesigned and certainly reprogrammed.
6. We can't say, that there are different types of computers.

5. Ask questions to which the following statements might be the answer.

1. Desktop personal computers are used for education, running a small business or in large corporation to help office workers be more productive.
2. Laptops fall into the same general categories as desktop personal computers.
3. The workstation is a computer that fits on a desktop.
4. Workstations are designed for three major tasks.
5. A minicomputer system combined with specialized equipment and peripherals is designed to perform a specific task.
6. A mainframe uses the same basic building blocks of a computer system: the CPU, I/O devices and external memory.

6. Answer the following questions.

1. What have all computers in common?
2. How can we classify computers?
3. What are general /special-purpose computers used for?
4. What are three primary types of personal computers?
5. What is the primary difference between personal computer and workstation?
6. What are major tasks of a workstation?
7. What is minicomputer used for?
8. What does the supercomputer differ from the general-purpose mainframe computer?
9. What are two main characteristics of the supercomputer?

7. Find the synonyms to the following words.

a component, a device, to receive, to enter, to keep, to handle,
to run, to confine, to fit, terminals, calculation

8. Find the antonyms to the following words.

to pay attention to, unprocessed, undirect, monotony, designed
programmed, similar, similarity, unlimited, unite, rare, single, task
together, slow, odd, number, simplicity, to destroy

9. Match the words of the first column with those of the second one.

- | | |
|----------------|------------------------------------|
| 1. regardless | 1. убеждать |
| 2. to enter | 2. проверять |
| 3. a routing | 3. покупать |
| 4. to direct | 4. ограничиваться |
| 5. to modify | 5. входить |
| 6. to purchase | 6. видоизменять |
| 7. to convince | 7. программа |
| 8. solely | 8. не обращая внимание |
| 9. to monitor | 9. ладонь |
| 10. occurrence | 10. представлять/ быть в состоянии |
| 11. to afford | 11. исключительно |
| 12. to confine | 12. управлять |
| 13. a palm | 13. случай |

10. Give the definitions to the following terms:

1. computer
2. supercomputer
3. special-purpose computer
4. general-purpose computer
5. personal computer
6. minicomputer
7. mainframe

III. Повторение грамматического материала.

IV. Подведение итогов урока и задание на дом.

Составить рассказ о персональном компьютере.

ПРАКТИЧЕСКОЕ ЗАНЯТИЕ.

Тема занятия

Развитие компьютеров в США и России.

Цели занятия

- Совершенствование навыков чтения вслух и про себя.
- Развитие навыков устной речи.
- Пополнение словарного запаса по теме.

ЗАДАНИЯ К ПРАКТИЧЕСКИМ ЗАНЯТИЯМ, КОТОРЫЕ НУЖНО ВЫПОЛНИТЬ СТУДЕНТАМ

I.Выполнение упражнений на повторение темы предыдущего урока.

II.Выполнение упражнений по теме урока.

1.Look up in the dictionary how to pronounce the following words. Write them down in the dictionary.

to calculate	ten-toothed gear wheels	a chip
an abacus	to aim guns	rectangular
a bead frame	responsible	a layer
to devise	to figure out	attached
a slide rule	a generation	to encapsulate
to reduce	a predecessor	dependable

2.Read the text and do the exercises that follow it.

Let us take a look at the history of the computers that we know today. The very first calculating device used was the ten fingers of a man's hands. This, in fact, is why today we count in tens and multiply of tens. Then the abacus was invented, a bead frame in which the beads are moved from left to right. People went on using some form of abacus well into the 16th century, it is being used in some parts of the world because it can be understood without knowing how to read.

During the 17th and 18th centuries many people tried to find easy ways of calculating. J. Napier, a Scotsman, devised a mechanical way of multiplying and dividing, which is how the modern slide

rule works. Henry Briggs used Napier's ideas to produce logarithm which all mathematicians used today.

Calculus, another branch of mathematics, was independently invented by both Sir Isaac Newton, an Englishman, and Leibnitz, a German mathematician. The first real calculating machine appeared in 1820 as the result of several people's experiments. This type of machine, which saves a great deal of time and reduces the possibility of making mistakes, depends on a ten-toothed gear wheels.

In 1830 Charles Babbage, an Englishman, designed a machine that was called 'The Analytical Engine'. This machine, which Babbage showed at the Paris Exhibition in 1855, was an attempt to cut out the human being altogether, expert for providing the machine with the necessary facts the problem to be solved. He never finished this work, but many of his ideas were the basis for building today's computers.

In 1930, the first analog computer was built by American named Vannevar Bush. The device was used in World War II to help aim guns. Mark I, the name given to the first digital computer, was completed in 1944. The men responsible for this invention were Professor Howard Aiken and some people from IBM. This was the first machine that could figure out long of mathematical problems all at a very fast speed.

In 1946 two engineers at the University of Pennsylvania, J. Eckert and J. Mayshly, built the first digital computer using parts called vacuum tubes. They named their new invention UNIAc. The first generation of computers, which used vacuum tubes, came out in 1950. UNIAc I was an example of these computers which could perform thousand of calculations per second.

In 1960, the second generation of computers was developed and could perform work ten times faster than their predecessors. The reason for this extra speed was the use of transistors instead of vacuum tubes. Second generation computers were smaller, faster and more dependable than first generation computers.

The third-generation computers appeared on the market in 1965. These computers could do a million calculations a second, which is 1000 times faster than the first generation computers. Unlike second-generation computers, these are controlled by tiny integrated circuits and are consequently smaller and more dependable.

Fourth-generation computers have now arrived, and the integrated circuits that are being developed have been greatly reduced in size. This is due to microminaturization, which means that the circuits are much smaller than before; as many as 1000 tiny circuits now fit onto a single chip. A chip is a square or rectangular piece of silicon, usually from 1/10 to 1/4 inch, upon which several layers of an integrated circuit are attached or imprinted, after which the circuit is encapsulated in plastic metal. Fourth generation computers are 50 times faster than third-generation computers and can complete approximately 1.000.000 instructions per second.

3. Translate from English into Russian.

- | | |
|--------------------------------------|------------------------------|
| 1. the very first calculating device | 7. first digital computer |
| 2. to count in tens | 8. to figure out |
| 3. to multiply of tens | 9. ten times faster |
| 4. without knowing | 10. extra speed |
| 5. to be independently invented | 11. tiny integrated circuits |
| 6. to save a great deal of time | |
| 12. keeping instruction | |

4. Translate from Russian into English.

- | | |
|------------------|------------|
| 1. знать сегодня | 7. попытка |
|------------------|------------|

- | | |
|---|------------------------------|
| 2. 10 пальцев руки человека | 8. аналоговый компьютер |
| 3. кости на счетах двигают слева на право | 9. скорость |
| 4. продолжать использовать | 10. вакуумные лампы (трубки) |
| 5. счеты | 11. транзистор |
| 6. настоящая счетно-
вычислительная машина | 12. интегрированные схемы |

5. Fill in each blank with a word chosen from the list below to complete the meaning of the sentence.

chip, speed, figure out, calculating, reduces, microminuturization,
analog, logarithm, abacus, machine, vacuum tubes,
tiny, dependable, devised

1. The very first device used was 10 fingers of a man's hand.
2. Then, the was invented.
3. J. Napier a mechanical way of multiplying and dividing.
4. Henry Briggs used J.Napier's ideas to produce
5. The first real calculating appeared in 1820.
6. This type of machine the possibility of making mistakes.
7. In 1930 the first computer was built.
8. This was the first machine that could mathematical problems at a very fast speed.
9. In 1946 was built the first digital computer using parts called
10. The reason for this extra was the use of transistors instead of vacuum tubes.
11. The second generation computers were smaller, faster and more than first-generation computers.
12. The third-generation computers are controlled by integrated circuits.
13. This is due to, which means that the circuits are much smaller than before.
14. A is a square or rectangular piece of silicon, usually from 1/10 to 1/4 inch.

6. Fill in the preposition.

1. Let us take a look the history of computers.
2. That is why we count tens and multiply tens.
3. The beads are moved left right.
4. Abacus is still being used some parts the world.
5. Calculus was independently invented both Sir Isaac Newton and Leibnitz.
6. This type of machine depends a ten-toothed gear wheels.
7. «The Analytical Engine» was shown the Paris Exhibition 1855.
8. The men responsible this invention were Professor Howard Aiken and some people IBM.
9. The first generation of computers came in 1950.
10. Due to microminuturization 1000 tiny circuits fit a single chip.

7. Finish the following sentences.

1. The first generation of computers came out in
2. The second generation of computers could perform work ten times faster than their
3. The third-generation computers appeared on the market in
4. The fourth-generation computers have been greatly
5. The fourth-generation computers are 50 times faster and can

8. Find the synonyms to the following words in the text:

simple, to carry out, up to date, quick, to try, small

9. Find the antonyms to the following words in the text:

Like, short, to increase, sole, dependently

10. Arrange the items of the plan in a logical order according to the text:

1. J. Napier devised a mechanical way of multiplying and dividing.
2. The very first calculating device was the ten fingers of a man's hands.
3. Babbage showed his analytical engine at Paris Exhibition.
4. The first real calculating machine appeared in 1820.
5. The first analog computer was used in World War II.

11. Answer the questions on the text:

1. What was the very first calculating device?
2. What is abacus? When did people begin to use them?
3. When did a lot of people try to find easy ways of calculating?
4. Who used Napier's ideas to produce logarithm?
5. What was invented by Sir Isaac Newton and Leibnitz?
6. What did Charles Babbage design?
7. When was the first analog computer built? How did people use it?
8. Who built the first digital computer?
9. How did the first generation of computers work?
10. What are the differences between the first and the second computer generations?
11. When did the third-generation computers appear?

III. Подведение итогов урока и задание на дом.

Выучить лексику и подготовить сообщение на тему урока.

ПРАКТИЧЕСКОЕ ЗАНЯТИЕ.

Тема занятия

Компьютер. Хобби, зависимость или профессия.

**ЗАДАНИЯ К ПРАКТИЧЕСКИМ ЗАНЯТИЯМ, КОТОРЫЕ НУЖНО ВЫПОЛНИТЬ
СТУДЕНТАМ**

I. Выполнение упражнений на повторение темы предыдущего урока.

Проверка знаний лексики. Рассказ об истории компьютера.

II. Выполнение упражнений по теме урока.

Фонетическая зарядка.

Information technology (IT) is the use of [computers](#) to store, retrieve, transmit, and manipulate [data](#) or [information](#). IT is typically used within the context of [business operations](#) as opposed to personal or entertainment technologies. IT is considered to be a subset of [information and communications technology](#) (ICT). An information technology system (IT system) is generally an [information system](#), a [communications system](#), or, more specifically speaking, a [computer system](#) – including all [hardware](#), [software](#), and [peripheral](#) equipment – operated by a limited group of users.

Речевая зарядка.

1. What advantages of computer do you know?

computers extend the power of the human mind across the existing barriers. They save a lot of time. They seldom make mistakes. It's much faster and easier to surf the Internet than to go to the library.

2. Why have most large businesses become completely depended on computers?

In the last 10 years or so, most large businesses have become completely depended on computers for storing and looking an information, for writing and calculating financial and mathematical information. In many offices and organizations computer message have replaced messages written on paper, and they are now called e-mail or electronic mail.

3. What disadvantages of computers do you know?

Computers can get viruses. Sometimes the wrong people can make use of the information available in the wrong way. Computers become out of date very quickly, they need to be replaced.

4. Why is information science very important today?

Information science with the ideas and message of processing and storing information is of great importance today.

5. Why do the pupils teach the computers at school?

The pupils learn computers to resolve school problems. Contact with the machine increases the interest in learning, makes them more serious about studying new subject.

6. Where are school computers used?

School computers are used not only for studying information science, but also examinations purposes. Young people who finish the school must be trained to operate computers.

7. What is the chief use of computers in modern hospital?

Computers are one of great importance in modern hospital. The chief use of computers is storing and sorting the medical knowledge which has been enquired in the last 50 years. Today there are medical computer centers where all existing knowledge of symptoms of various diseases and of their treatment is stored. Doctors feed data on symptoms in the computer and get the necessary information on correct diagnostics and treatment.

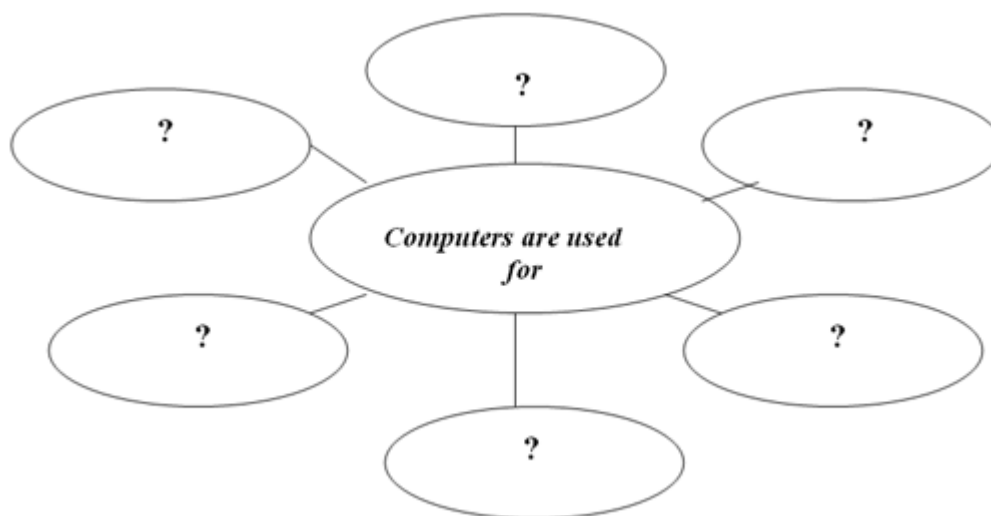
Вступительное слово учителя.

Today we are going to talk much about computers. The topic of our discussion is “Computers: friends or foes?” Please, read the statement on the blackboard and try to guess what the main aim of our lesson is: “*Computers aren't intelligent, they only think they are*” (Учащиеся высказывают свои идеи.)

Актуализация лексики по теме.

Fill in the mind map.

Работа ведется фронтально, назвавший свой вариант последним – победитель.



Примерные ответы учащихся:

- searching for information
- typing and keeping information
- listening to music
- reading books
- downloading information
- watching films
- printing documents
- using e-mail
- chatting with friends and relatives
- using social networks...

A computer quiz. Answer the questions. Use the words in the box:

(Работа организована в парах, дается время обдумать ответы на вопросы, затем каждая пара дает свои ответы, дополняя или поправляя при этом своих одноклассников.)

access * crash * database * E-mail * floppy disk (diskette) *
hard disk * hardware * laptop * multimedia * software *
the Internet * virtual reality (VR) * virus * web site *
* World Wide Web *

1. What computer system makes it possible to send letters very quickly?
2. What system allows computer users around the world to send and to obtain information?
3. What programs provide colorful pictures and sound?
4. What is the name of a computer-created “world”, which seems almost completely real?
5. What is a special term, which means “to obtain stored information from a computer’s memory”?
6. What do we call a disk on which a large quantity of information can be stored?
7. What do you call a sudden, unexpected computer failure?
8. What is the term for the electrical or electronic components of a computer?
9. What do we call a large collection of data that is stored in a computer system?

10. What is the term for a set of instructions secretly put into a computer that destroys the information stored in it and stops it from working normally?
11. Where on the Internet can you look for information about products and services offered by a company or organization?
12. What is WWW?
13. What store of information can you easily put into your pocket?
14. What do we call a set of computer programs to control the operation of a computer?
15. What kind of computer can you use on the plane?

Аудирование

Текст для аудирования

What do you use the computer for?

Mainly for word processing (but not for writing, which I still do with a pen), keeping track of my life, searching for information from the Internet for writing purposes or for traveling. When I travel to a place I don't know – for example Russia or Canada – I look at Encarta on CD-ROM, and when I'm going to travel to a place like Krasnoyarsk, I print off the map of the area where I'm going.

Does the computer save time?

I used to think the PC's main purpose in our lives was to reduce the time it took to get things done so that people could enjoy other hobbies – skiing, for example. I don't think that's so anymore.

We've become more intimate with our PC's. Starting with e-mail, we began having on-line relationships with people we had never heard of or hardly knew. Then, a lot of us bought a PC for home and began using it just for fun. And people started to spend hours on-line chatting with strangers. The PC is becoming an integral part of our private and professional lives I should say.

How did you start using a PC?

I hadn't used computers until 1983. It was a small thing produced here in England, plugged into the TV. And it never worked. I packed it in its original box and never used it again. Then I went to work in Hong Kong and bought a pirated IBM copy. That was a huge thing that didn't work either, but it was OK as a word-processor. Then I went to Japan and was given a Macintosh by the company I worked for. And that was what got me really interested because the Macintosh is very user-friendly.

Has your life changed since you started using the PC?

Yes, my eyes have got worse!

On a desert island, would you prefer a human or a computer for company?

Depends on the human! Forced to choose, I would take the computer, as long as it had a modem and a line to the outside world.

Задание 1 по аудированию.

Listen to the interview with Mike Phillips, a journalist and match phrases from the interview (first column) to the ones similar in meaning from the second column. Add more uses of computers to the mind-map.

1. searching for	a) keeping a diary
2. plug into	b) looking for
3. an integral part	c) save the time
4. user-friendly	d) easy to use

5. reduce the time	e) a necessary part
6. keeping track of life	f) connect to

Задание 2 по аудированию.

Listen to the interview with Mike Phillips, a journalist and match phrases from the interview (first column) to the ones similar in meaning from the second column. Add more uses of computers to the mind-map.

I use it mainly for word processing (but not for writing, which I still do with a pen), _____, _____ from the Internet, for writing purposes or for traveling.
 I used to think the PC's main purpose in our lives was to _____ it took to get things done so that people could enjoy other hobbies – skiing, for example.
 The PC is becoming _____ of our private and professional lives I should say.
 It was a small thing produced here in England, _____ the TV.
 And that was what got me really interested because the Macintosh is very _____.

Чтение 1.

Read the story “Steve belonged to the Net” and put the linking words where it is necessary. Answer the questions after the text.

finally * one autumn day * then
 in any case * later * so

Steve belonged to the Net

1 _____ I was walking around. It was cold and it started to rain. I was looking for a restaurant or a café where I could sit and have something to drink, when I saw one. I crossed the street and I was there. I sat at a round table and asked for a coffee.

2 While I was waiting for my drink, I realized that there were other people in the place sitting in front of computers. _____ I stood up and walked between the tables.

3 When I came up to the biggest computer, I saw a thin, small man. “I’m Steve,” he answered after I had asked him a couple of times what his name was. “I can’t talk with you/ I’m busy”, he said. I thought he was working, and I apologized. But he was not working. He was chatting online with somebody – probably someone he didn’t know – and, at the same time, he was playing a computer game – a war game. I was surprised. Why didn’t Steve want to talk with me?

4 _____ I tried to communicate with another computer geek, but not a word came out of his mouth. I touched his shoulder, but there was no reaction. I was getting upset. I put my hand in front of the monitor, and he started to shout, “Leave me alone!”

5 _____ I realized the people in that place were having a cup of coffee and a nice conversation with their machines. All of them were more interested in having a relationship with the computer. I felt lonely. I saw their bodies, but I couldn’t feel their souls. That was because their souls didn’t belong to them. They belonged to the “Net”.

6 _____ I wouldn’t want to imagine the future of human beings if they preferred sharing their lives with machines instead of with people. I had never thought that people could be so

absorbed with computers. I was worried. I didn't even realize that the coffee was bad, just as Steve didn't even realize that there was a person next to him.

1. Why are the linking words so important?
2. Which sentences in the first paragraph describe facts and which a process? Name the grammar forms of the verbs. Find some other cases in the text.
3. Read the sentences with **while** and **when**. Which grammar forms help to describe the actions in the past?
4. Read the underlined sentences in the 6th paragraph. Which was earlier in time? How do you know? Find other cases in the text.

Чтение 2.

Read this paragraph. Somebody is talking about using computers. Complete the text by choosing one word for each gap. One of the words is used twice.

totally * such * means * with * more * themselves *
actually

For me, computers are a (1) _____ to an end, nothing (2) _____. I don't find them interesting in (3) _____. They enable me to do things that I need to do, (4) _____ as sending emails or checking information on websites to help me (5) _____ my homework or connected to one of my hobbies. But (6) _____ my sister the situation is (7) _____ different. It's like you can't believe we're (8) _____ related. She is obsessed with computers. I don't understand, but that's the truth.

Говорение.

In groups of three discuss the text "Steve belonged to the Net". Answer the questions:

1. Why was the author so surprised that Steve didn't want to talk to him?
2. How does the author describe his emotions?
3. Why was he worried in the end of the narration?
4. Can social networks substitute real life communication? What is your opinion?
5. How much time do you personally spend on the Net?
6. Do you have enough time for your hobbies or doing sport?
7. Would you rather have a computer or a person for company on a desert island?

Discuss with your partners whether computers are friends or foes in our life. Use the following text.

Работа в группах по 3 человека. Представление своих аргументов, выражение согласия/несогласия.

Computers: For And Against За и против компьютеров

Computers now are an essential part of our life. I can't imagine my life without a computer. There so many advantages of using a computer. Компьютеры сейчас – неотъемлемая часть нашей жизни. Я не могу представить себе жизнь без компьютера. Существует столько преимуществ использования компьютера.

First of all they make our lives easier. Computers help us at school, university, at work. It's faster to write something on computer, than by hand, it's more convenient to send emails than letters by post. I often use computer in my studies, for example, if I need to read a book I can easily download it from the Internet. I also use Internet to search for information I need for school. Прежде всего, они делают нашу жизнь проще. Компьютеры помогают нам в школе, университете и на работе. Намного быстрее набрать текст на компьютере, чем написать от руки, намного удобнее отправить электронное сообщение, чем письмо по почте. Я часто использую компьютер для учебы, например, если мне нужно прочитать книгу, я могу просто скачать ее из интернета. Я также могу найти информацию, которая мне нужна для школы.

I like watching movies very much. But I don't like these movies shown at our cinemas and the choice is not so wide. Using my computer I can find any movie I like and moreover I can watch films in English. Я люблю смотреть кино. Но мне не нравятся те фильм, которые показывают у нас в кинотеатрах, и выбор не очень большой. С помощью моего компьютера я могу найти фильмы, которые хочу и, более того, можно смотреть фильм на английском.

Computer and Internet help me to communicate with my friends who live in other countries and find new friends. It would be difficult to stay in touch with them without computer, but with the help of it we can send emails to each other, share photos, music and so on. Компьютер и интернет помогают мне общаться с друзьями, которые живут в других странах и находить новых друзей. Было бы сложно поддерживать контакт с ними без компьютера, но с его помощью мы можем посылать друг другу электронные сообщения, делиться фотографиями, музыкой и так далее.

But unfortunately some people keep no measure in using computers. Children and teenagers are addicted to computer games and don't have time for studying or reading books. Some of them prefer online chatting to face to face communication with their friends. Computer harms our psychological state and eye sight. Но, к сожалению, некоторые не знают меры в использовании компьютера. Дети и подростки зависимы от компьютерных игр и у них нет времени на учебу и чтение. Некоторые предпочитают общаться с друзьями онлайн, а не лицом к лицу. Компьютер отрицательно воздействует на психологию человека и зрение.

So I think computers are really useful if we don't use them excessively. Я думаю, что компьютеры полезны во многом, если мы не злоупотребляем ими.

Речевые клише для выражения личного мнения.

As far as I am concerned...
In my opinion, ...
In my view/judgment ...
I believe that ...
My personal view is that...
том, что...

Что касается меня, то я считаю...
По моему мнению, ...
На мой взгляд/по моему суждению...
Я полагаю, что...
Моя личная точка зрения заключается в

Речевые клише для выражения согласия.

I accept your point of view.
I could not agree with you more.
I see exactly what you mean.
That is partly true but...
You are absolutely right.
I agree with you 100 percent.

Я принимаю Вашу точку зрения.
Полностью с Вами согласен.
Я понимаю, что Вы имеете в виду.
Это частично правда, но...
Вы абсолютно правы.
Я согласен с Вами на 100 процентов.

Речевые клише для выражения несогласия.

I am afraid I disagree with you.
I cannot agree with you.
I totally disagree.
It's the other way round.
That's not the case.

Боюсь, я не согласен с Вами.
Не могу с Вами согласиться.
Я абсолютно не согласен.
Совсем наоборот.
Не в этом дело.

III. Повторение грамматики.

IV. Подведение итогов урока и задание на дом.

Подготовить сообщение на тему урока. Подготовиться к зачету.

ПРАКТИЧЕСКОЕ ЗАНЯТИЕ.

Тема занятия

Составляющие компоненты компьютера.

ЗАДАНИЯ К ПРАКТИЧЕСКИМ ЗАНЯТИЯМ, КОТОРЫЕ НУЖНО ВЫПОЛНИТЬ СТУДЕНТАМ

I.Выполнение задания на повторение темы предыдущего урока.

II.Выполнение упражнений по теме урока.

1.Знакомство с новой лексикой (учащиеся записывают лексику в тетради).

amount — количество
capacity — вместительность
circuitry — эл. цепи
CPU, microprocessor — микропроцессор
Hard disk — жесткий диск, «винчестер»
Input hardware — устройства ввода данных
keyboard — клавиатура
lap — колени
mouse — устройство для перемещения объектов на экране, «мышь»
output hardware — выходные устройства отображения информации
printer — принтер
processing hardware — устройства обработки данных
RAM — ОЗУ (оперативное запоминающее устройство)
ROM — ПЗУ (постоянное запоминающее устройство)
CD-ROM — накопитель на компакт-дисках (CD)
scanner — сканер

sensitive — чувствительный
sophisticated — сложный
storage hardware — устройства хранения данных
temporarily — временно
temporary — временный
the purpose — цель
tier — ярус
to affect — влиять
to connect — соединять
to convert — преобразовывать
to direct — управлять
to execute — выполнять
to interpret — переводить
to provide — обеспечивать
to reach — достигать
to retrieve — извлекать
to roll — катать, перекатывать
volatile — летучий, нестойкий, временный

2. Чтение и перевод текста. Метод «Зигзаг».

Hardware

What is hardware? Webster's dictionary gives us the following definition of the hardware — the mechanical, magnetic, electronic, and electrical devices composing a computer system.

Computer hardware can be divided into four categories:

- 1) input hardware
- 2) processing hardware
- 3) storage hardware
- 4) output hardware.

Input hardware

The purpose of the input hardware is to collect data and convert it into a form suitable for computer processing. The most common input device is a keyboard. It looks very much like a typewriter. The mouse is a hand held device connected to the computer by small cable. As the mouse is rolled across the mouse pad, the cursor moves across the screen. When the cursor reaches the desired location, the user usually pushes a button on the mouse once or twice to signal a menu selection or a command to the computer.

The light pen uses a light sensitive photoelectric cell to signal screen position to the computer. Another type of input hardware is optic-electronic scanner that is used to input graphics as well as typeset characters. Microphone and digital camera can be also used to input data into the computer.

Processing hardware

The purpose of processing hardware is retrieve, interpret and direct the execution of software instructions provided to the computer. The most common components of processing hardware are the Central Processing Unit and main memory.

The Central Processing Unit (CPU) is the brain of the computer. It reads and interprets software instructions and coordinates the processing activities that must take place. The design of the CPU affects the processing power and the speed of the computer, as well as the amount of main memory it can use effectively. With a well-designed CPU in your computer, you can perform highly sophisticated tasks in a very short time.

Memory is the system of component of the computer in which information is stored. There are two types of computer memory: RAM and ROM.

RAM (random access memory) is the volatile computer memory, used for creating loading, and running programs and for manipulating and temporarily storing data;

ROM (read only memory) is nonvolatile, non-modifiable computer memory, used to hold programmed instructions to the system.

The more memory you have in your computer, the more operations you can perform that is the faster it works.

Storage hardware

The purpose of storage hardware is to store computer instructions and data in a form that is relatively permanent and retrieve when needed for processing. Storage hardware serves the same basic functions as do office filing systems except that it stores data as electromagnetic signals. The most common ways of storing data are Hard disk, floppy disk and CD-ROM.

Hard disk is a rigid disk coated with magnetic material, for storing programs and relatively large amounts of data.

Floppy disk (diskette) - thin, usually flexible plastic disk coated with magnetic material, for storing computer data and programs. There are two formats for floppy disks: 5.25" and 3.5". 5.25" is not used in modern computer systems because of it relatively large size flexibility and small capacity. 3.5" disks are formatted 1.4 megabytes and are widely used.

CD-ROM (compact disc read only memory) is a compact disc on which a large amount of digitized read-only data can be stored. CD-ROMs are very popular now be-cause of the growing speed which CD-ROM drives can provide nowadays.

Output hardware

The purpose of output hardware is to provide the user with the means to view information produced by the computer system. Information is output in either hardcopy or softcopy form. Hardcopy output can be held in your hand, such as paper with text (word or numbers) or graphics printed on it. Softcopy output is displayed on a monitor.

Monitor is a component with a display screen for viewing computer data, television programs, etc.

Printer is a computer output device that produces a paper copy of data or graphics.

Modem is an example of communication hardware — an electronic device that makes possible the transmission of data to or from computer via telephone or other communication lines.

Hardware comes in many configurations, depending on what the computer system is designed to do. Hardware can fill several floors of a large office building or can fit on your lap.

3. Ответы на вопросы.

1. What is the Webster's dictionary definition of the hardware?
2. What groups of hardware could be defined?
3. What is input hardware? What are the examples of input hardware?
4. What is mouse designed for? What is a light pen?
5. What is processing hardware? What are the basic types of memory used in a PC?
6. Can a PC-user change the ROM? Who records the information in ROM?

7. What is storage hardware? What is CD-ROM used for? Can a user record his or her data on a CD? What kind of storage hardware can contain more information: CD-ROM, RAM or ROM?
8. What is modem used for? Can PC-user communicate with other people without a modem?

4. Определите какие из приведенных ниже утверждений правильные или неправильные. Обоснуйте свой ответ. Which of the listed below statements are true/false. Specify your answer using the text.

- 1) Computer is an electronic device therefore hardware is a system of electronic devices.
- 2) The purpose of the input hardware is to collect data and convert it into a form suitable for computer processing.
- 3) Scanner is used to input graphics only.
- 4) The purpose of processing hardware is to retrieve, interpret and direct the execution of software instructions provided to the computer.
- 5) CPU reads and interprets software and prints the results on paper.
- 6) User is unable to change the contents of ROM.
- 7) 5.25" floppy disks are used more often because they are flexible and have more capacity than 3.5" disks.
- 5) Printer is a processing hardware because its purpose is to show the information produced by the system.
- 6) Modem is an electronic device that makes possible the transmission of data from one computer to another via telephone or other communication lines.
- 7) The purpose of storage hardware is to store computer instructions and data in a form that is relatively permanent and retrieve them when needed for processing.

5. Дайте определения следующим словам. Give definitions to the following using the vocabulary

- 1) CPU
- 2) ROM
- 3) Floppy-disk
- 4) CD-ROM
- 5) Printer
- 6) Modem
- 7) Motherboard
- 8) Hard disk
- 9) Keyboard
- 10) Sound-card

6. Что из нижеследующих наименований входит в аппаратное обеспечение. Which of the following is Hardware?

- 1) program
- 2) mouse
- 3) CPU
- 4) printer
- 5) modem
- 6) command
- 7) port
- 8) cursor or the pointer
- 9) keyboard
- 10) character

7. Соотнесите следующие слова с их определениями. Match the following:

- 1) процессор
- 2) клавиатура
- 3) мышь
- 4) дискета
- 5) «винчестер»
- 6) модем
- 7) экран
- 8) ПЗУ
- 9) ОЗУ

- a) nonvolatile, non-modifiable computer memory, used to hold programmed instructions to the system.
- b) the part of a television or computer on which a picture is formed or information is displayed.
- c) rigid disk coated with magnetic material, for storing computer programs and relatively large amounts of data.
- d) an electronic device that makes possible the transmission of data to or from computer via telephone or other communication lines.
- e) a set of keys, usually arranged in tiers, for operating a typewriter, typesetting machine, computer terminal, or the like.
- f) volatile computer memory, used for creating, loading, and running programs and for manipulating and temporarily storing data; main memory.
- g) central processing unit: the key component of a computer system, containing the circuitry necessary to interpret and execute program instructions.
- h) a palm-sized device equipped with one or more buttons, used to point at and select items on a computer display screen and for controlling the cursor by means of analogous movement on a nearby surface.
- i) a thin, usually flexible plastic disk coated with magnetic material, for storing computer data and program.

8. Обсудите следующие вопросы. Questions for group discussion. «Корзина идей»

- 1) Without what parts computer is unable to work?
- 2) What is the most expensive part of the hardware?
- 3) What other hardware devices do you know? What are they for? Do you know how to use them?

9. Грамматическое задание.

Найти в тексте 10 глаголов в настоящем простом времени и образовать от них прошедшее простое время и будущее простое время. Составить предложения с этими глаголами.

Moves- moved- will move

Reaches- reached- will reach

Interprets- interpreted- will interpret

Produces- produced- will produce

The new computer will interpret software instructions and coordinate the processing activities that must take place.

The purpose of output hardware is to provide the user with the means by

The old processing hardware is to retrieve, interpret and direct the execution of software instructions provided to the computer.

III. Подведение итогов урока и задание на дом.

Выучить лексику и составить рассказ об аппаратном обеспечении с использованием новой лексики.

ПРАКТИЧЕСКОЕ ЗАНЯТИЕ № 13.

Тема занятия

Периферийные устройства.

ЗАДАНИЯ К ПРАКТИЧЕСКИМ ЗАНЯТИЯМ, КОТОРЫЕ НУЖНО ВЫПОЛНИТЬ СТУДЕНТАМ

I.Выполнение упражнений на повторение темы предыдущего урока.

II.Выполнение упражнений по теме урока.

I. Look up the words in the dictionary. Write them down.

issuing commands	to insert	a double click
a desktop	non-impact	to utilize
to install	a seal	a beam
a strip	a track	a pin
a wedge	a slot	a dot
to slide	to delete	an auxiliary storage
to attach	a keypad	density

2. Read the text and do the exercises that follow it.

Input and Output Devices

A peripheral is a device performs input, output or storage functions and is connected to CPU. In order for the computer to be of use to us, there must be some types of mechanism for entering data into the computer for processing. Devices which allow the task of data entry to be performed are called input devices.

Input we use to perform the two basic computational tasks: data entry and issuing commands. The most widely used input device is the keyboard, which was adapted from the typewriter. The keyboard is the standard mean for the user to input data into the computer. Unfortunately, it is not a very satisfactory means of input because most people have little or no knowledge of the layout of a typewriter keyboard.

The keyboard itself doesn't contain any mechanism for creating printed pages. Each time a key on the keyboard is pressed, an electronic signal is sent to the system unit indicating which key was pressed. The system unit and the software interpret this signal and take the appropriate action.

Some keys are added to terminal keyboards to fulfill special functions. The most important of these is the RETURN or ENTRY key. This is pressed by the user to indicate to the computer, by the sending of a special code, that the typed line is complete and that the computer can now analyze it. Other keys that may be present include a delete key which when pressed deletes the character just typed, special function keys that can be used for special purpose by different programs and one marked CONTROL or CTRL which also has a particular function when used with other keys. Some keyboards may also have a numeric keypad to the right of the typewriter keyboard. This may be of help when entering numeric data.

There are three keyboard layouts. The first is the standard IBM-PC keyboard. The central portion of the keyboard consists of the alphanumeric keys, that there are ten function keys (labeled F1 – F10) on the top side of the keyboard, and there is a numeric keypad, much like that found on a calculator, on the right side of the keyboard.

The function keys are keys which send special signals to the system unit. The effect of pressing a given function key will depend on the software which is currently in use.

The numeric keypad is useful when numeric data must be entered into the computer. The numeric keypad serves two roles. The 1st role is the digits, decimal points and addition and subtraction signs are active. The 2nd role is the key of the keypad are used to control the small blinking box or line on the screen which shows the user where the next typed character will be displayed. This line is known as the cursor. The cursor control keys are the arrows (left, right, up and down), PgUp, PgDn, Insert and Delete. But there are several types of pointing device that are used to move the cursor and usually work in conjunction with the keyboard. The most common pointing device is the mouse, so called because it slides over the desktop and has a wire or 'tail' attached to the computer.

So a mouse is a hand-held device with a small rotating ball embedded in the bottom. The mouse is an opto-mechanical input device. It has three or two buttons which control the cursor movement across the screen. Each software program uses those buttons differently. The Mouse's primary functions are to help users to draw, point and select images on the computer display by moving the mouse across the screen. In general software programs require to press one or more buttons, sometimes keeping them depressed or double-click them to issue changed in commands and to draw or to erase images.

The Mouse slopes gently towards the front, so fingers rest comfortably on the three (or two) buttons which respond easily, and click when pressed. Especially this feature is helpful when user must «double-click» the buttons to activate commands. Hardware installation is required to utilize the mouse.

Another pointing device is a trackball, which performs like a stationary upside-down mouse. A joystick is another pointing device, one that is usually associated with playing computer games. A light-pen is used to draw, write or issue commands when it touches the specially designed monitor or screen. It is a pen-shaped device connected by a cable to the terminal and a thin beam of light shines from the end. When the pen is pressed on the screen, the co-ordinates of the point are fed to the computer.

A scanner permits entering text into a computer. There are flat-bed scanners and hand-held scanners.

Perhaps the easiest way to enter data into a computer is by speaking, called Voice Recognition. Source data input refers to data fed directly into the computer without human intervention.

If the result of the processing is to be any use to us, the system unit must somehow convey these results to us. Devices which are used for this purpose are called output devices. Today, most outputs are visual in nature, produced by two devices: a video display screen monitor or a printer. Most computer outputs come in two forms: text and graphics. A monitor may be referred to as a cathode Ray Tube (CRT) – a vacuum tube such as the picture tube on a television set – that is used to generate the display on most monitors. Portable computers usually rely on other, less bulky, technologies, such as liquid crystal diode (LCD) or gas plasma displays. Each monitor has either a color or a monochrome display and has varying degrees of picture sharpness. The sharpness or resolution of a video display is often stated in term of the number individual dots which can be displayed on the screen. These individual dots are called pixels (picture elements). The typical display will allow 25 rows and 80 columns of textual material.

Printers are output devices which produce hardcopy. Printers come in all kinds of shapes and sizes, with varying capabilities and mechanisms for printing. The important thing is the user must be sure that the printer is appropriate to the type of output that he wishes to produce. There are three main types of printers: a dot-matrix printer, a letter quality printer and a laser printer.

A dot-matrix printer produced output by having small pins strike a ribbon, producing a pattern of dots on the paper. A letter quality printer uses the same technology as a typewriter, with type holding the reserved images of fully formed characters striking the ribbon. Dot matrix printers can also produce both characters and graphics by building a pattern of dots.

A laser printer provides high-quality non-impact printing and offers the highest quality texts and graphics printing for the desktop. A laser printer is like a dot-matrix printer is produced by generating patterns of dots; this is done electronically, so that the pattern can be extremely fine, making the individual dots indistinguishable to the naked eye.

A letter quality printer is unable to produce both characters and graphics by building a pattern of dots, because a dot pattern is not used to produce characters. A letter quality printer allows the production of documents with a high quality of printing at a relatively low cost.

There are another types of printers. Inkjet printers transfer characters and images to paper by spraying a fine jet of ink. Like lasers, they are able to print many different types of fonts and graphics.

Other printers include plotters, that use colored pens for scientific and engineering drawing and thermal printers that use heat to form a nonimpact image on paper.

Computer output can also be sent to another machine, device or computer. Computer output task involved micrographics. Micrographics is a way to store output on a film. Output is sent to a special machine that reduces its size and records it 10 to 20 times faster than printing.

There are two methods of storing and accessing instructions or data in auxiliary storage. One is direct access and the other is sequential access.

Direct access, called random access, means the data is stored in a particular memory location. Direct access storage devices or DASD are magnetic disk drives use for auxiliary storage. There are two types of DASD: floppy disks and hard disks. Floppy disks are divided into two sizes of portable magnetic disks, which are commonly in use. The first of these is the 5.25 floppy disk. The second of these is the 3.5 floppy disk. Both these disks are called diskettes, because the disk material itself is a strong, flexible (floppy) plastic. The 5.25 disk has a heavy,

but flexible, plastic envelope that protects the actual disk. The 3.5 disk has a rigid plastic casing to protect the disk.

The capacity of disks is determined by the density with which the metallic particles are placed on the disk; so the capacity of a disk is expressed in terms of this density. A 5.25 double density disk can hold approximately 360K bytes, a 5.25 high density disk can hold 1.2 megabytes. A 3.5 double density disk can hold 720K bytes, a 3.5 high density disk can hold 1.44 megabytes.

Hard disks operate in a similar fashion to floppy disks, but the disk itself is made from a rigid material – often aluminum. In most personal computers the hard disk and the hard disk drive are single unit that is permanently installed. The hard disk is a sealed unit manufactured to fine tolerance, it can operate at higher speed and store more data and information than floppy disk systems. A common size for a hard disk is 40 megabytes, which can hold as much data as over double density 5.25 floppies.

On disk type storage, data is magnetically laid out in tracks and sectors. Tracks are concentric circles on which data is recorded. Sectors are pie-shaped wedges that compartmentalize the data into the addresses for the head to locate. Multiple head disks drives organize tracks into cylinders, a vertical stack of tracks that make it easier for the head to locate the data.

3. Translate these into your own language.

- | | |
|---|------------------------------------|
| 1. input, output or storage functions | 10. a stationary upside-down mouse |
| 2. to be of use to us | 11. without human intervention |
| 3. basic computational tasks | 12. less bulky |
| 4. the standard mean | 13. naked eye |
| 5. interpret the signal | 14. spraying a fine jet of ink |
| 6. numeric keypad | 15. fonts and graphics |
| 7. central portion | 16. direct and sequential access |
| 8. small blinking box | 17. flexible, plastic envelope |
| 9. small rotating ball embedded in the bottom | |

4. Translate these into English.

- | | |
|--------------------------------------|--------------------------------------|
| 1. вводное устройство | 10. курсор |
| 2. выводное устройство | 11. легко передвигается по столу |
| 3. клавиатура | 12. необходимо нажать 1 или 2 кнопки |
| 4. результирующие команды | 13. двойной щелчок |
| 5. для создания напечатанных образов | 14. удалить |
| 6. выполнять специальные функции | 15. соединенный с помощью кабеля |
| 7. слои | 16. Жидкий кристаллический диод |
| 8. справа | 17. четкость изображения |
| 9. следующий напечатанный символ | |

5. Fill in the gaps necessary words:

1. A peripheral is a that performs input/ output or functions.
2. There must be some type of mechanism for data into the computer for
3. Input is used to perform two basic computational tasks and
4. There are three keyboard
5. The numeric is useful when numeric data must be into the computer.
6. The mouse is a unit with a small rotating ball.

7. A user must the buttons to activate the command.
8. The system unit must the results to us.
9. Printers are devices which produce
10. or are magnetic disk drives use for auxiliary storage.
11. The of disks is by the density.
12. The is a sealed unit, which is installed by the manufacturer.

6. Fill in the prepositions.

1. A keyboard was adapted the typewriter.
2. Special function keys can be used special purpose different programs.
3. There are 10 function keys the top side of the keyboard.
4. Numeric data must be entered the computer.
5. Joystick is usually associated playing computer games.
6. A scanner permits entering text a computer.
7. Vacuum tube is used to generate the display most monitors.
8. Micrographics is a way to store output film.
9. Floppy disks are divided two sizes of portable magnetic disks.
10. The capacity of disks is determined by the density which the metal particles are placed the disk.

7. Find the synonyms to the following words.

a unit, a memory, a device, to permit, to correspond (to)
input/ output, to erase, a part, to direct, to slip, to insert
to transfer, to diverse, to short, to use

VIII. Find the antonyms to the following words:

to forbid, narrow, a main unit, hardly, to forget, dull
to separate, to enter commands, without results, inappropriate
to release, top, rouge, to store, a thick beam, beginning
lower speed, hard disk, inconstant, soft copy, impact
printing, low quality, expensive, to pollute

8. Give the definitions to the following terms:

- | | |
|------------------|----------------------|
| 1. input device | 7. a joystick |
| 2. output device | 8. voice recognition |
| 3. a keyboard | 9. printer |
| 4. a mouse | 10. hard-disk |
| 5. a scanner | 11. floppy disk |
| 6. trackball | |

9. Which sentences don't correspond to the sense of the text.

1. Input we use to perform the two basic computational tasks: data entry and issuing commands.
2. There are a lot of kinds of keyboards. IBM manufactures a keyboard which has a split-keypad, gently sloping keyboard that fits more closely to natural position of your hands and wrists.
3. The most common pointing device is the mouse. The mouse's primary functions are to help users to draw, point and select images on the computer display.

4. There are a lot of output devices. The most convenient is when scanner, printer and fax are united together in one.

5. There are several types of auxiliary storage. Floppy disks are divided into two sizes: 5.25 floppy disk and 3.5 floppy disk.

10. Answer the following questions:

1. What is the peripheral?

2. What can input units perform? Name the input units. Give them short characteristics.

3. What can the output units perform? Name them and give them short characteristics.

4. How many methods of storing and accessing instructions or data are in the auxiliary storage?

5. How many types of disks do you know? Give the features to the floppy disks, to the hard-disks.

11. Write the plan for retelling.

12. Make up the retelling of the text.

III. Повторение грамматического материала.

IV. Подведение итогов урока и задание на дом.

Выучить пересказ текста.

ПРАКТИЧЕСКОЕ ЗАНЯТИЕ № 14.

Тема занятия

Программное обеспечение.

ЗАДАНИЯ К ПРАКТИЧЕСКИМ ЗАНЯТИЯМ, КОТОРЫЕ НУЖНО ВЫПОЛНИТЬ СТУДЕНТАМ

I. Выполнение задания на повторение темы предыдущего урока.

II. Выполнение упражнений по теме урока.

1. Знакомство с новой лексикой (учащиеся записывают лексику в тетради).

to attach — присоединять

control — управление
 developer — разработчик
 general-purpose — общего назначения, многоцелевой
 internal — внутренний
 mainboard — материнская плата
 memory capacity — вместимость памяти
 peripheral — периферийный
 regard — отношение
 regardless — несмотря на, безотносительно,
 security — безопасность
 specific — конкретный, определенный
 to boot — запускать
 to check — проверять
 to direct — управлять, руководить
 to handle — управлять, обращаться с
 to provide with — обеспечивать чем-либо
 to require — требовать
 to secure — обеспечивать безопасность
 to transfer — переводить, переносить
 to install — устанавливать, встраивать,
 Web-browser — «браузер» (программа, позволяющая пользователю искать и считывать информацию с глобальной электронной сети Internet)
 To conduct- проводить
 To complete-завершать
 Equipment-оборудование
 Aid-помощь
 To develop-развивать
 Gimmick-приманка

2. Чтение и перевод текста.

Types of software Учебник И.П. Агабекян стр. 178

A computer to complete a job requires more than just the actual equipment or hardware we see and touch. It requires Software — programs for directing the operation of a computer or electronic data.

Software is the final computer system component. These computer programs instruct the hardware how to conduct processing. The computer is merely a general-purpose machine which requires specific software to perform a given task. Computers can input, calculate, compare, and output data as information. Software determines the order in which these operations are performed.

Programs usually fall in one of two categories: system software and applications software.

System software controls standard internal computer activities. An operating system, for example, is a collection of system programs that aid in the operation of a computer regardless of the application software being used. When a computer is first turned on, one of the systems programs is booted or loaded into the computers memory. This software contains information about memory capacity, the model of the processor, the disk drives to be used, and more. Once the system software is loaded, the applications software can be brought in.

System programs are designed for the specific pieces of hardware. These programs are called drivers and coordinate peripheral hardware and computer activities. User needs to install a specific driver in

order to activate a peripheral device. For example, if you intend to buy a printer or a scanner you need to worry in advance about the driver program which, though, commonly goes along with your device. By installing the driver you «teach» your mainboard to «understand» the newly attached part.

Applications software satisfies your specific need. The developers of application software rely mostly on marketing research strategies trying to do their best to attract more users (buyers) to their software. As the productivity of the hardware has increased greatly in recent years, the programmers nowadays tend to include as much as possible in one program to make software interface look more attractive to the user. These class of programs is the most numerous and perspective from the marketing point of view.

Data communication within and between computers systems is handled by system software.

Communications software transfers data from one computer system to another. These programs usually provide users with data security and error checking along with physically transferring data between the two computer's memories. During the past five years the developing electronic network communication has stimulated more and more companies to produce various communication software, such as Web-Browsers for Internet.

3. Ответы на вопросы.

1. What is software?- Software — programs for directing the operation of a computer or electronic data. Software is the final computer system component.
2. In what two basic groups software (programs) could be divided?- Programs usually fall in one of two categories: system software and applications software.
3. What is system software for? System software controls standard internal computer activities.
4. What is an operating system — a system software or application software? An operating system, for example, is a collection of system programs that aid in the operation of a computer regardless of the application software being used.
5. What is a «driver»? System programs are designed for the specific pieces of hardware. These programs are called drivers and coordinate peripheral hardware and computer activities. By installing the driver you «teach» your mainboard to «understand» the newly attached part.
6. What is application software?
7. What is application software used for? Applications software satisfies your specific need. The developers of application software rely mostly on marketing research strategies trying to do their best to attract more users (buyers) to their software.
8. What is the tendency in application software market in the recent years? As the productivity of the hardware has increased greatly in recent years, the programmers nowadays tend to include as much as possible in one program to make software interface look more attractive to the user.
9. What is the application of the communication software? Communications software transfers data from one computer system to another. These programs usually provide users with data security and error checking along with physically transferring data between the two computer's memories. During the past five years the developing electronic network communication has stimulated more and more companies to produce various communication software, such as Web-Browsers for Internet.

4. Что из следующего входит в программное обеспечение. Which of the following is Software:

1. Program

2. Mouse
3. CPU
4. Word processor
5. Modem
6. Web-browser
7. Operating system
8. Scanner
9. Printer
10. Display

5. Какие из ниже приведенных утверждений правильные, а какие неправильные. Обоснуйте свой ответ, используя текст. Which of the listed below statements are true/false. Specify your answer using the text:

- 1) Computer programs only instruct hardware how to handle data storage. *These computer programs instruct the hardware how to conduct processing.*
- 2) System software controls internal computer activities. *System software controls standard internal computer activities.*
- 3) System software is very dependable on the type of application software being used. Computers can input, calculate, compare, and output data as information. Software determines the order in which these operations are performed. Once the system software is loaded, the applications software can be brought in.
- 4) The information about memory capacity, the model of the processor and disk drives are unavailable for system software. This software contains information about memory capacity, the model of the processor, the disk drives to be used, and more.
- 5) The driver is a special device usually used by car drivers for Floppy-disk driving. These programs are called drivers and coordinate peripheral hardware and computer activities.
- 6) It is very reasonable to ask for a driver when you buy a new piece of hardware. User needs to install a specific driver in order to activate a peripheral device. For example, if you intend to buy a printer or a scanner you need to worry in advance about the driver program which, though, commonly goes along with your device. By installing the driver you «teach» your mainboard to «understand» the newly attached part.
- 7) Software developers tend to make their products very small and with poor interface to save computer resources.
As the productivity of the hardware has increased greatly in recent years, the programmers nowadays tend to include as much as possible in one program to make software interface look more attractive to the user.
- 8) Communication software is in great demand now because of the new advances in communication technologies.
- 9) Application software is merely a general-purpose instrument. During the past five years the developing electronic network communication has stimulated more and more companies to produce various communication software, such as Web-Browsers for Internet.
- 10) Web-browsers is the class of software for electronic communication through the network.

6. Найдите в тексте эквиваленты следующих словосочетаний. Find English equivalents in the text. (Работа в группах).

- 1) Программное обеспечение определяет порядок выполнения операций. Software determines the order in which these operations are performed.

- 2) Прикладные программы выполняют поставленную вами конкретную задачу (удовлетворяют вашу потребность). Applications software satisfies your specific need.
- 3) Этот класс программ — самый многочисленный и перспективный с точки зрения маркетинга. These class of programs is the most numerous and perspective from the marketing point of view.
- 4) Системные программы предназначены для конкретных устройств компьютерной системы. System programs are designed for the specific pieces of hardware.
- 5) Устанавливая драйвер, вы «учите» систему «понимать» вновь присоединенное устройство. By installing the driver you «teach» your mainboard to «understand» the newly attached part.
- 6) Когда компьютер впервые включается, одна из системных программ должна быть загружена в его память. When a computer is first turned on, one of the systems programs is booted or loaded into the computers memory.
- 7) Развитие систем электронной коммуникации за последние пять лет стимулировало производство соответствующих программных продуктов возрастающим числом компаний-разработчиков. During the past five years the developing electronic network communication has stimulated more and more companies to produce various communication software, such as Web-Browsers for Internet.

7. Дайте определение следующим словам и словосочетаниям. Give definitions to the following using the vocabulary: (Письменно в тетрадях)

- 1) Software Software — programs for directing the operation of a computer or electronic data. Software is the final computer system component.
- 2) Driver- System programs are designed for the specific pieces of hardware. These programs are called drivers and coordinate peripheral hardware and computer activities.
- 3) Application software Applications software satisfies your specific need.
- 4) Operating system-- An operating system, for example, is a collection of system programs that aid in the operation of a computer regardless of the application software being used. When a computer is first turned on, one of the systems programs is booted or loaded into the computers memory.
- 5) Communication software Communications software transfers data from one computer system to another. These programs usually provide users with data security and error checking along with physically transferring data between the two computer's memories.
- 6) Computer- A computer is a device that requires the actual equipment or hardware and Software — programs for directing its operation.
- 7) Peripheral device- the newly attached part.

8. Обсудите следующие вопросы. Метод «Корзина идей»

Questions for group discussion:

- 1) What do you think is more expensive — hardware or software?
- 2) Has anyone in your group ever purchased software? Why do you think piracy (audio, video, computer software) still exists?

9. Выписать из текста 15 глаголов в настоящем простом времени и составить с ними краткий рассказ о программном обеспечении.

Например

requires
instruct
determines
fall
controls
aid
is turned on
contains
is loaded
intend
goes
rely
tend
transfers
provide

- 1) the computer is merely a general-purpose machine which requires specific software to perform a given task.
- 2) these computer programs instruct the hardware how to conduct processing.
- 3) software determines the order in which inputting, calculating, comparing, and outputting data as information are performed.
- 4) programs usually fall in one of two categories: system software and applications software.
- 5) system software controls standard internal computer activities.
- 6) when a computer is first turned on, one of the systems programs is loaded into the computers memory.
- 7) this software contains information about memory capacity; the model of the processor, the disk drives etc.
- 8) once the system software is loaded, the applications software can be brought in.
- 9) if you intend to buy and activate a peripheral device such as a printer or a scanner you need to worry in advance about the driver program which goes along with your device.
- 10) applications software satisfies your specific need.
- 11) the developers of application software rely mostly on marketing research strategies trying to do their best to attract more users (buyers) to their software.
- 12) the programmers nowadays tend to include as much as possible in one program to make software interface look more attractive to the user.
- 13) communications software transfers data from one computer system to another.
- 14) these programs usually provide users with data security and error checking.

10. Повторение грамматического материала.

III. Подведение итогов урока и задание на дом.

Выучить лексику и составить рассказ о программном обеспечении с использованием новой лексики.

ПРАКТИЧЕСКОЕ ЗАНЯТИЕ.

Тема занятия

Прикладное обеспечение.

Цели занятия

- пополнение лексического запаса
- обеспечение в ходе урока усвоения новой лексики
- совершенствование техники чтения вслух и про себя
- развитие монологической речи.
- совершенствование грамматических навыков

ЗАДАНИЯ К ПРАКТИЧЕСКИМ ЗАНЯТИЯМ, КОТОРЫЕ НУЖНО ВЫПОЛНИТЬ СТУДЕНТАМ

I.Выполнение задания на повторение темы предыдущего урока.

II.Выполнение упражнений по теме урока.

1. Read the text and translate it.

Computer Applications

Many people have or will have had some experience of ‘conversing’ with computers. They may have their own micro-computer, they may use a terminal from the main company at work or they may have a television set with a view data facility. Those who do not have this experience may observe the staff at, for example, an airline check-in or a local bank branch office sitting at their desks, pressing keys on a typewriter like a keyboard and reading information presented on a television type screen. In such a situation the check-in clerk or the branch cashier is using the computer to obtain information (e.g. to find out if a seat is booked) or to amend information (e.g. to change a customer’s name and address).

The word computer conjures up different images and thoughts in people’s mind depending upon their experiences. Some view computers as powerful, intelligent machines that can maintain a ‘big brother’ watch over everyone. Others are staggered and fascinated by the marvels achieved by the space programs of the superpowers, where computers play an important part.

Numerous factories use computers to control machines that make products. A computer turns the machines on and off and adjusts their operations when necessary. Without computers, it would be impossible for engineers to perform the enormous number of calculations needed to solve many advanced technological problems. Computers help in the building of spacecraft, and they assist flight engineers in launching, controlling and tracking the vehicles. Computers also are used to develop equipment for exploring the moon and planets. They enable architectural and civil engineers to design complicated bridges and other structures with relative ease.

Computers have been of tremendous help to researchers in the biological, physical and social sciences. Chemists and physicists rely on computers to control and check sensitive laboratory instruments and to analyze experimental data. Astronomers use computers to guide telescopes and to process photographic images of planets and other objects in space.

Computers can be used to compose music, write poems and produce drawings and paintings. A work generated by a computer may resemble that a certain artist in birth style and form, or it may appear

abstract or random. Computers are also used in the study of the fine arts, particularly, literature. They have also been programmed to help scholars identify paintings and sculptures from ancient civilizations.

But computers do not have intelligence in the way humans do. They cannot think for themselves. What they are good at is carrying out arithmetical operations and making logical decisions at phenomenally fast speed. But they only do what humans program gives them to do.

Apart from the speed at which computers execute instruction, two developments in particular have contributed to the growth in the use of computers – efficient storage of large amounts of data and diminishing cost. Today, computers can store huge amount of information on magnetic media and any item of this information can be obtained in a few milliseconds and displayed or printed for the user.

2. Translate these into your own language.

- | | |
|------------------------------------|-----------------------------------|
| 1. some experience of conversing | 8. advanced technological problem |
| 2. view data facility | 9. to guide telescopes |
| 3. to obtain information | 10. ancient civilization |
| 4. powerful, intelligent machine | 11. arithmetical operations |
| 5. to be straggled and fascinated | 12. logical decisions |
| 6. to adjust operations | 13. to execute instructions |
| 7. enormous number of calculations | 14. efficient storage |

3. Translate these into English.

1. использовать терминал главной компании
2. нажимать кнопки на клавиатуре
3. получить информацию
4. различные образы
5. компьютер включает и выключает машины
6. разработать оборудование для исследования Луны и других планет
7. чувствительное оборудование
8. анализировать экспериментальные данные
9. могут быть использованы для сочинения музыки
10. работа, управляемая компьютером
11. помочь ученым определить
12. не могут думать сами
13. хорошо справляться с выполнением
14. вносить вклад

4. Give the situation from the text in which the following words and expressions are used:

- | | |
|--------------------------------|--------------------------------------|
| 1. people have some experience | 6. to process photographic images of |
| 2. different images | 7. to resemble |
| 3. it would be impossible | 8. intelligence |
| 4. spacecraft | 9. fast speed |
| 5. enable to design | 10. magnetic media |

5. Fill in the gaps necessary prepositions.

1. People may use a terminal the main company work.
2. A clerk can press keys a typewriter.
3. The word computer conjures a different images.

4. A computer turns the machine and
5. Computers help building of spacecraft.
6. They are used to develop equipment exploring the moon and planets.
7. Chemists and physicists rely computers to control sensitive instruments.
8. Computers don't have intelligence the way humans do.
9. Computers are good arithmetical operations.
10. Computers can store huge amounts of information magnetic media.

6. Ask questions to which the following statements might be the answers.

1. People may use a terminal from the main company at work.
2. In such a situation the check-in clerk is using the computer to obtain information.
3. The word computer conjures up different images and thoughts in people's mind.
4. Numerous factories use computers to control machines that make products.
5. A computer turns the machine on and off and adjust their operations.
6. Computers help in the building of spacecraft and assist flight engineers in launching.
7. Chemist and physicists rely on computers.
8. A work generated by a computer may resemble that a certain artist in a birth style and form.
9. Computers do only what humans program them to do.
10. Computers obtain huge amounts of information in a few milliseconds.

7. Agree or disagree with the following statements.

1. Only a few people have or will have had some experience of «conversing» with computers.
2. The word computer conjures up the same images and thoughts in computer's brain depending upon the structure of the computer.
3. Without computers it would be impossible for engineers to perform the enormous number of calculations.
4. Architects and civil engineers can't design complicated bridges and other structures with the help of computers.
5. Computers haven't been of tremendous help to researchers in the biological, physical and social sciences.
6. Poets and physicists rely on computers to control and check sensitive laboratory equipments.
7. Computers can be used to compose music, write poems and produce drawings and paintings.
8. Computers have intelligence in the way humans do.
9. Today, computers are very big, slow and can store little information on magnetic media.

8. Write the plan of the text to retell it in English.

9. Points for discussion: advantages and disadvantages of computers.

III Повторение грамматического материала.

IV Подведение итогов урока и задание на дом.

Выучить записи в тетради.

ПРАКТИЧЕСКОЕ ЗАНЯТИЕ.

Тема занятия

Компьютерные сети. Уровни построения сетей.

Цели занятия

- обеспечение в ходе урока усвоения новой лексики
- совершенствование техники чтения про себя
- совершенствование грамматических навыков

ЗАДАНИЯ К ПРАКТИЧЕСКИМ ЗАНЯТИЯМ, КОТОРЫЕ НУЖНО ВЫПОЛНИТЬ СТУДЕНТАМ

I.Выполнение задания на повторение темы предыдущего урока.

Проверка знаний слов.

Рассказ о программном обеспечении с использованием новой лексики.

II.Выполнение упражнений по теме урока.

1.Выписать подчеркнутые в тексте слова и выражения.

2.Прочитать и перевести текст.

Basic computer network components

Computer networks share common devices, functions, and features including servers, clients, transmission media, shared data, shared printers and other hardware and software resources, network interface card(NIC), local operating system(LOS), and the network operating system (NOS).

Servers - Servers are computers that hold shared files, programs, and the network operating system. Servers provide access to network resources to all the users of the network. There are many different kinds of servers, and one server can provide several functions. For example, there are file servers, print servers, mail servers, communication servers, database servers, fax servers and web servers, to name a few.

Clients - Clients are computers that access and use the network and shared network resources. Client computers are basically the customers (users) of the network, as they request and receive services from the servers.

Transmission Media - Transmission media are the facilities used to interconnect computers in a network, such as twisted-pair wire, coaxial cable, and optical fiber cable. Transmission media are sometimes called channels, links or lines.

Shared data - Shared data are data that file servers provide to clients such as data files, printer access programs and e-mail.

Shared printers and other peripherals - Shared printers and peripherals are hardware resources provided to the users of the network by servers. Resources provided include data files, printers, software, or any other items used by clients on the network.

Network Interface Card - Each computer in a network has a special expansion card called a network interface card (NIC). The NIC prepares(formats) and sends data, receives data, and controls

data flow between the computer and the network. On the transmit side, the NIC passes frames of data on to the physical layer, which transmits the data to the physical link. On the receiver's side, the NIC processes bits received from the physical layer and processes the message based on its contents.

Local Operating System - A local operating system allows personal computers to access files, print to a local printer, and have and use one or more disk and CD drives that are located on the computer. Examples are MS-DOS, Unix, Linux, Windows 2000, Windows 98, Windows XP etc.

Network Operating System - The network operating system is a program that runs on computers and servers, and allows the computers to communicate over the network.

Hub - Hub is a device that splits a network connection into multiple computers. It is like a distribution center. When a computer requests information from a network or a specific computer, it sends the request to the hub through a cable. The hub will receive the request and transmit it to the entire network. Each computer in the network should then figure out whether the broadcast data is for them or not.

Switch - Switch is a telecommunication device grouped as one of computer network components. Switch is like a Hub but built in with advanced features. It uses physical device addresses in each incoming messages so that it can deliver the message to the right destination or port.

Unlike a hub, switch doesn't broadcast the received message to entire network, rather before sending it checks to which system or port should the message be sent. In other words, switch connects the source and destination directly which increases the speed of the network. Both switch and hub have common features: Multiple RJ-45 ports, power supply and connection lights.

Router - When we talk about computer network components, the other device that used to connect a LAN with an internet connection is called Router. When you have two distinct networks (LANs) or want to share a single internet connection to multiple computers, we use a Router. In most cases, recent routers also include a switch which in other words can be used as a switch. You don't need to buy both switch and router, particularly if you are installing small business and home networks. There are two types of Router: wired and wireless. The choice depends on your physical office/home setting, speed and cost.

LAN Cable A local area Network cable is also known as data cable or Ethernet cable which is a wired cable used to connect a device to the internet or to other devices like other computer, printers, etc.

4. Что из нижеперечисленного, согласно тексту, является базовыми компонентами персонального компьютера в сети.

- 1) LAN cable
- 2) Data storage
- 3) Shared data
- 4) Driver
- 5) Network operating system
- 6) Application software
- 7) Server
- 8) Network interface card
- 9) Web-browser
- 10) router

5. Дайте определение следующим словам и словосочетаниям.

Servers - are computers that hold shared files, programs, and the network operating system.

Client computers are basically the customers (users) of the network, as they request and receive services from the servers.

A local operating system allows personal computers to access files, print to a local printer, and have and use one or more disk and CD drives that are located on the computer.

Data cable or Ethernet cable which is a wired cable used to connect a device to the internet or to other devices like other computer, printers, etc.

Channels, links or lines - transmission media are the facilities used to interconnect computers in a network, such as twisted-pair wire, coaxial cable, and optical fiber cable.

Hub is a device that splits a network connection into multiple computers.

Дополнительно при наличии времени.

1.Прочитайте текст и заполните пропуски 1-6 частями предложений, обозначенными буквами А-Г. Одна из частей в списке 1-7 лишняя.

2. Прочитайте и переведите текст.

3.Выпишите ключевые слова и перескажите текст.

Ever wonder 1 ____ There's actually quite a bit of science going on behind the scenes, with several components working together to bring you that digital-quality signal.

Your channel selection begins with the programming sources themselves. Companies like Showtime, HBO or Cinemax create their programming. Channel providers then purchase rights to this programming 2 _____. Once a provider has their programming in place, they turn their attention to the broadcast centre to compress and convert the programming for satellite broadcast.

Your Dish Network Programming originally arrives as a digital stream of video, which is then compressed and converted through an encoder, typically using the MPEG2 format. This format reduces the overall size of the video, 3 _____.

Once encoded, the video is then encrypted 4 _____. After the video has been encrypted, it is sent to the provider's satellite, strategically positioned in the sky.

The satellite itself uses a dish similar to your own satellite dish, to receive the video and send it back down to Earth. When the satellite sends the signal back down to Earth, it is picked up by your satellite dish, a small round antenna that receives the satellite's broadcast and sends the video on to your satellite TV receiver.

The satellite TV receiver is that little black box that sits inside your home and allows you to choose 5 _____. The receiver actually performs several important functions in the satellite viewing process, including the decryption of the signal itself. If you remember, the satellite signal was scrambled by the provider to protect it from un-paying consumers. Your receiver 'de-scrambles' that signal and converts the signal into a format 6 _____. Together these amazing components create a vividly clear digital picture for over 200 satellite channels.

- A. which channel you want to watch
- B. including a power source and a computer system
- C. so that the broadcast can only be viewed by paying subscribers
- D. so that they can broadcast the shows via satellite
- E. how your satellite TV system works

- F. making it possible for a satellite to broadcast hundreds of channels at the same time
- G. that your television can handle

Ответы E D F CAG

III. Подведение итогов урока и задание на дом.

Выучить лексику и составить рассказ об оборудовании персонального компьютера в сети.

ПРАКТИЧЕСКОЕ ЗАНЯТИЕ.

Тема занятия

Проектирование сетевой инфраструктуры.

ЗАДАНИЯ К ПРАКТИЧЕСКИМ ЗАНЯТИЯМ, КОТОРЫЕ НУЖНО ВЫПОЛНИТЬ СТУДЕНТАМ

I. Выполнение задания на повторение темы предыдущего урока.

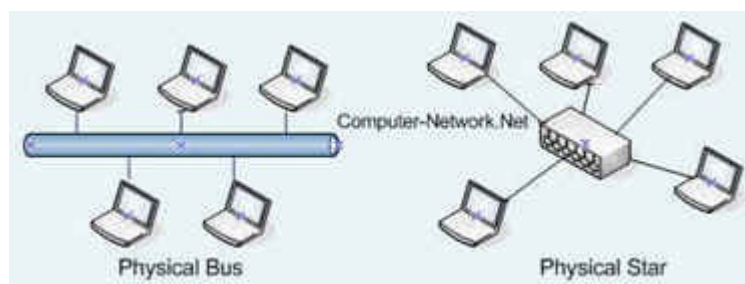
II. Выполнение упражнений по теме урока.

1. Перевести текст со словарем на русский язык.

Network infrastructure design

A good Network Infrastructure Design in your computer network infrastructure is foundation of your computer system environment you would like to build on it. No matter how good you design your computer system if the Network Infrastructure Design is poor, the system will not run efficiently due to network congestion. If you ever lived in a big city you probably experienced being crowded by a heavy traffic with thousands of vehicles. When you go to the office by a car normally would take you only 10 minutes from your house, but in a heavy traffic which is crowded with thousands of cars, probably it will take you more than one hour to get to the office.

Memory Requirements



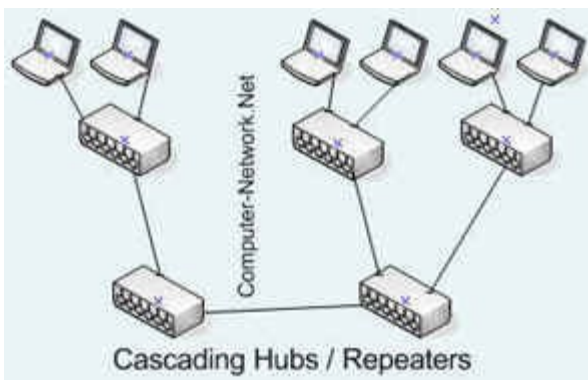
Like a crowded street or freeway, a network has a limitation capacity in transmitting the data. As the number of network devices increases, congestion increases which affects the network performance. Therefore, a good Network Infrastructure Design is very essential in reducing network congestion and maintaining the

network in top performance. The main purpose of Network Infrastructure Design is to reduce network congestion and increase performance through network segmentation. There are three areas in Network Infrastructure Design you need to pay attention to.

- ☐ Ethernet Network Infrastructure Design
- ☐ Segmentation
- ☐ Selecting a network solution

When we are taking about Ethernet in Network Infrastructure Design we need to be familiar with the Ethernet topology. An Ethernet network uses either a physical bus or star topology. The logical topology is a bus which means that all messages are broadcast to all devices on the network through a network cabling. You also need to be familiar with the selection of LAN cable which is used as Ethernet transmission media.

Ethernet Network Infrastructure Design



Ethernet in the Network Infrastructure Design

depends on the LAN cable type used. The most popular is 10BaseT which operates in 10 Mbps using baseband signaling over twisted pair cable. You can use hubs or repeaters to connect multiple segments in a cascading star topology, however there are limits to the number of segments and repeaters that you can connect in this manner.

Ethernet that use twisted pair cable must adhere to the following Network Infrastructure Design rules:

- ☐ Can have a maximum of 5 segments – which is cables connecting two hubs.
- ☐ Each device on the Network can be separated by no more than 4 repeaters or hubs.

Ethernet Network can run in two different modes, either half-duplex or full duplex. Half-duplex uses the same physical or logical path for both sending and receiving data, such as simple hubs or repeaters. While the full-duplex Ethernet in Network Infrastructure Design creates separate paths for sending and receiving thus eliminates the collisions. Full-duplex requires dedicated switch ports for each device.

Fast Ethernet Network Infrastructure Design

Fast Ethernet is a variation of Ethernet standard. For compatibility, much of the architecture design is similar to Ethernet. Fast Ethernet uses the same media access method, topology, and frame types. The following are Fast Ethernet standards which operate at 100 Mbps, and uses either twisted pair or fiber-optic cables.

- ☐ 100BaseTX
- ☐ 100BaseT4
- ☐ 100BaseFX

Both Ethernet 10BaseT and Fast Ethernet 100BaseT use the same Category 5 cable with the maximum length equal to 100 meters. But for Fast Ethernet, you can use only 2 class II repeaters on a 100BaseT network, instead of 4 repeaters for a standard Ethernet in your Network Infrastructure Design. The other thing to note is that all the components; the NICs, Hubs, and Switches are compatible with Fast Ethernet.

Gigabit Ethernet in Network Infrastructure Design

Gigabit Ethernet operates at 1,000 Mbps (1 Gigabit). By using the same Category 5 twisted pair cable as Ethernet and Fast Ethernet, 1000BaseT has the maximum length equal to 100 meters. You can also use Gigabit Ethernet in your Network Infrastructure Design for your high-speed backbone or for LAN to desktop connections for bandwidth-intensive devices. But by using Gigabits Ethernet only one repeater is allowed between any two devices.

Network Infrastructure Design segmentation

The need of segmentation in Network Infrastructure Design when the network grows is to reduce congestion and extend the overall network size. As we know that when the network grows the following problems can occur:

- ☐ Network traffic increases to the point that the data transfer slows down
- ☐ Reaching the limitation of architecture design, limiting the network growth.

By having segmentation in Network Infrastructure Design we can have the following benefits:

- ☐ Overcome architecture limitations
- ☐ Reduce network congestion
- ☐ Connect multiple networks
- ☐ Connect dissimilar networks

This segmentation in your Network Infrastructure Design is very useful in isolating the traffic to a segment, or to prevent unwanted traffic from crossing over to other segment, or to slow WAN links. For example in your mining department which shares huge geology data between them, in your Network Infrastructure Design you can segment the mining department in separate network segment. This way you don't need to flood your other department networks with this huge data.

I recommend that in your Network Infrastructure Design you use intelligent switches which support Virtual LANs (VLAN). VLANs allow the network to be easily segmented for management and/or security reasons. They also allow the flexibility for high density LAN's to be built using the same switched hardware. Multiple switches can also be interconnected by using a VLAN trunking protocol to transparently connect VLANs.

Designing your network, you will need to think about securing your network entry point with the firewall when connecting to the un-trusted network like the Internet. And protecting the corporate network with the best security software would be perfect.

Network Infrastructure Design

Network infrastructure design is more than just hooking up the cables and hardware of a network and changing a few settings in your server. The process involves modifying the software and network protocols for your needs, your employees, and your computers. Network Infrastructure design is a process comprising network synthesis, topological design, and network realization, aimed at ensuring a network or service meets the need of the operator and subscriber. Before applications and servers can be integrated into your network's environment, you'll need to have a proper infrastructure set up.

From file and database servers to web servers, your software and computers can communicate within the network through the available infrastructure. However, no matter how good your infrastructure is, the system will not run efficiently if the Network Infrastructure Design is poor and causes network congestion.

Increased Network Speed in Phoenix, Arizona

When your network infrastructure is set up properly, your business will experience improved connectivity and speeds that drive better performance. We understand the importance of having a stable and secure network infrastructure and ensuring that critical business and data applications are available on a 24 hours basis.

Improved Productivity Of IT System

The environment of your IT system is one of the most important factors when it comes to an understanding of how your business is reaching your profit goals. With an expertly designed network, you should see improvement in many areas of your business, including increased flexibility, improved service and scalability, lower maintenance needs, and heightened security.

At ETS, we help assess the need to change or migrate your hardware and software to the cloud. In the changing competitive landscape, your IT infrastructure carries all the weight, and a proper design helps identify gaps on your network, eliminate legacy systems, and finds ways to improve your productivity and operational gains.

Heightened Scalability Network Design

A properly designed and scalable network can be easily changed without the need of a complete overhaul. Your network needs to be functional and reliable at all hours to avoid distractions and disruptions that could affect your bottom line. Success in this starts with the design of your infrastructure. With improved efficiency and security capabilities, you'll experience increased business activity with classified clients.

Network File Sharing

Your employees are only as effective and efficient as the network system and resources you're using on a daily basis. If you want to get the most from your employees, investing in well-designed network infrastructure is crucial. File collaboration becomes seamless when you have cloud storage solution and managed services for your business. Network infrastructure design makes it possible to share and control files when you need them quickly and securely in or out of office.

Contact Enterprise Technology Service in Phoenix, Arizona, our techs understand the elements and components required to ensure a reliable connection between devices is achieved. With the number of attack vectors expanding, we also add security features to your system to defend against these threats. If you have a clumsy and dated network design, ETS can help improve its efficiency and effectiveness, so you'll have a design that's easy to use, versatile and easy to update.

We assess, review, and address all aspects of the network infrastructure. Backed by a superior combination of top-tier methodologies, vast research, and multidisciplinary experts, our skilled technicians provide you with quality and most up-to-date services to help your business better develop strong network posture, achieve strategic IT and business objectives, and cost control.

We design a plan that meets your current and future needs, providing a technological solution that's as unique as your company. Our services provide in-depth insight into capacity constraints and network utilization to improve performance, operational dimensions, and security and compliance requirements. Once your network is designed and operational, ETS can provide ongoing remote management and other network support services. Contact us to learn how our experts can improve the functionality of your network infrastructure.

Every ETS consulting engagement follows a well-defined and proven methodology, built and refined by our own network engineering staff to ensure quality and consistency for each valued client. As our client, you will directly benefit from our structured approach to network design and integration services. More predictable results, less risk, and lower project costs are some key reasons to invest in our consulting services.

The Assessment phase addresses one of the most fundamental requirements for project success—unification of the project team behind a common vision! The team must have a clear vision of what it wants to accomplish for the client and then state it in terms that will motivate and direct the entire project team and client stakeholders. Creating a high-level view of the project's goals and constraints can serve as an early form of planning and set the stage for the more formal planning process that will take place during the project's Design and Development phase.

The Design and Development phase is when the bulk of the project planning is completed. Early in this phase, the project team analyzes and documents all project requirements.

These requirements fall into four broad categories:

1. Business Requirements
2. User Requirements
3. Operational Requirements
4. System Requirements

The design is comprised of the following elements:

1. Conceptual Design
2. Logical Design
3. Physical Design

The Design and Development phase accomplishes most of the building of solution components, including documentation and infrastructure deployment. However, some development work may continue into the Deployment phase in response to testing.

The Design and Development phase culminates in the 'scope complete' milestone. At this milestone, all features are complete and the solution is ready for external testing and stabilization. This milestone is the opportunity for the clients' users, operations and support personnel, and key project stakeholders to evaluate the solution and identify any remaining issues that must be addressed before the solution is released.

The Deployment phase includes testing on the solution when features are completely implemented. Testing during this phase emphasizes usage and operation under realistic environmental conditions. The project team focuses on resolving and preparing the solution for release.

The Deployment phase culminates in the 'release readiness' milestone. Once reviewed and approved, the solution is ready for full deployment to the live production environment.

III Подведение итогов урока и задание на дом.

Подготовить сообщение на тему урока.

ПРАКТИЧЕСКОЕ ЗАНЯТИЕ.

Тема занятия

Организация сетевого администрирования.

ЗАДАНИЯ К ПРАКТИЧЕСКИМ ЗАНЯТИЯМ, КОТОРЫЕ НУЖНО ВЫПОЛНИТЬ
СТУДЕНТАМ

I.Выполнение задания на повторение темы предыдущего урока.

II.Выполнение упражнений по теме урока.

1.Введение в тему урока. Перевести текст на английский язык.

Администрирование сети включает в себя следующие задачи:

- поддержка нормального функционирования электронных баз данных
- обеспечение стабильной работы сети
- предотвращение проникновения в сеть злоумышленников
- организация прав доступа пользователей к использованию сетевых ресурсов
- создание резервных копий информации
- организация и ведение учета по работе сети
- оптимизация рабочих процессов с целью повышения уровня производительности
- обучение пользователей работе в сети
- осуществление контроля за использованием ПО и препятствие его незаконной модификации
- контроль модернизации компьютерных сетей

Network administration includes the following tasks •

- * support for the normal functioning of electronic databases*
- * ensuring stable network operation*
- * preventing intruders from entering the network*
- * organization of user access rights to the use of network resources*
- * creating backup copies of information*
- * organization and maintenance of accounting for the work of the network*
- * optimization of work processes in order to increase the level of productivity*
- * training of users to work in the network*
- * monitoring the use of the Software and preventing its illegal modification*
- * monitoring the modernization of computer networks*

1. Чтение и перевод текста.

2.Составление заданий по тексту.

Technical support refers to [services](#) that entities provide to users of technology products or services. In general, technical support provide help regarding specific problems with a product or service, rather than providing training, provision or customization of product, or other support services. Most companies offer technical support for the services or products they sell, either included in the cost or for an additional fee. Technical support may be delivered over by [phone](#), [e-mail](#), [live support](#), [software](#) on a [website](#), or other tool where users can log an incident. Larger organizations frequently have internal technical support available to their staff for computer-related problems. The Internet can also be a good source for freely available tech support, where [experienced users](#) help novice users to find solutions to their problems. In addition, some fee-based service companies charge for premium technical support services.

Coverage of support охват поддержки

Technical support may be delivered by different technologies depending on the situation. For example, direct questions can be addressed using telephone calls, SMS, Online chat, Support Forums, E-mail or Fax; basic software problems can be addressed over the telephone or, increasingly, by using remote access repair services; while more complicated problems with hardware may need to be dealt with in person.

Categories of technical support

Call in вызов приглашение

This type of technical support has been very common in the services industry. It is also known as "Time and Materials" (T&M) IT support. The customer pays for the materials (hard drive, memory, computer, digital devices, etc.) and also pays the technician based on the pre-negotiated rate when a problem occurs.

Block hours блок часов

Block hours allow the client to purchase a number of hours upfront at an agreed price. While it is commonly used to offer a reduced hourly rate, it can also simply be a standard non-reduced rate, or represent a minimum fee charged to a client before providing service. The premise behind this type of support is that the customer has purchased a fixed number of hours to use either per month or year. This allows them the flexibility to use the hours as they please without doing the paperwork and the hassle of paying multiple bills.

Managed services управляемые услуги

[Managed services](#) means a company will receive a list of well-defined services on an ongoing basis, with well-defined "response and resolution times" for a fixed rate or a flat fee. This can include things like 24/7 monitoring of servers, 24/7 [help desk](#) support for daily computer issues, and on-site visits by a [technician](#) when issues cannot be resolved remotely. Some companies also offer additional services like [project management](#) руководство проектом, backup and disaster recovery восстановление резервной копии аварийное восстановление, and vendor management управление поставщиками услуг in the monthly price. The companies that offer this type of tech support are known as [managed services providers](#). управляемые поставщики услуг

Crowdsourced technical support

Many companies and organizations provide [discussion boards](#) доска обсуждений for users of their products to interact; such forums allow companies to reduce their support costs without losing the benefit of customer feedback.

Self-help

Almost all tech brands and service providers give free access to a rich library of technical support solutions to users. These are huge databases of step-by-step solutions, however if you visit the support sites for big brands the solutions are more often for their products alone. Another method of getting technical support that's gained popularity is to follow troubleshooting steps shown in a support video.

Outsourcing technical support

With the increasing use of technology in modern times, there is a growing requirement to provide technical support. Many organizations locate their technical support departments or call centers in countries or regions with lower costs. [Dell](#) was amongst the first companies to outsource передавать their technical support and customer service departments to India in 2001. There has also been a growth in companies specializing in providing technical support to other organizations. These are often referred to as MSPs (Managed Service Providers).

For businesses needing to provide technical support, [outsourcing](#) allows them to maintain a high availability of service. Such need may result from peaks in call volumes пики громкого звонка during the day, periods of high activity due to introduction of new products or maintenance service packs, сервисные обновления or the requirement to provide customers with a high level of service at a low cost to the business. For businesses needing technical support assets, средства [outsourcing](#) enables their core employees to focus more on their work in order to maintain productivity. It also enables them to utilize specialized personnel whose technical [knowledge base](#) and experience may exceed the scope of the business, thus providing a higher level of technical support to their employees.

Multi-tiered technical support

Technical support is often subdivided into tiers, or levels, in order to better serve a business or customer base. The number of levels a business uses to organize their technical support group is dependent on a business' needs regarding their ability to sufficiently serve their customers or users. The reason for providing a multi-tiered support system instead of one general support group is to provide the best possible service in the most efficient possible manner. Success of the organizational structure is dependent on the technicians' understanding of their level of responsibility and commitments, целеустремленность their customer response time commitments, and when to appropriately escalate расширить an issue and to which level. A common support structure revolves around a three-tiered technical support system.

Что из следующего входит в службу технической поддержки. Which of the following is Technical Support:

Remote access repair services

Call in

It support

➤ Memory

Monitoring

Help desk support

➤ Pre-negotiated rate

On-site visits by a technician

Project management

➤ Paying bills

Back up recovery

Disaster recovery

Vendor management

Video support

Какие из ниже приведенных утверждений правильные, а какие неправильные. Обоснуйте свой ответ, используя текст. Which of the listed below statements are true/false. Specify your answer using the text:

1. Technical support may be delivered over by [phone](#), post ([e-mail](#)), [live support software](#) or other tools. F
2. Larger organizations frequently have internal technical support. T
3. Call in is also known as “Time and Software” support (Materials) F
4. Managed services can include help desk support for daily computer issues. T
5. Managed service providers offer project management, back up and disaster recovery. T
6. Discussion boards help companies increase their support costs F (reduce)
7. One of the methods of technical support is to follow troubleshooting steps shown in a video. T
8. Many organizations locate their technical support departments in highly developed countries. F
9. Technical support is usually subdivided in 5 tiers F
10. The reason for providing a multitiered support system is to provide more efficient service. F

Найдите в тексте эквиваленты следующих словосочетаний. Find English equivalents in the text. (Работа в группах).

- 1) включенный в стоимость или за дополнительную плату *included in the cost or for an additional fee*
- 2) проблемы связанные с компьютером *computer-related problems*
- 3) плата за первоклассную техническую поддержку *charge for premium technical support services*
- 4) сложные проблемы с аппаратным обеспечением нужно решать при личной встрече *more complicated problems with hardware may need to be dealt with in person.*
- 5) по заранее обговоренной цене *on the pre-negotiated rate* когда происходит проблема *when a problem occurs.*
- 6) по договорной цене *at an agreed price*
- 7) надоедливая уплата многочисленных счетов *the hassle of paying multiple bills*
- 8) охват поддержки *Coverage of support*
- 9) управляемая услуга *Managed service*
- 10) вызов *Call in*
- 11) на постоянной основе *on an ongoing basis*
- 12) за фиксированную плату или сумму *for a fixed rate or a flat fee*
- 13) руководство проектом [project management](#)
- 14) восстановление резервной копии *backup recovery*
- 15) аварийное восстановление *disaster recovery*
- 16) управляемый поставщик услуг *vendor management*
- 17) шаги по выявлению неполадок *troubleshooting steps*
- 18) высокая доступность услуг *a high availability of service*
- 19) по низкой стоимости *at a low cost*
- 20) часто подразделяется на уровни *Technical support is often subdivided into tiers*
- 21) эффективно *sufficiently*

Дайте определение следующим словам и словосочетаниям. Give definitions to the following using the vocabulary: (Письменно в тетрадях)

Technical support refers to [services](#) that entities provide to users of technology products or services. Call in support is when a customer pays for the materials (hard drive, memory, computer, digital devices, etc.) and also pays the technician based on the pre-negotiated rate when a problem occurs.

Discussion boards are forums that allow users of their products to interact; allow companies to reduce their support costs without losing the benefit of customer feedback.

Library of technical support are huge databases of step-by-step solutions, to users.

Выписать из текста 10 глаголов в настоящем простом времени и составить с ними краткий рассказ о службе технической поддержки.

Provide offer charge pays allow represent give visit locate enables revolves

III. Подведение итогов урока и задание на дом.