Unit One

Internet

By the end of this unit, the students are expected to be able to

- Define the concepts, operations and basic structure of the internet,
- Show the concepts and basic operations of the services and applications of information technology and communication.
- Recognize the intellectual security types, cultural, ethical, social and religious which are related to the usage of information technology and communication.
- Apply technology tools for communication with others to support the learning process.
- Use technology resources to deal with electronic information
- Apply some tools to do the educational activities and convey the objectives.
- Decide the key words used in e-search through technological resources.
- do research activities for e-information (text- image – videos) available on validated .
- Use certified electronic resources.
- Apply Egyptian Knowledge Bank to do educational tasks.

FIRST TOPIC

BASIC CONCEPTS OF THE INTERNET

OBJECTIVES

By the end of this lesson, students will be able to

- define the Internet
- distinguish the idioms used in the internet
- deduce the basic elements of internet requirements
- recognise the elements of a web site address
- differentiate between upload and download

Internet

Dear Students:

You already knew about computer networks (LAN- WAN) and the geographical area necessary for each one , how to use them and their importance for sharing data among colleagues. Now we will know the Internet and its services.

Activity

Dear Student,

With the help of your teacher and cooperating with your colleagues , search for the meaning of Internet concept

.....

.....

Internet is:

-A network which is composed of a group of connected networks. Each network consists of a group of computer sets , communication equipments and lines, in addition to necessary software. Through these the communication process is done.

Connecting the Internet Requirements

If you want to connect to the internet , you will need the following:

1. A computer set with a network adapter
2. Internet Service provider (ISP), which is a company that provides the service to customers.
3. An internet browser , which is a software

The most known browsers are : Google Chrome, Internet Explorer and Firefox.

Concepts and Idioms

Protocol:

To deal with your classmates, there must a kind of understanding and agreement on a certain rules to be followed in speech and communication. Computer sets are the same on the internet; they need certain rules for communication, which is called a protocol.

Protocols send and receive data on the internet; each of them has a certain job.

The most used protocols on the internet:

1- TCP/ IP protocol

This protocol is used in connecting computer sets to the internet .It consists of two important protocols:

- TCP (Transmission Control Protocol) which is responsible for validating data transformed from a set to another.

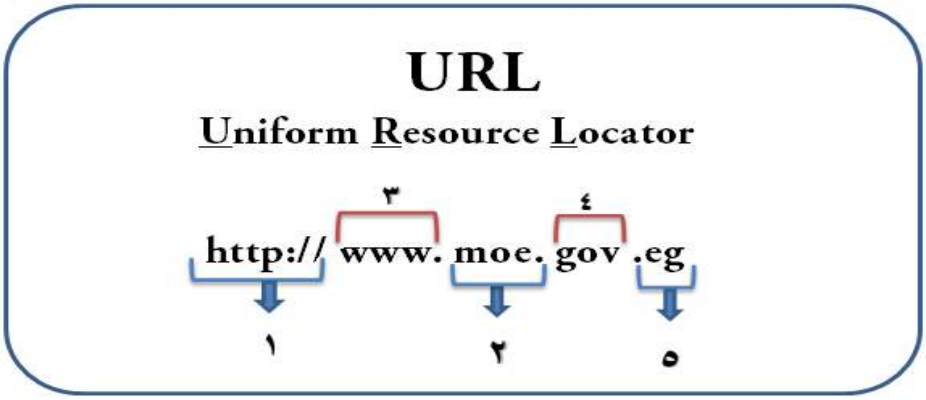
- IP (Internet Protocol) ,which is responsible for transforming data from a set to another.

2- FTP (File Transfer Protocol) , which is responsible for transforming data from and to the internet

Website

It is a webpage or more, connected to each other with a certain name .They are stored on the web server. The website has an address on the internet known as URL (Uniform Resource Locator). This website can be visited through a computer set or a mobile phone .

The URL consists of the following:



The elements of the URL are as follows:

1. http : decides the protocol type.
2. moe : decides the server, the computer set with the stored data.
3. www : worldwide web
4. gov ; the type of organization and service
5. eg : the country

Web Page:

It is a document with an electronic content that is published on the internet and shown through a web browser.

Home Page:

It is the first page on the website ,through which the user can go to other pages.

The Ministry of Education make it possible for parents and students to visit its website to recognise the educational services like e-lessons , e-books and even to communicate better with it.

With the help of your teacher and cooperation with your classmates , discuss the following website : http://www.moe.gov.eg

.....

.....

Hyperlink :

It is an image or text , connected to a URL , when clicking it, you go to the URL .It can be in the same page or on another page or even another site.

Download files :

It is the process of transmitting or copying files or programs through the internet to the computer (these programs can be used offline)

Upload files

It means to transmit a file or a program from your computer to another on the internet.

Activity

With the help of your teacher and cooperating with your colleagues, discuss how to download the National Anthem file .

.....

.....

REMEMBER

Internet is

A network consisting of a group of networks connected to each other. Each network consists of a group of computer sets, communication lines and equipment in addition to communication software, through which the communication process is completed .

Protocol:

It is the certain rules for communication and speech ,as for computers on the internet, they need to define rules for communication rules.

Website

It is a webpage or more, connected to each other with a certain name .They are stored on the web server. The website has an address on the internet known as URL (Uniform Resource Locator). This website can be visited through a computer set or a mobile phone .

Hyperlink :

It is an image or text , connected to a URL , when clicking it, you go to the URL .It can be in the same page or on another page or even another site.

Download files:

It is the process of transmitting or copying files or programs through the internet to the computer (these programs can be used offline)

Upload files:

It means to transmit a file or a program from your computer to another on the internet.

QUESTIONS AND EXERCISES

Question 1: Complete the following :

- **Internet is:**

.....

.....

- **To connect to the internet , you need**

.....

.....

- **The hyperlink is**

.....

Question 2 : What is meant by

Internet Service provider(ISP).

.....

Protocol

.....

Website

.....

Prepare for the next lesson:

Through the internet , you can use a lot of services,

What are the internet services

Second Topic

Some Internet Services

Objectives

By the end of this lesson , students will be able to

- **State some internet services**
- **Use internet services and applications to make use of them in different fields.**
- **Publish content and files, and exchange them using e-mail.**
- **Discuss the effect of using modern information technology techniques in study and life.**

The Internet services

The internet provides many services like

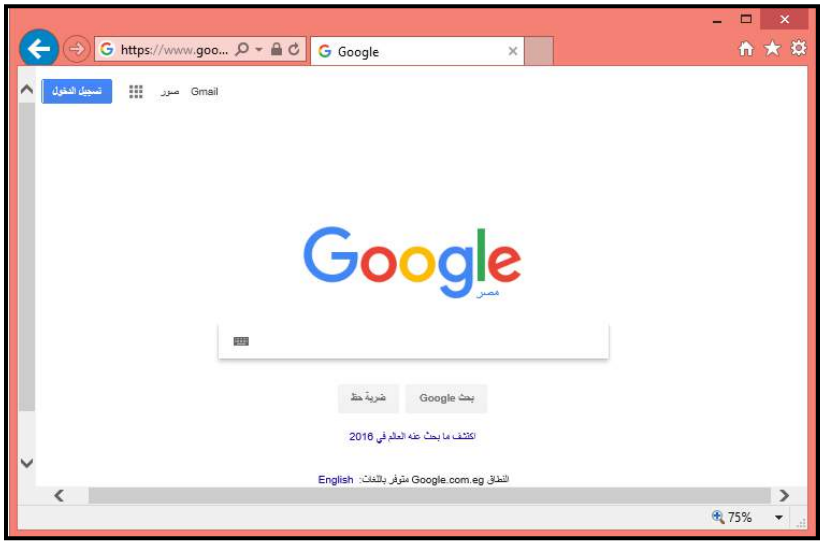
Search on the internet

The search sites on the internet are considered the most sites visited, as millions of users use them to reach the URLs containing the information they need.

These sites provide the best browsers which are the shortest and easiest way to reach information needed. You can search for websites, text files, images , groups, mews, books ..etc.

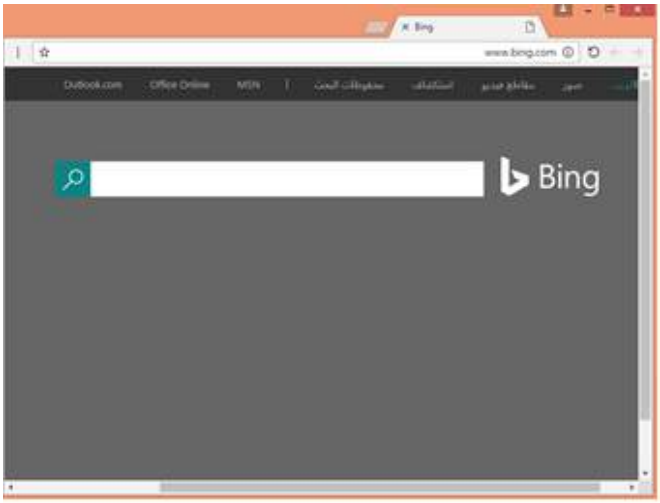
–Google:

It is one of the most famous search engines as it contains millions of websites covering nearly all topics.



www. google.com

-Bing: www.bing.com



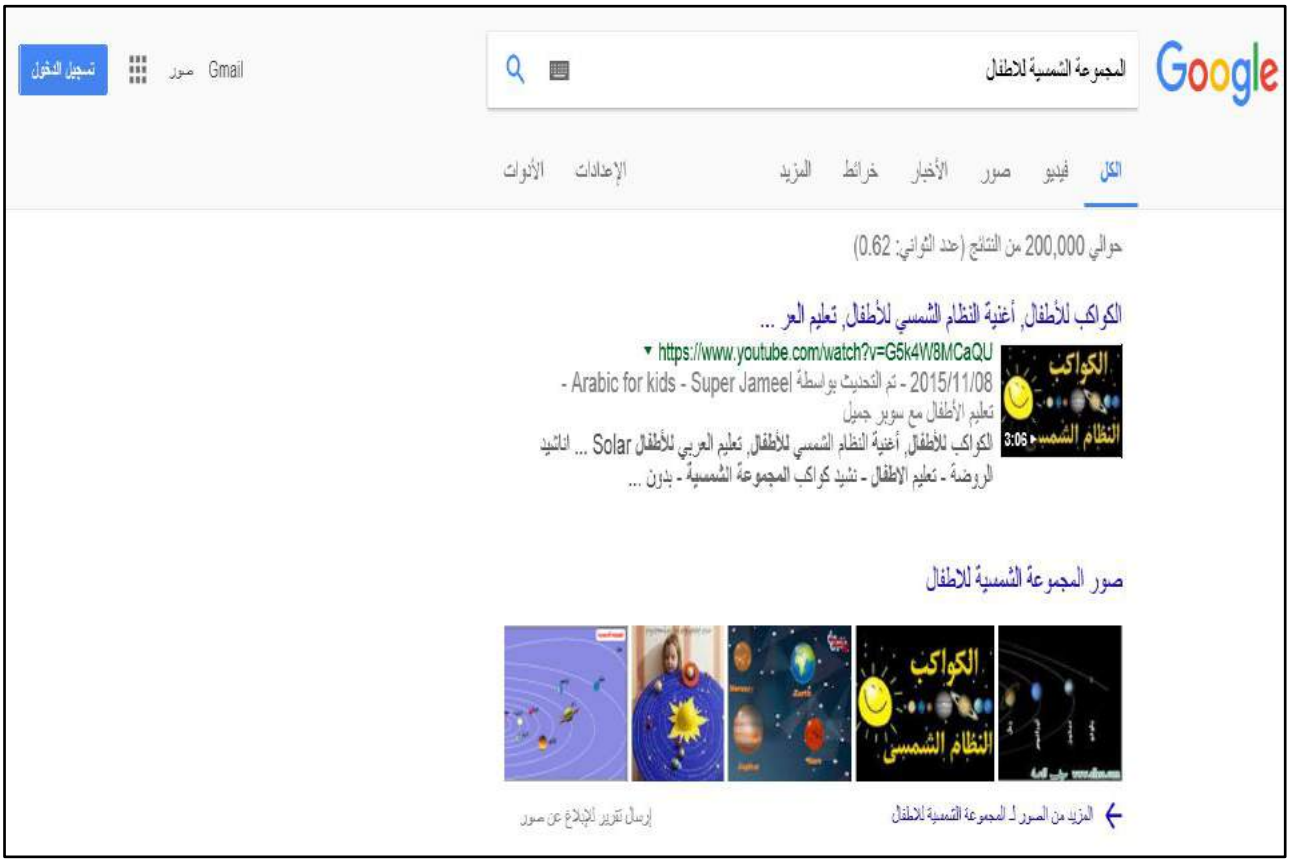
ACTIVITY

With the help of your teacher and cooperation with your classmates

Do a search for the solar system using GOOGLE search engine.

Write in the search bar on Google , Solar system .

- **Click " search" and the results will be shown as follows.**



Select one of the search results

Write down your notes.

- Mailing List Service

It is a group of lists for e mail addresses used to forward any mail to a group of people . Each list has a certain title. The mail that is sent to the list will reach each member of it.

FTP File Transfer Protocol

It is a service to transfer files on the internet to make it easy for everyone to share files

News Group:

They are sites on the internet where people gather to share and exchange ideas about certain topics like mathematics, geography, science, etc...

-Chat service:

It is the service of meeting of different people from all over the world to talk to each other at the same time. It is possible to see the picture or hear the voice of other participants.

Social Media sites Facebook &Twitter:

Through this service the social news is spread among the users. They also publish ideas and opinions.

Online shopping service

This service is available on some sites, making buying and selling available online.

E-mail service

If you want to send a file to your colleagues with the explanation of a certain lesson , what will you do?

When you are connected with the internet , you can use the e-mail service which allows you to send this file to anyone you like soon. It is the service of exchange e mail which may contain text or images or videos.

WWW Service

It is the abbreviation of worldwide web. It is a means of getting information. It consists of web pages written in HTML language and shown by a certain program called Browser.

EGYPTIAN KNOWLEDGE BANK

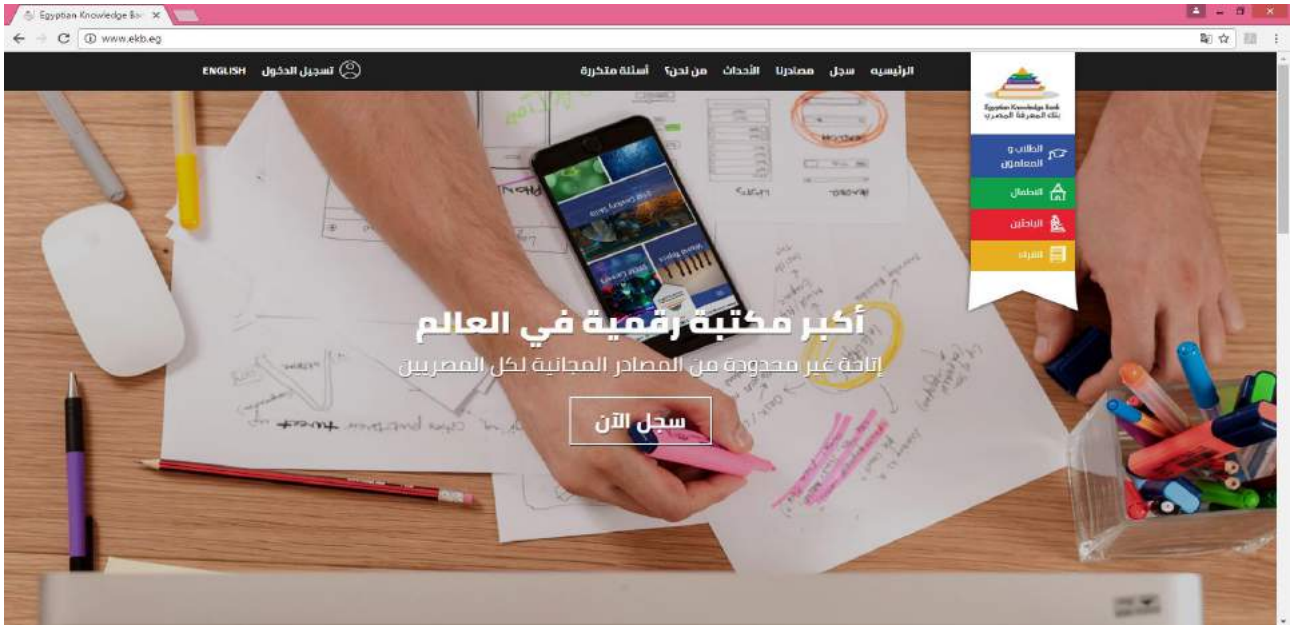
ACTIVITY

With the help of your teacher and cooperating with your colleagues

- **Open this site** http://www.ekb.eg

- **Search for how to register and log in this site, the objective, the inspiration and idea behind it.**

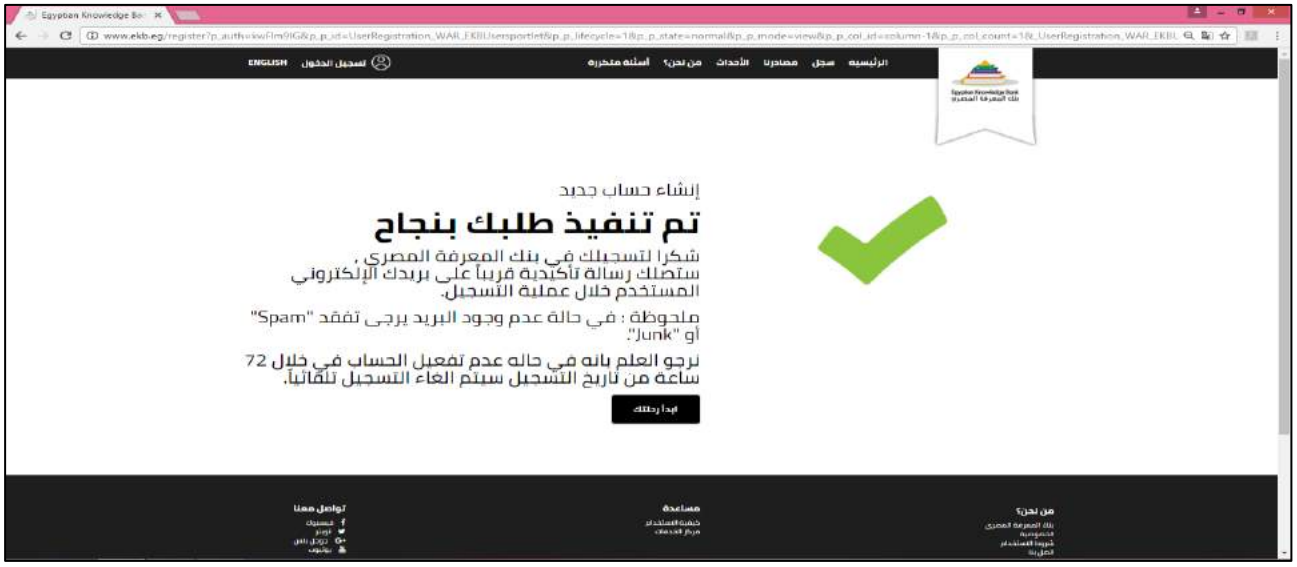
- **Log in through the " register " tab**



The eform to longin will appear

Teachers should fil in the form and register.

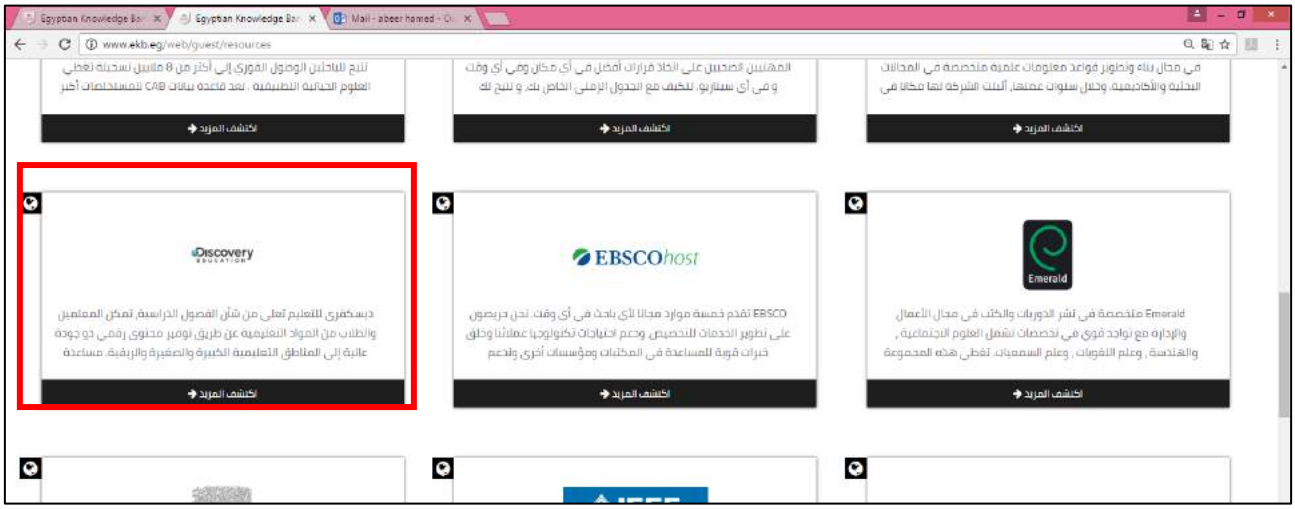
After finishing the registration steps, a window with a new account will appear.



Notice

After registeration and entering the email in the form, a password will be sent in an email on your e mail address, which you enetered in the registration form.

-Select Discovery Tab.



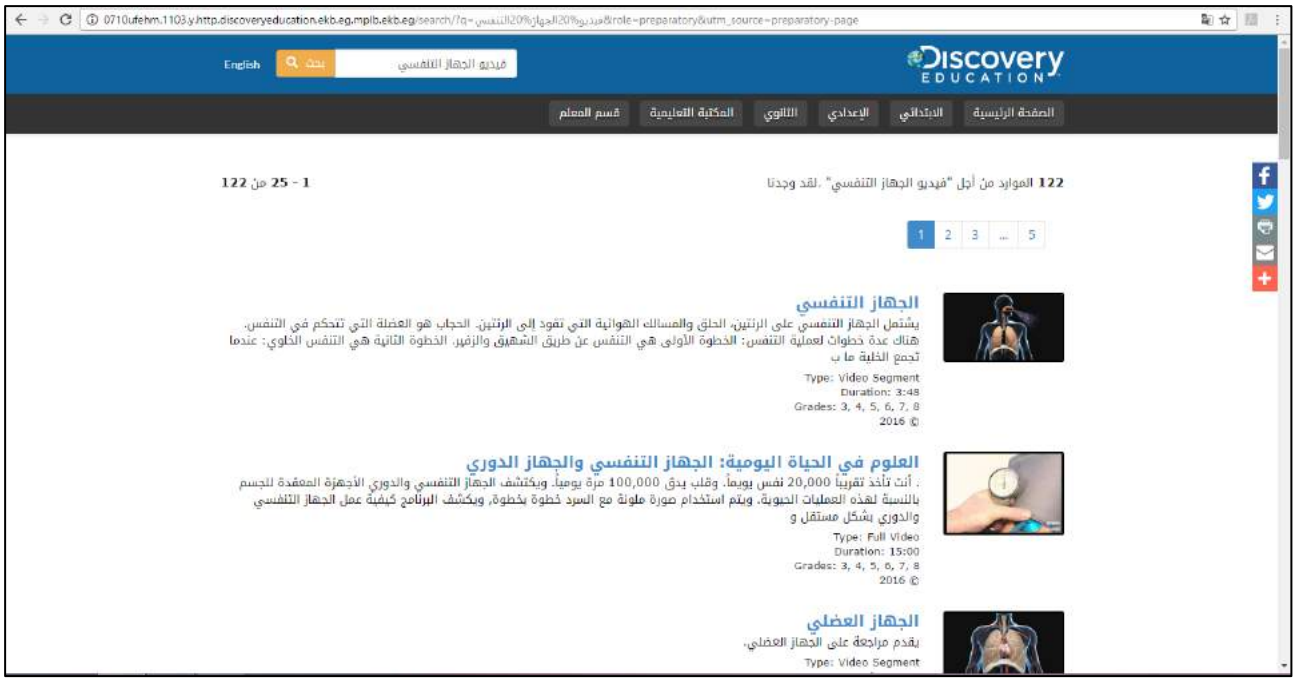
The following window appears

Select the " Preparatory .الاعدادي" tab

Search for "الجهاز التنفسي"

١-

The following results wil appear



Select one of the search results

English
Discovery Education
الصفحة الرئيسية
الابتدائي
الإعدادي
الثانوي
المكتبة التعليمية
قسم المعلم
الجهاز التنفسي
يشتمل الجهاز التنفسي على الرئتين، الحلق والمسالك الهوائية التي تقود إلى الرئتين. الحجاب هو العضلة التي تتحكم في التنفس. هناك عدة خطوات لعملية التنفس: الخطوة الأولى هي التنفس عن طريق الشهيق والزفير. الخطوة الثانية هي التنفس الخلوي: عندما تجمع الخلية ما ب
علامات

ACTIVITY

With the help of your teacher and cooperating with your colleagues

using the Digital Educational Library , science tab, search for Matter and its structure, matter and its characteristics.

REMEMBER

Internet Search Service

It helps the users to reach the sites that contain the information they need.

Mailing List

It is a list of email addresses used to forward any mail to a group of people. Each group has a certain title. Any mail is sent automatically to all the people on the list.

File Transfer Protocol FTP

A service to transfer files on the internet allowing individuals to exchange files in the internet easily.

News Group

sites on the internet where people meet to exchange ideas and opinions about certain topics (mathematics, geography , science , etc....

Chat

It is a program on the internet that allows the users to talk to each other at the same time. They can hear or see the images of each other.

Social Media Facebook and Twitter

They are sites where individuals exchange social news. They are sites where the users exchange ideas and opinions..

Online service

This service is provided by some sites .It is the service of buying and selling online..

Email service

It is a service of exchanging email , they may contain text , images or videos.

WWW web service

It is an abbreviation to Worldwide web. It is a means to reach information.

Questions and Exercises

First Question : Complete the following :

1. .....is considered one of the most famous search engines on the internet.
2. Mail list service is.....
3. .....are internet services.
4. .....is the service of selling and buying on the internet.
5. The website of Egyptian Knowledge Bank is.....

Second Question : What is meant by :

1. File Transfer Protocol FTP

   .....

2. WWW service

   .....

Third Question; Choose the correct answer

1. .....is a place on the internet where people meet to exchange ideas and opinions.

   [chat – news group – mail list – File transfer]

2. .....is one of the social media sites.

   [Twitter– Updial – Firefox– all of this]

3. .....allows you to send file to your colleagues fast.

   [search – email – web – all of this]

Prepare for the next lesson

There is a technology called Cloud Computing .

Search for the meaning of this technology.

Third Subject
Basic concepts of
Cloud Computing

Objectives

By the end of this topic, students will be able to

- Define cloud computing
- Define the main components of cloud computing
- Recognise the requirements to use cloud computing
- Search for cloud computing services.
- Recognise the benefits of cloud computing
- Recognise the most service providers
- Specify some of the basic concepts and idioms of information technology and communication.
- Identify the characteristics of using information technology applications and the effects socially, intellectually and educationally.

Think and Find a solution

Activity

Dear Students,

With the help of your teacher and cooperating with your colleagues , define the hardware and software that may help you to create an electronic project to represent your school showing text files, images and videos about your school , with spreadsheets showing the number of classes, students and teachers at school.

.....

.....

To do this ,you need some hardware and software in your computer to prepare the project as"

1. The Software you need

- **Text editor**
- **image editor**
- **video editor**
- **PowerPoint**
- **Other programs that may help you.**

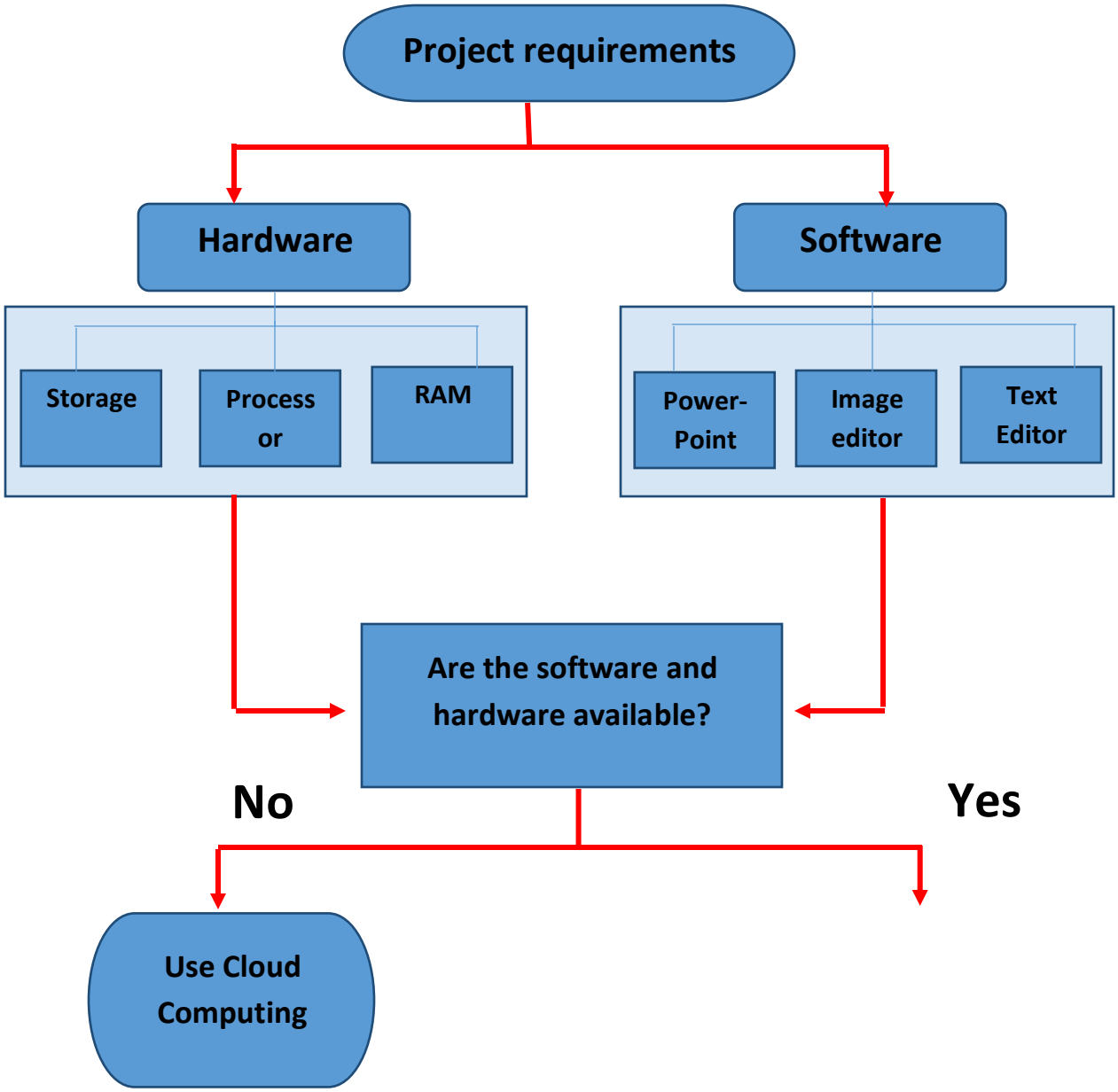
2. **Hardware**

- Storage capacity
- A wide space capacity RAM to deal with different software like creating and editing images, videos files editing , ...etc.
- A high speed processor.

3. **Log in** to your files anywhere anytime to edit , update and save your project files .

4. **Allowing your colleagues** to

- go through your project files
- be able to edit your files both at the same time or at another time.


Project requirements
Hardware
Software
Storage
Process or
RAM
Power-Point
Image editor
Text Editor
Are the software and hardware available?
No
Yes
Use Cloud Computing

Project Steps

When you tried to start your project, you found that all what you have is

- An operating system
- Internet connection

BUT

- no software available
- the hardware does not help much

What will you do !!!!??????!!!!!!!

Is there a fast solution for this, to provide you with

- The necessary software.
- the suitable hardware
- no more money
- Allow you to login anywhere at any time.
- allow your colleagues to share , comment and edit when necessary

Yes.There is a solution.

USE Cloud Computing.

- What is it?
- What can it provide?
- How can it solve the problem?

Cloud Computing

It is the technology that depends on transfer processing and storage of a computer to what is known as (Cloud), which is a server or SERVERS, that can be reached through the internet, to make programs and applications available.

It can be known as a network of servers with the necessary programs and applications. These servers are connected to computers through the internet, available everywhere. Any computer, laptop, I–pad, Mobile phone or any set can log in and reach the service of these servers.

It is a new concept to share your electronic sources to produce and exchange information on the internet. It provides the necessary tools to process your data and save them on one of the servers, to be used any time anywhere.

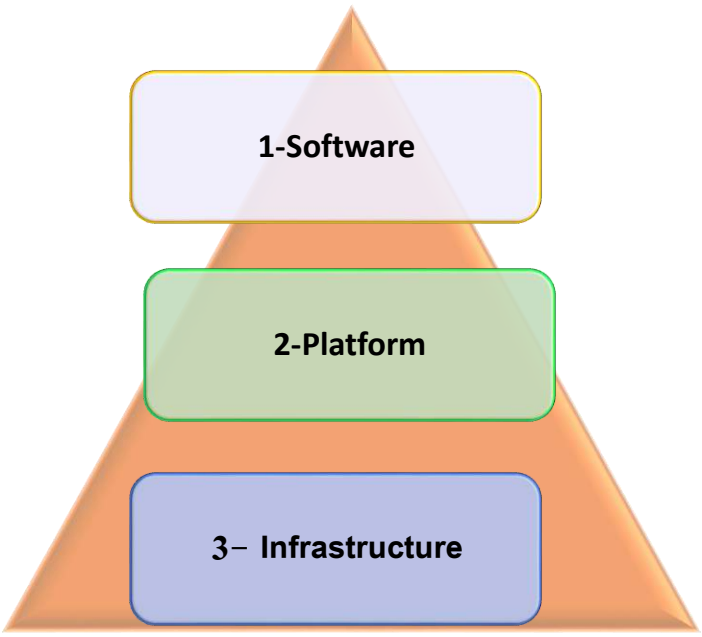
What are the basic components of Cloud Computing

The basic components are

1-Software : they are the applications that needed like text editor, spreadsheet , image editor…etc

2- Platform: It is the saving of files and processing the database for all the users.

3-Infrastructure includes hardware such as processors and servers and storage .....



Basic components of Cloud Computing

Requirements to login cloud computing

They are as follows:

1. A computer set [PC, laptop, I-pad, mobile phone or any set able to connect to the internet.
2. An operating system enables you to get connected [this is nearly available in all operating systems.
3. An internet browser.
4. Internet connection
5. Cloud computing provider

WHAT IS A CLOUD COMPUTING PROVIDER?

It is like a service of web hosting but with more availabilities. It allows the users and developers to use all the available sources efficiently, because of course the existence of users and developers on the server will be longer and this needs more sufficiency.

What are the services provided by cloud computing?

Some examples are

- Email service , like Hotmail, Yahoo mail , Gmail.

- Cloud storage : which is storage capacity provided by the service providers like Google Drive which provided by Google, and One drive provided by Microsoft .
- Cloud Music like Google music, iCloud, Sound Cloud..
- Cloud Applications which are provided in the form of services to cloud computing users like Google Docs, Photoshop Express

What are the benefits of Cloud Computing?

1. Through this service, you can login your personal data or applications from any place with internet service; because all this is not stored on your hard disc, it is on the Providers' servers.
2. Reducing the cost through :

   ✓ Reduce the Hardware cost, because the providers will do the job , which requires giant computers with giant specifications of processor, RAM, storage and so on.

   ✓ There is no need to buy original software or copyright as they are installed on the server.

   ✓ There is no need to buy the other requirements like big storage media to backup your data.

   ✓ Guarantee the service work continuously as in Cloud Computing all your data will be stored on more than a server to get it back any time.

- ✓ The provider will repair any breakdown or bugs fast , saving time and cost.

3. Share the resources providing facilities and flexibility
4. Ability to link different websites, like social media applications.
5. Ability to use it in different fields like medicine, education , industry or agriculture.
6. In Education , Cloud Computing provides a more efficient and suitable experience; Cloud computing stores everything in one place : the class register , attendance, home assignments, curricula and so on, and everyone can login to different subjects.

WHAT ARE OBSTACLES AND CHALLENGES [DISADVANTAGES] OF CLOUD COMPUTING?

- It needs internet connection non-stop.
- The possibility of reducing the storage capacity or options.
- Personal data online makes it liable to theft and misuse.
- Disability to reach your data in case of not being connected or a break in the website or the internet.
- The agreement items are too weak to protect the user copyright.

With the help of your teacher, search for the most well known providers of Cloud Computing

.....

.....

The most well-known service providers of cloud computing

- **Red Hat: provide free cloud computing.**
- **Google ,the company provides Google App and Google drive for cloud computing storage.**
- **Microsoft provides One Drive and Office 365**
- **Amazon, is the most famous company in the field of cloud computing.**

Questions

1- Complete the following with one word from the list below

Cloud applications – Benefits of cloud computing – cloud computing – cloud storage – Google – Cloud – Cloud music

1. **……is an advanced technology that depends on transferring processing and storage capacity to what is known as Cloud.**
2. **…… , …… , …… are some of the cloud computing services.**
3. **The ability of connecting different electronic sites is ……**
4. **……are some of the most well known cloud computing providers.**

2- mention what you know about :

- **The requirements to login cloud computing**
- **benefits of cloud computing**
- **The most well known service providers of cloud computing.**

3-What is meant by

- **Cloud computing Service Provider**
- **Platform as a main component of cloud computing.**

4- Choose the correct answer:

1. The main components of Cloud Computing are.....

[software – platform – infrastructure – all of these]

2. .....is one of the benefits of cloud computing.

[high cost – share resources- secret personal information- None of these]

3. Cloud computing providers are like .....

[Amazon – Google – Microsoft – All of them]

5- Put (✓) or (X) in front of the following statements:

1. Cloud computing can be considered as a network of servers with software and applications, which are connected to computers on the internet. ( )
2. iCloud , Google Music are email services. ( )
3. Infrastructure includes the hardware like processors, servers and storage media . ( )
4. Providing internet connection is not of the requirements to use cloud computing. ( )
5. Sharing resources is one of the benefits of cloud computing. ( )

Prepare for the next lesson

Having known the Cloud Computing services

How can you use any of them?

FOURTH LESSON

CLOUD COMPUTNG SERVICES

OBJECTIVES

By the end of this lesson, students will be able to

- **Search to know how to use cloud computing services.**
- **Create an email account**
- **Use one of the cloud computing services.**
- **Create a document using the service**
- **Process the document , edit and save**
- **Share the document**
- **Discuss the effect of using information technology services in learning and life fields.**
- **Use the basic processes to deal with applications**
- **Share and exchange content and files through email or share file tools.**
- **Use information technology tools to exchange date with colleagues.**

How to use cloud computing services

Having known some of the cloud computing services, how can you use them?

- to use Google Drive or Microsoft Office 365 , you must have an email account .

Activity

With the help of your teacher and cooperating with your colleagues search for how to use cloud computing services.

.....

.....

-- To use Google Drive services you have to do the following:

1- Create a Gmail account

2- Enter the required information

3-Activate the account

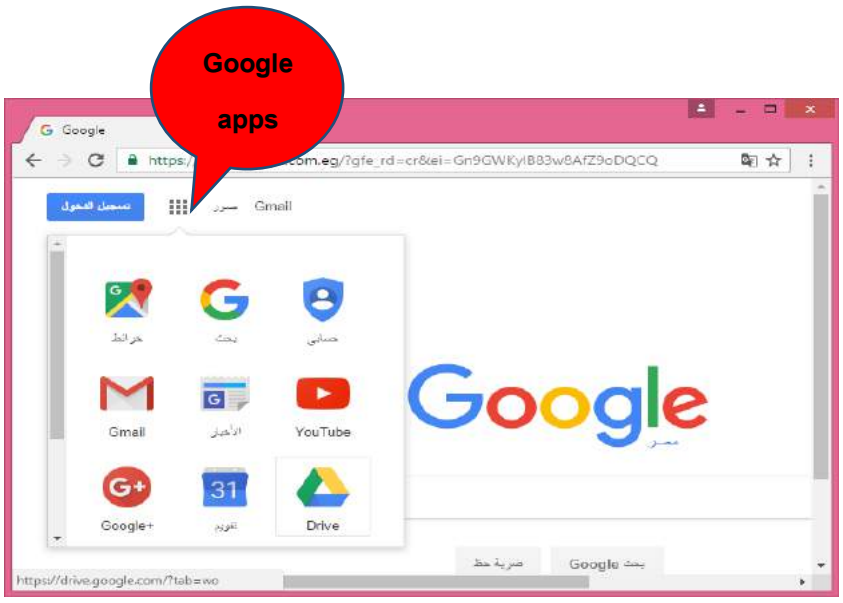
Create an email account for cloud computing

To create a Gmail account do the following steps:

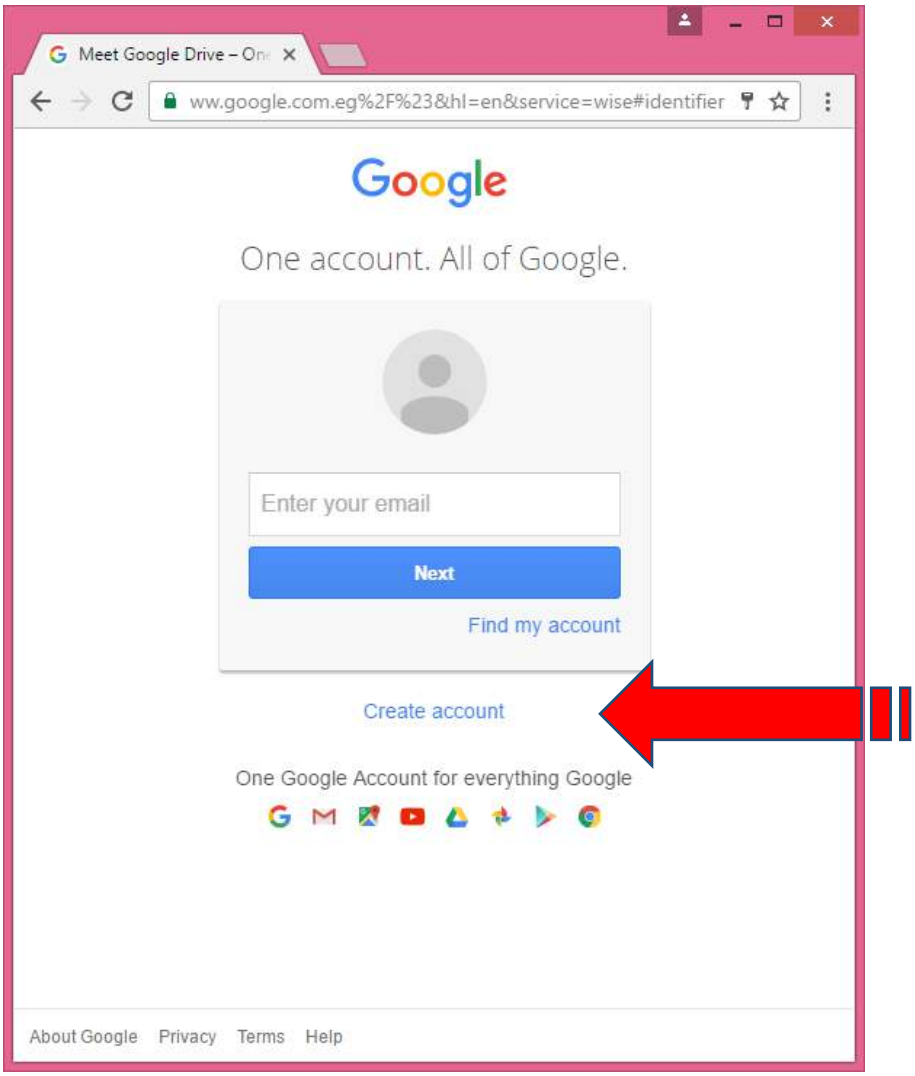
1-Open the internet browser, write the Google URL to upload the homepage

2- Click the Gmail icon or select it

Notice : You can also select Google Apps , and select Drive

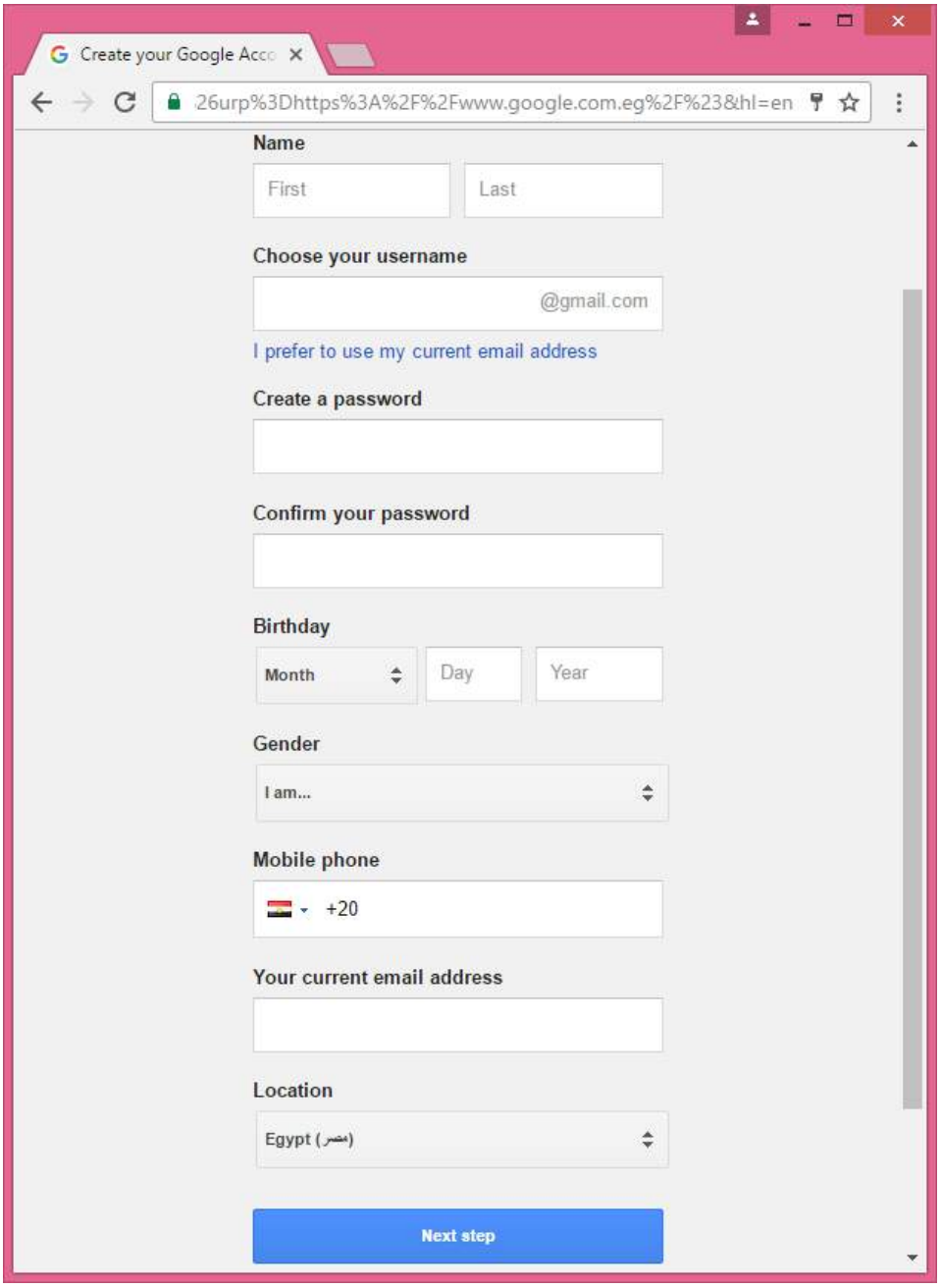


The main page Gmail appears



3- Click "Create account"

Account information registration form appears



4- With the help of your teacher enter the required information

5- Activate the account clicking Next Step

Activity

With the help of your teacher and cooperating with your colleagues , create a Gmail account.

.....

.....

Using a cloud computing service

To use one of the Google Drive services, it goes from the email account you created. Follow these steps:

– open the internet browser

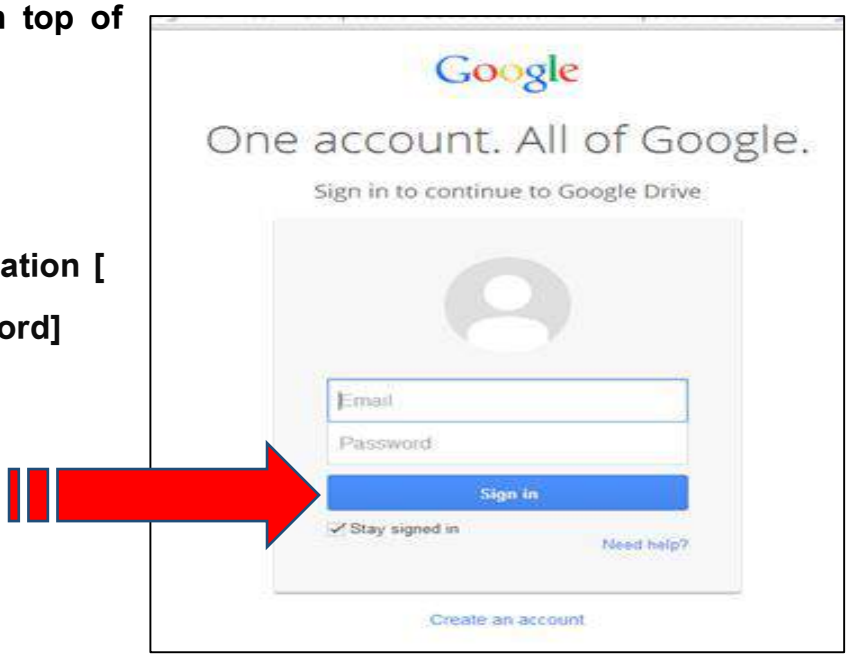
–Write Google in the address bar and wait till it uploads the homepage.

– Click Drive on top of the page

– The homepage will display

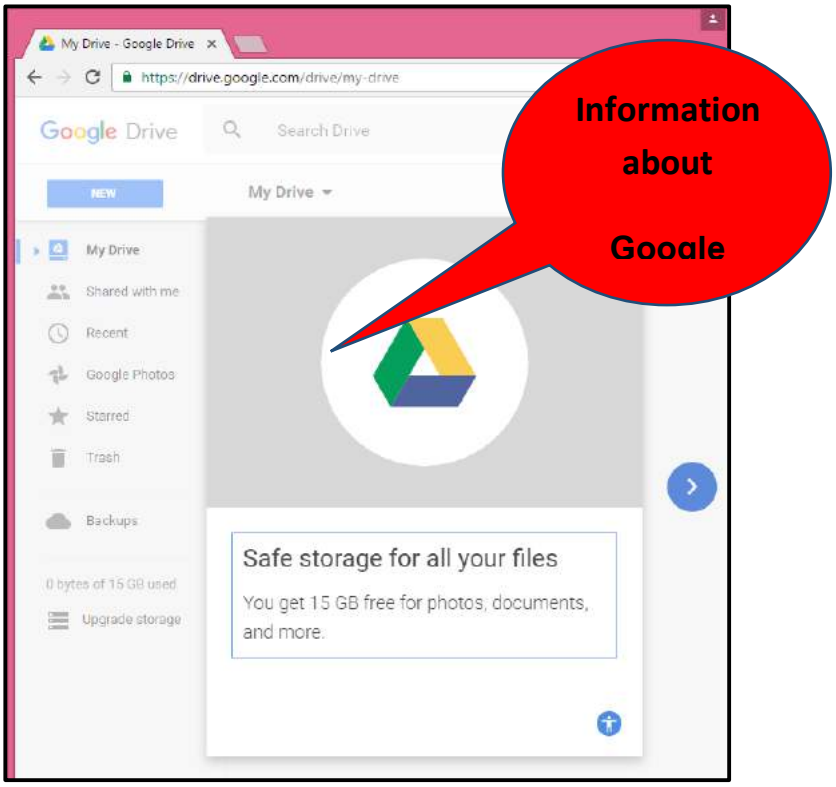
– Enter your accouynt information [the amail account and password]

– click sign in

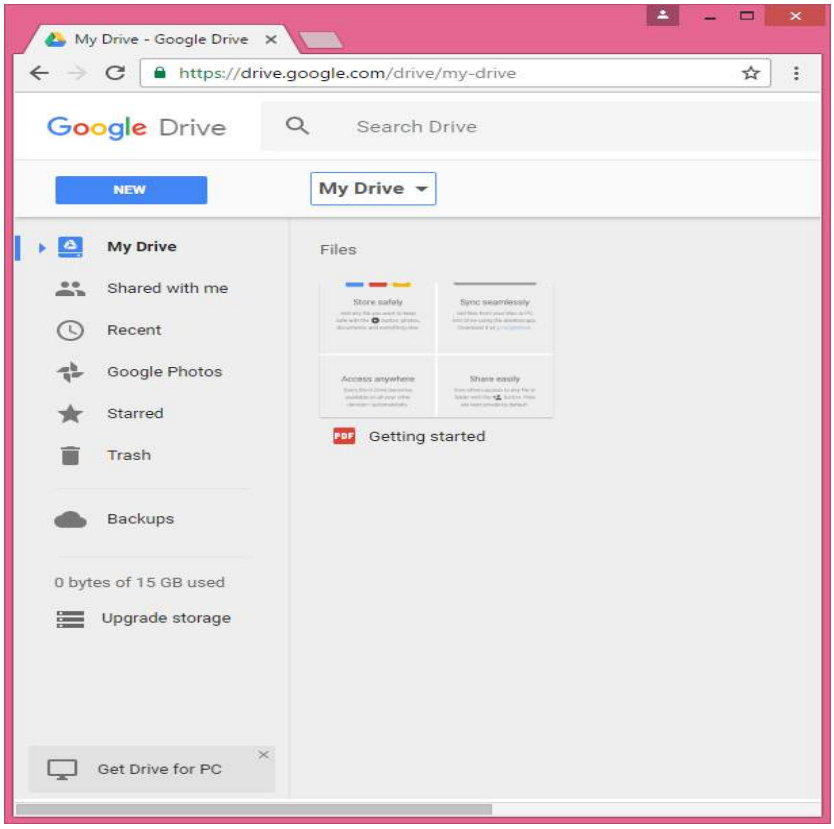


–The main page of cloud service will appear and a dialog box will give you some information about Google Drive

–Read them by the help of your teacher and close it.



–After closing the dialog box, the main page of your cloud computing account appears



With the help of your teacher abnd cooperating with you rcolleagues, try to know the Google drive services

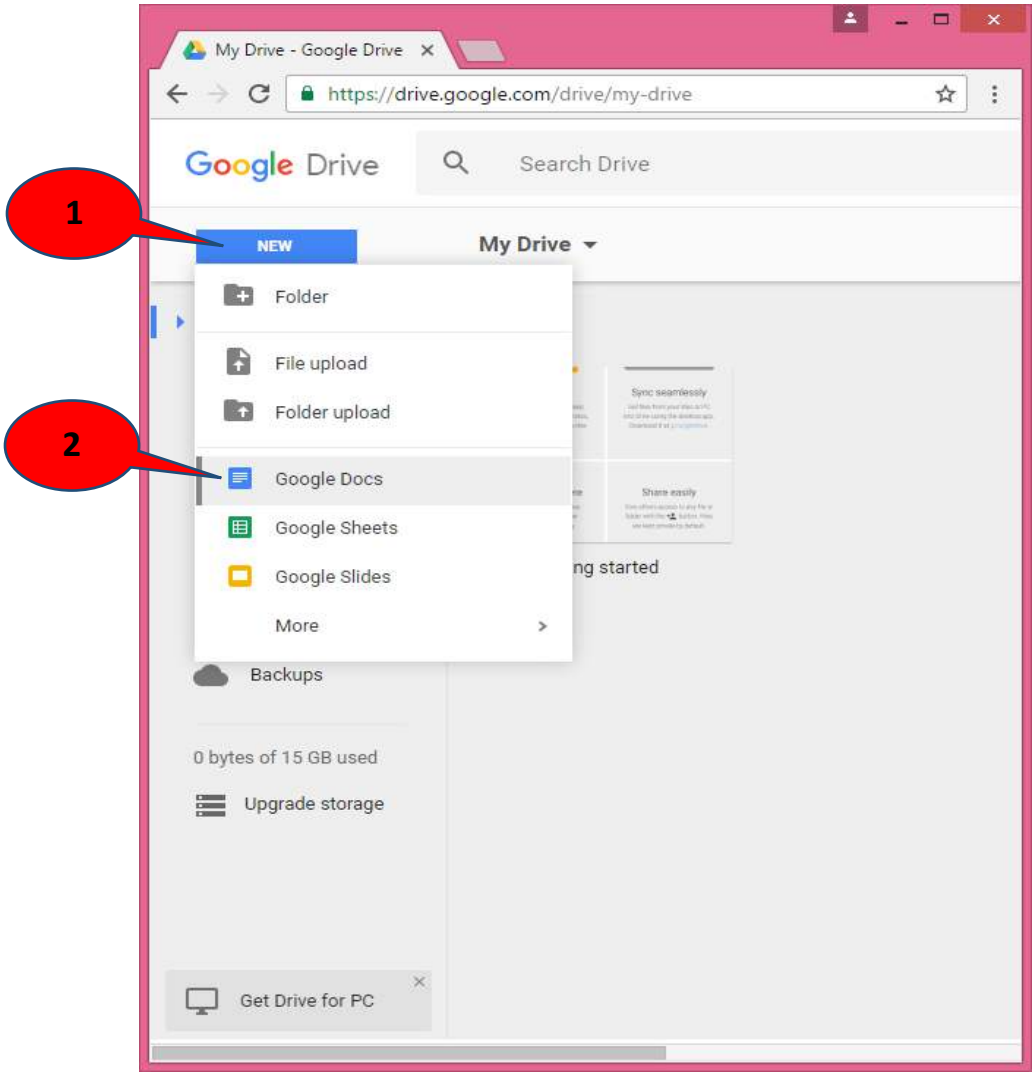
To identify Google drive Services you can use the Help tool

Creating a document using Google Docs

Through the cloud computing service, you can create a document using Google Docs , follow these steps:

1- Click New

Select Google Docs from the drop list



A docment will be created

1- Name the document

2- Write text in the text place

1-Click and name the document
Untitled document - Goc
https://docs.google.com/document/d/1V5pixkchBdEd46MLfVrELq
Untitled document
abcdef20ibrahim@gmail.com
File
Rename
Insert
Format
Tools
Table
Comments
Share
100%
Normal text
More
2-Write the text

Activity

From the FILE menu do the following:

Save the cocument

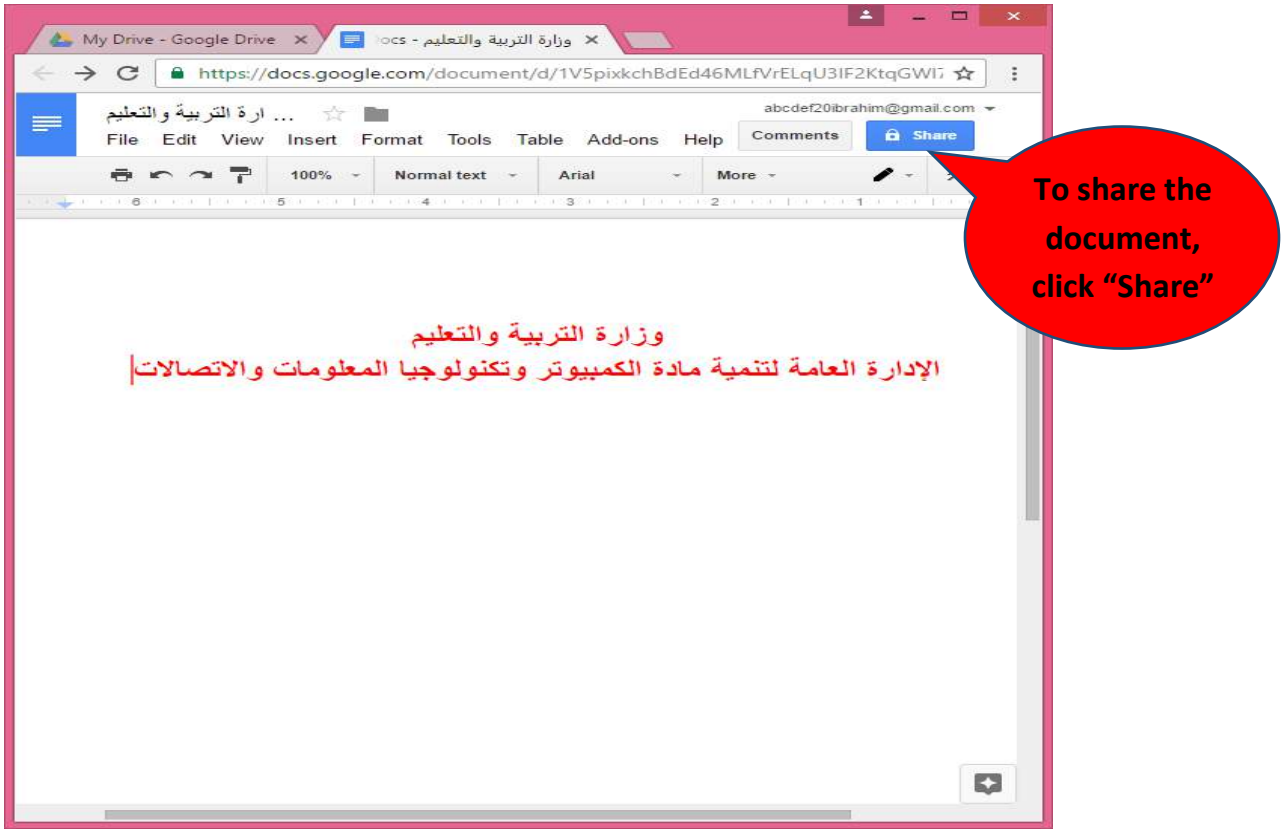
Rename the document

Page layout setup

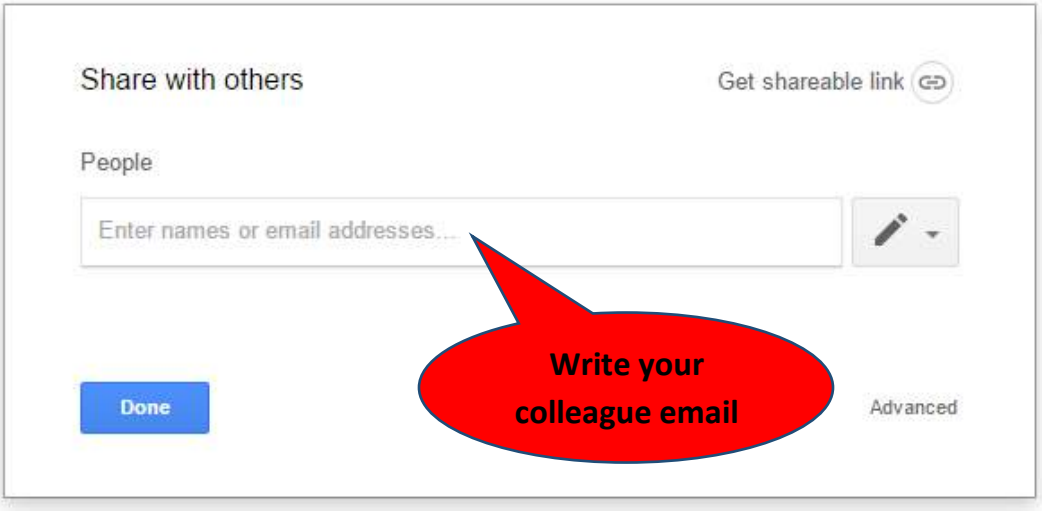
Print document.

Share your document with a colleague

After writing the text in the document , you can share the document with your colleagues by clicking " Share "



The following dialog box appear



In the dialog box, you are asked to enter your colleague's email address to share with them .

NOTICE: the allowed email should be on google.

Activity

create a document , format it and share it with your colleagues.

QUESTIONS

1-Complete the following

1. To use Microsoft Office 365 service, you have to .....
2. To create a document using Google Docs, click.....and select ..... from the drop list.

2-Complete the following

Cloud computing services are like :

.....

.....

.....

Choose the correct answer:

1- To share a document with your colleagues, click .....

(Share-Copy- Cut-Paste)

2- To create a new account on Google Drive, select .....

(sign in-Copy account-Delete account-Create account)

3- To create an email account on Gmail, open the internet browser and write Google in the .....

(tool bar – address bar – menu bar – all of them)

4- ✓ or X in front of the following sentences

1. To use the Google Drive services , you have to get an email account using the cloud computing.
2. To create an email account on Gmail, click Google apps and select Drive.
3. The allowed account to share document with by using Google Drive must be on Google.
4. You can save a document you created by using Google Drive service.

Prepare for the next lesson

Having known how to use the internet and its applications

What are the bad effects you may face while using the internet?

Lesson Five

Internet safety

Objectives

By the end of this lesson, students will be able to

- Identify the correct seating in front of the computer
- Practise the correct seating in front of the computer
- Identify some of the concepts and idioms of the internet safety
- State as many forms as possible of cyber bullying.
- Share ideas to inform colleagues about the importance of internet safety

Internet safety

Depending on information technology nowadays has become essential; in our lives. Although the internet has opened a lot of scopes wide, internet safety and protecting personal data are of the most important issues for users and developers, especially because our students spend a lot of time in front of the computer surfing the internet.

In this lesson ,we will know about the correct seating in front of the computer and the safety elements connected to this.

Activity

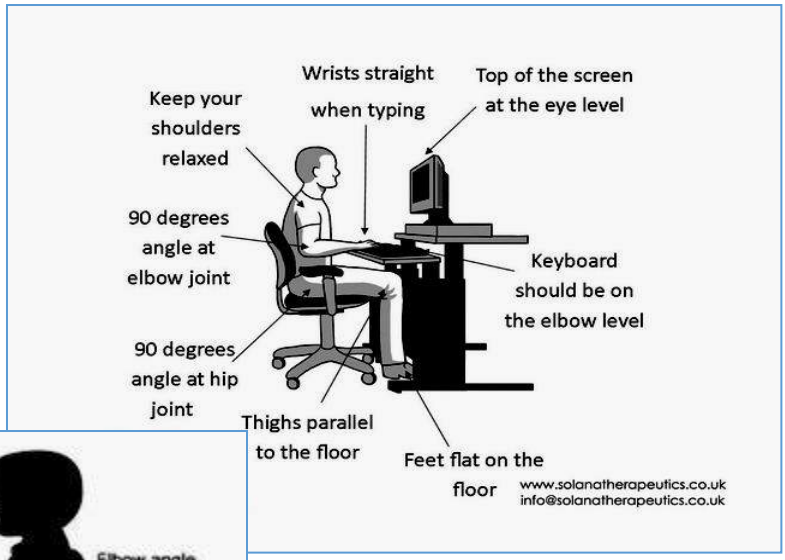
By the help of your teacher and cooperating with your colleagues, state how to sit correctlyin fornt of the computer.

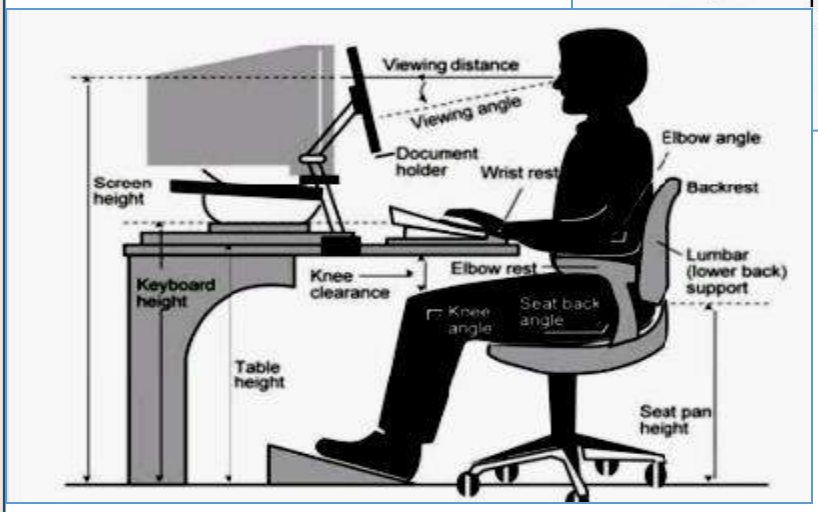
.....

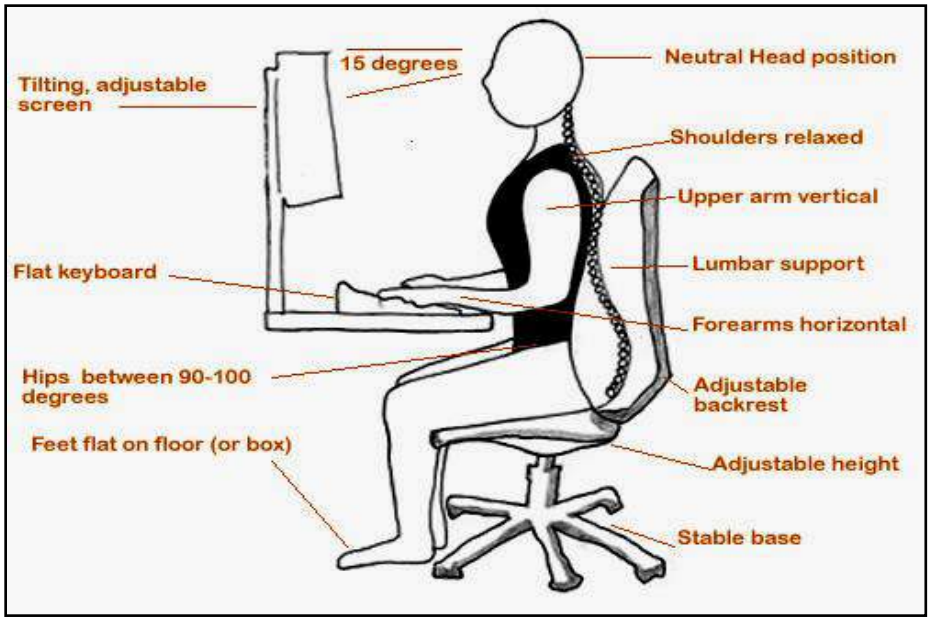
.....

.....

Correct seating in front of the computer







How to keep healthy in front of the computer:

1- Select the suitable light source and position

2- Change your seating and sight direction every 10 minutes for 10 seconds. It is advisable to open and close your eyes to avoid eye drought.

3-Stand up every 30 minutes to activate the blood circulation and renew activity

4- The level of the chair and the computer should be suitable, the chair suits your length and it is better to have a back and head support. You must sit upright.

5- Leave a distance of about 50 -70 cm between you and the computer, because the computer screen emits different rays like infrared , ultraviolet , x-ray and microwave rays, which are so strong and harmful on the long run. The best way to decrease these dangers is to keep away from its source for a distance of about 50 cm and use a low radiant screen.

6- Move your knees randomly every20 minutes at least as the joints are affected by the way we sit, and the knee is the most affected one.

7 – The best place for the set is to be opposite to you. The part with hardware and the cables should be away of about half a meter at least.

8- Move your hand when using the mouse continuously.

9- Move your feet in time of long sitting.

10 –Put on heavy socks in winter to warm up your feet.

Some idioms and concepts of internet safety

- **–Cyber Bullying:**

It is the wrong way of expression in chat rooms or messaging or even SMS either on the internet or the phone.

- **Happy Slapping:**

It is the attack of a victim while not paying attention. The partner takes a photo by the mobile phone or digital camera on the computer, then publishing the photo.

- **Phishing:**

It is pretending to be an official body to get personal and financial information about others.

- **Contempt:**

It is adding rude comment in a chat online.

- **Spam mesages:**

They are the undesirable messages that come from different places with advertisement or news that may contain a virus or harmful material.

- **Firewall:**

It is the software or hardware that prevents unlicensed people from surfing certain illegal or impolite sites.

With the help of your teacher and cooperating with your colleagues:

Design a digital chart with guidance to avoide the malusage of internet.

.....

.....

.....

Questions

Complete the following

To keep your health during using the computer , you have to.....

1. .....

2. .....

3. .....

4. .....

What is meant by the following :

1- Cyber Bullying:

.....

2-Contempt:

.....

3- Spam messages:

.....

Prepare for the next lesson

Programming learning early helps develop the high thinking skills. There are a lot of programs to design games , interactive stories and cartoon

Search the internet for advantages of SCRATCH program.