

Geel 2000 language school I.C.T.



Booklet for Grade.4

First Term

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Name :

Class:

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Lesson (1)

Tools of scientific Exploration

1- The GPS (Global Positioning System):

Used to find anything using the satellites.

2- The Magnetometer:

Used to find metals (minerals) underground.

3- The GPR (Ground Penetrating Radar):

- It user's radar to find object buried underground

4- Rover c4

- It is developed to detect metals.
- It is primary to search for treasures and Metals buried under the ground scanner.

Used to discover objects buried underground.

- You don't have to be a scientist, engineer, or archaeologist to use technology.



1. How does an archeologist explore archeological sites?

- He goes to the location using **GPS**.
- He searches for things under the ground using the **magnetometer** and **ground penetrating radar**.

Homework (1)

Q1. Choose the correct answer from the following options:

a) You want to see if there are any old coins buried underground, you will use.....

1. magnetometer
2. GPS
3. Rover c4

b) You receive a message from a friend who is lost and want to try to find

them, you will use

1. ground penetrating radar
2. GPS
3. Magnetometer

Q.2: Put (✓) or (x):

- 1- Ground penetrating radar is used to detect objects buried underground. ()
- 2- The goal of adding a Global Positioning System (GPS) to smartphones is to detect the locations. ()
- 3- The magnetometer device is used to discover metals underground. ()

Lesson (2)

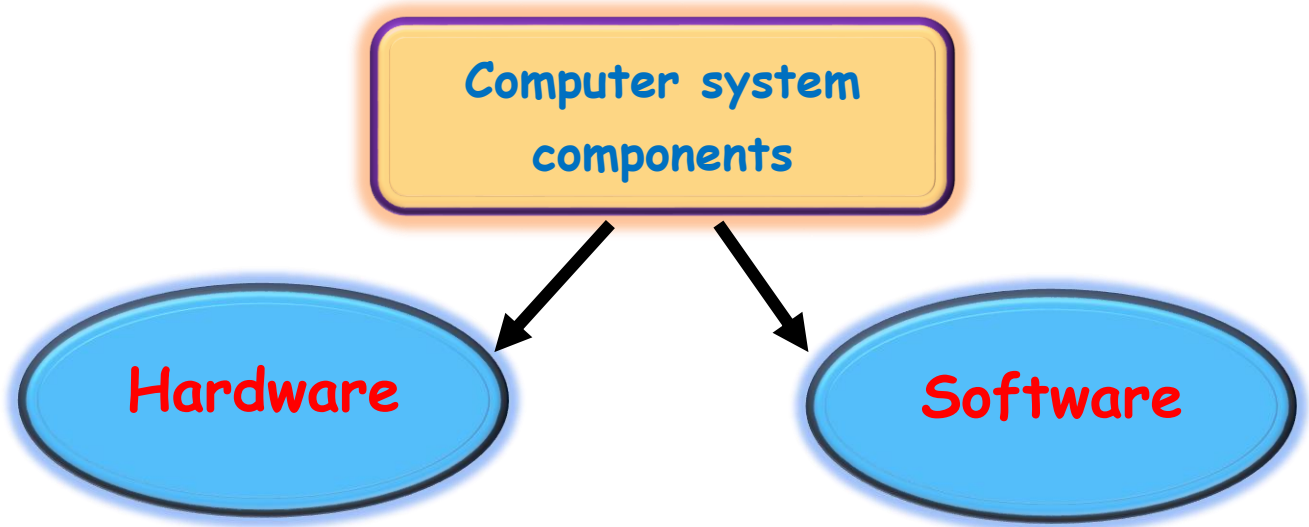
Components of computer system

The Computer:

Is an electronic device that receives the data and transforms it into information.

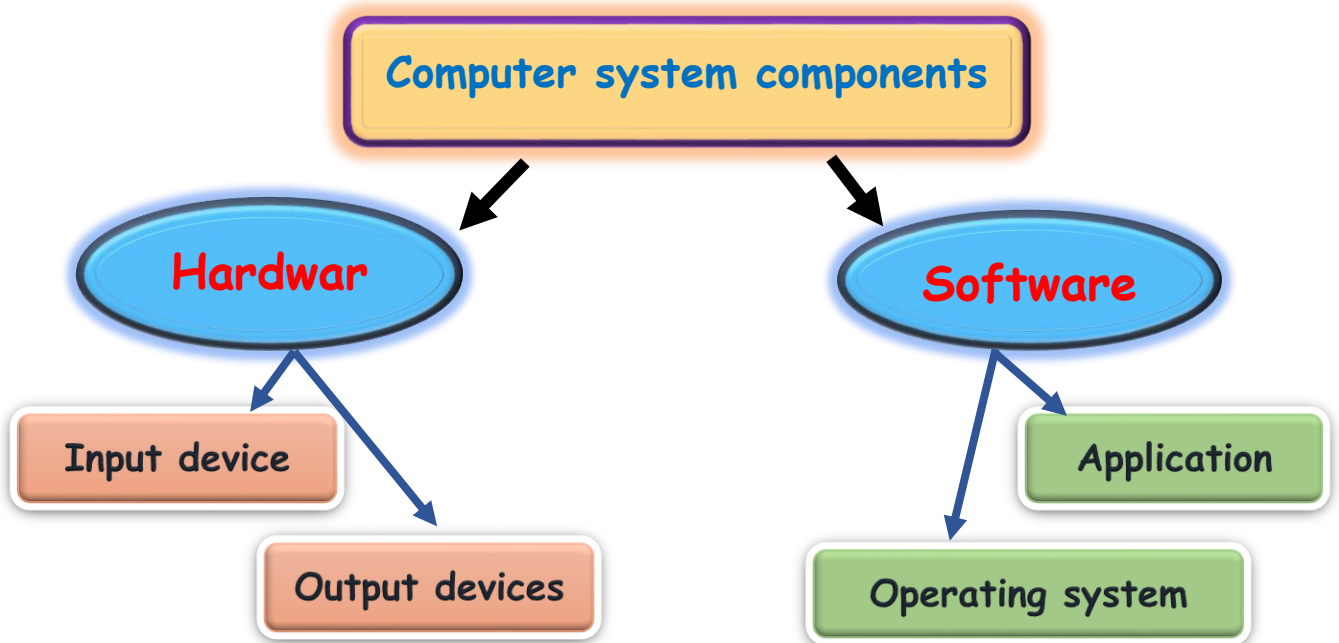
The Computer Types:

- 1- Personal Computer (PC)
- 2- Laptop
- 3- Smart phones (iPhone and the tablet)



The Hardware:

It is any part of computer, which you can **see** and **touch**.

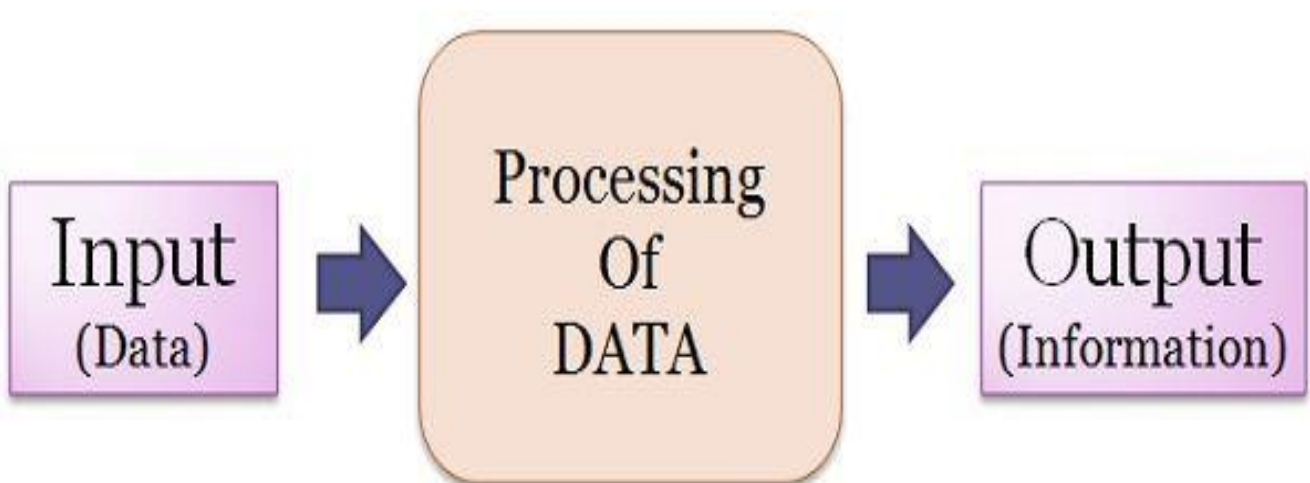


3-The System Units:

Units that make the computer work.

Like: the processor (CPU).

processing.



Computer tasks

- 1- Writing articles and documents**
- 2- Send email online**
- 3- Play games create vides**
- 4- Create spreadsheet (Excel)**
- 5- Store information**

Input dives	output dives
Mouse	Screen
Keyboard	Braille terminal
Microphone	Speaker
Camera	Printer
Touch screen	Speech synthesizer

Homework (2)

Q1. Choose the correct answer from the following options:

1. allows blind people to use computers
 - a) Speaker
 - b) Screen
 - c) Braille terminal
2. allows non-verbal people to speak.
 - a) Speech Synthesizer
 - b) Speaker
 - c) Screen
3. allows output of audio.
 - a) Speaker
 - b) Screen
 - c) Scanner
4. allows input of text and images from paper.
 - a) mouse
 - b) Mic
 - c) Scanner
5. allows the input of audio.
 - a) Speaker
 - b) Mic
 - c) Screen

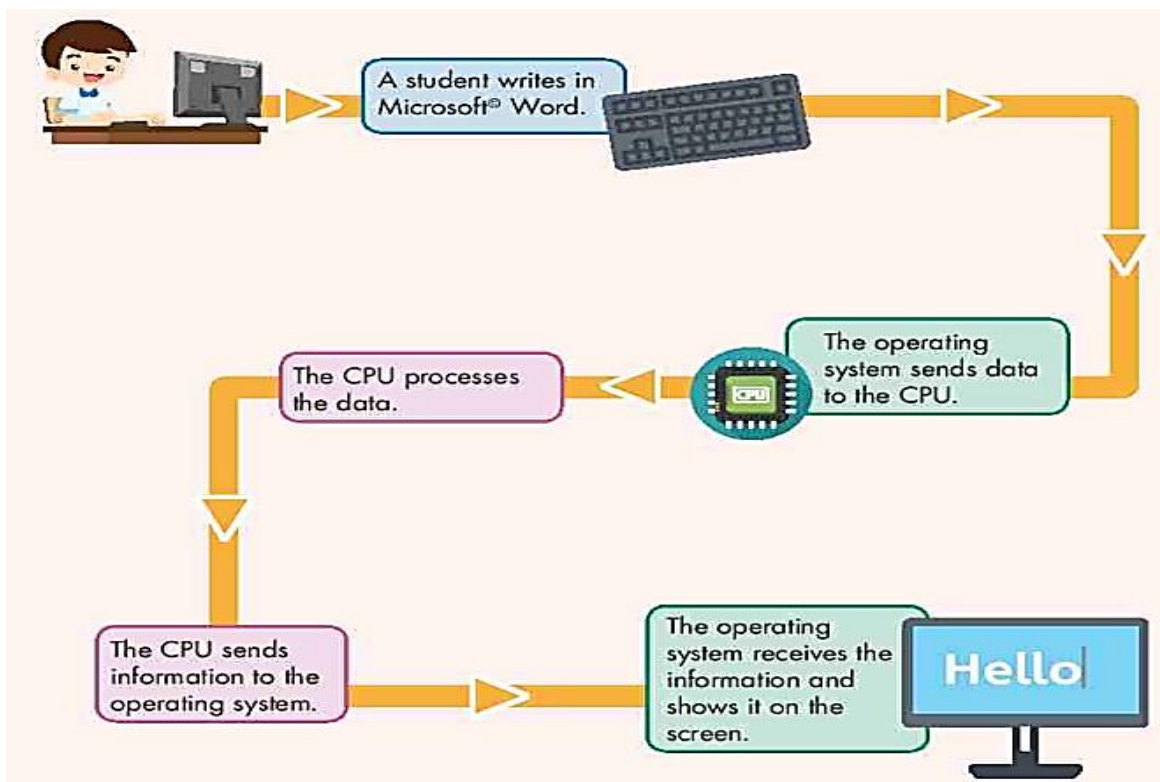
Lesson (3)

Software and operating system

The Operating System (OS):

The operating system translates the user language to the computer language.

For example, if you want to write in the word program:



Computer components are divided into:

➤ Hardware

- It is any part of computer, which you can **see**, and **touch**.
- Like (input devices and output devices).

➤ Software

- It is any part of computer, which you can **see**, but **cannot touch**.
- It contains the programs necessary to operate the computer.
- Like (Windows - Excel- power point - word -Facebook).

Software is divided into:

- Operating Systems, the programs responsible for operating and managing a computer.
- Applications these are programs Such as Microsoft Word and Microsoft Excel
- Word :- processing software is a type of device.
- Excel: - it helps us to design PowerPoint tables and graphs.
- PowerPoint: - Presentation program helps to display information.



Homework (3)

Q.2: Put (✓) or (X):

- 1- The operating system is not necessary is the deal with the computer ()
- 2- Presentation program (MS. PowerPoint) helps to display information. ()
- 3- CPU is a type of software ()
- 4- Input devices in computers work on processing data. ()
- 5- Output devices help in processing data. ()
- 6- Word processing software is a type of device. ()
- 7- Information is the result we get after processing the data. ()

Lesson (4)

Supporting people of determination

People of determination:

Are people who could not do something or found it difficult doing something.



The assistive technology:

The technology that helps people with determination do difficult things.

- **Stephen Hawking** was a famous scientist. He used a robotic wheelchair to move, which was equipped with a system that enabled him to talk.



- The technology could aid people who could not talk, as the computer has a program that could convert written text to sound.

Like :the speech synthesizer and the braille terminal.

here are many types of assistive technology. Here are some examples:

(1) Hearing aids:

- Hearing aids help people who have trouble hearing.
- Today, Models can connect to a mobile phone.
- Also include applications allow users to adjust their aids.



(2) Screen magnification software:

This software enlarges everything on the computer screen, "words, pictures"

- Allows people with low vision, to interact with the computer.



(3) Alternate communication software:

Alternate communication software help people with speech and language disabilities communicate with others.

Examples include a computer program that can turn text to speech and speech to text.



(4) Sporting tools:

Paraclimbing tools allow climbers with limb difference to climb mountains, so assistive technology can help with ordinary and extraordinary activities!



There are many more you can research including **footballs that make a noise,**

a hand bike that has 3 wheels and is powered by your hands, and even



running blades.



Homework (4)

Q1. Choose the correct answer from the following options:

1- is a way that converts letters into prominent symbols that can be read by touch.

- a) Braille
- b) Screen
- c) Earpiece

2- Screen zoom software is used to help people who suffer from

- a) visual impairment
- b) hearing impairment
- c) limb loss

3- is a device that allows non-speakers to speak.

- a. Screen
- b. Sports equipment
- c. Speech Synthesizer

4- is a device that helps people with hearing problems.

- a) Medical hearing aids
- b) Screen zoom software
- c) Braille

5- Screen magnification software enables

- a) showing information
- b) hearing the information
- c) printing papers

6- helps people of determination (of a missing limb) to practice them daily life.

- a) Prosthetic leg
- b) Keyboard
- c) Camera

Lesson (5)

Common ICT problems and solutions

ICT tools (like a computer, tablet or laptop) can help you do many tasks such as: 1- work your teacher gives you

2. research of information online

3. Writing school reports and homework using Microsoft Word.

4. You can also use these devices to play games.

Sometimes you may encounter some technological problems while using the computer and the following are possible solutions to them.

(1) Problem: Not being able to open an **app**:

- Restart the PC. And try to open the App again.
- Update the software.
- Deleting and re-installing the App.
- If the problem not solve, Ask your teacher or family member for help.



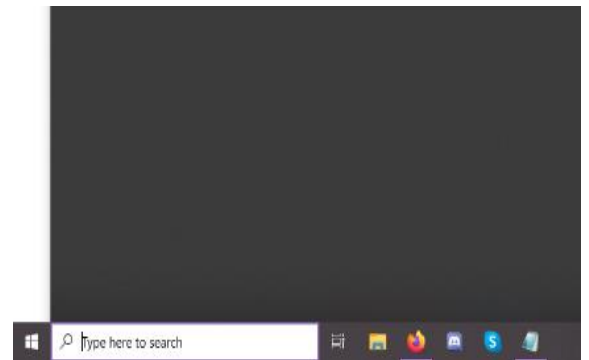
(2) Problem: **Mouse** pointer is not working:

- Make sure that the mouse cable is connected to the right port.
- After that, Restart the PC.
- Replace the mouse with another one.
- Ask your teacher or family member for help.



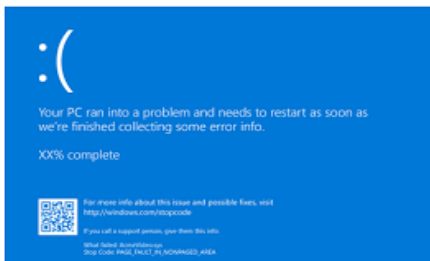
(3) Problem: Can't find a file:

- Look in the downloads folder.
- If you looking for a word file, search in the documents folder.
- If you looking for a picture, search in the pictures folder.
- Try to use the search box at the bottom of the screen.
- Ask your teacher or family member for help



(4) Problem: The **screen** stops displaying data:

- Press **CTL, ALT and Del** buttons together on the keyboard.
- **Restarting** the PC.
- Ask your teacher or family member for help.



(5) Problem: The **keyboard** doesn't work:

- Make sure that the keyboard **cable** is connected to the right port.
- After that, **restarting** the PC.
- **Replace** the keyboard with another one.
- Ask your teacher or family member for help.



Homework (5)

Q.1: First: Put (✓) or (X):

- 1- You should ask your teacher for help if you have a problem with your computer school, and you can't solve it. ()
- 2- Tablets and PCs are not ICT devices. ()
- 3- Press the Ctrl, Alt, and Del buttons together for a short period when the screen stopped to displaying data and information. ()
- 4- Computer and mobile phones are information technology and communication devices. ()
- 5- Press the Ctrl, Alt, and Del buttons together for a short period if you can't find the Microsoft Word file. ()

Q.2: Complete the following statements from the brackets:

(search - (Alt + Ctrl + Del) - cable - update software -pictures
- ICT tools - restart the computer)

- 1- If you are unable to open an application, restart your computer and try to open the application again, or
- 2- If you can't type with the keyboard, make sure the keyboard cable is plugged in the right place. then
- 3- The command responsible for closing all the applications on the personal computer or laptops is
- 4- If you can't find an image file, search for it in the folder.
- 5- If the mouse pointer does not work, be sure to connect it's to the appropriate place.

6-Computers, laptops, and tablets are

7-ICT tools help you for information on the Internet, or write some reports and assignments related to your studies.

Lesson (6)

Collecting, analyzing and graphing data

- scientists and archaeologists can search or solve problems, they collect, analyzed and graph data graphs.
- The following are some wats to collect data, analyze it, and express it in graphs.

Data collection → Data analysis → Graph

(1) collect:

- Data is collected from different sources; the most common sources are the following:

- Books and articles (digital and printed)
 - Records and reports
 - surveys
 - Experiments
- It is important to ensure that the information you collect is correct and accurate, always make sure to use reliable sources.

(2) ANALYZE:

When you analyze the data you've collected, you review your findings. Then you interpret what those findings mean. You can use the data to find out what happened, why it happened, what is likely to happen next, and what should be done, you may have a lot of data. The best way to interpret a lot of data is to look for trends in the information.

(3) Graph:

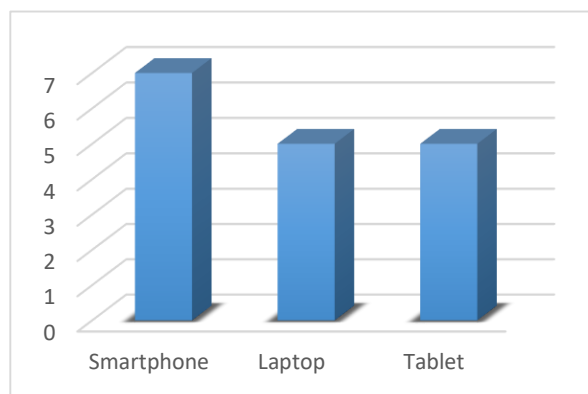
- The stage of creating the graph is the next stage after analyzing the information that has been reached.
 - The most common graph is the **bar graph**, because it clearly present and compares different categories of information.
 - You can draw graphs on paper or create them using spreadsheet software (Excel). **Example:**
- Nesma asked 14 of her classmates about their favorite devices, this is the information that she analyzed:



- Seven of her colleagues answered that their favorite device is a **smartphone**.
- Five of her colleagues answered that their favorite device was a **laptop**.
- Two of her colleagues answered that their favorite device was the **tablet**.

Favorite device	Number of students
7	Smartphone
5	Laptop
5	Tablet

After Nesma analyzed the information, she graphed it:



Homework (6)

Q.1: First: Put (✓) or (x):

- 1- You can follow the steps for collecting, analyzing and expressing data in graphs, to create a survey for your classmates about favorite subject()
- 2- You can't make graphs on paper but, you can create them with spreadsheet software (Excel) only () .
- 3- Software applications are used to collect data and are not used to analyze and express them in a graph () .
- 4- The next step for analyzing the information obtained is to express it in a Graph () .

Q.2: Choose the correct answer for each of the following:

- 1- is collected and paper data, from different sources.
[A] Data [B] Paper data [C] Digital data
- 2- Program is one of the digital means that can be used to organize information.
[A] Windows [B] Android [C] Excel
- 3- You can create on paper or do it use a spreadsheet program.
[A] graphs [B] oil paintings [C] cartoons

theme 2

Lesson (1)

Online dangers and how to be safe

Online communication:

- There are many ways to **communicate** online. You can use **computers, phones, or tablets**.
- People may use **instant messaging, email, to communicate**.
- Be careful - some people communicate online to be unkind or to steal personal information.
- Behave online as you would in person. Always be kind and honest when communicating with others. Be sure you know who you are chatting with.
- If someone is unkind or makes you feel unsafe, you can block the person.

Unsafe website



- Be careful when clicking on links. **Don't click on links that you are unsure of**. If you accidentally view an unsafe or inappropriate site, **don't panic. Leave the site and tell**

your teacher or a family member who can help you feel safe you.

Sharing data online:

- Don't share personal data online without ask your teacher or a family member if it is OK.
- If you share your personal data online, you may receive spam messages.
- Check your privacy settings on social media site Make sure that only your friends and family can view your information.
- Always think before you post something, especially a photo or video. Ask yourself, Am I sure this photo is appropriate? Could this embarrass or hurt me or others?
- Always think before you post about yourself or other people.

When you **block** someone, that person cannot see your posts or contact you.



Some examples of **personal information** include your **address**, your **name** and the **name of your school**.



Downloading files

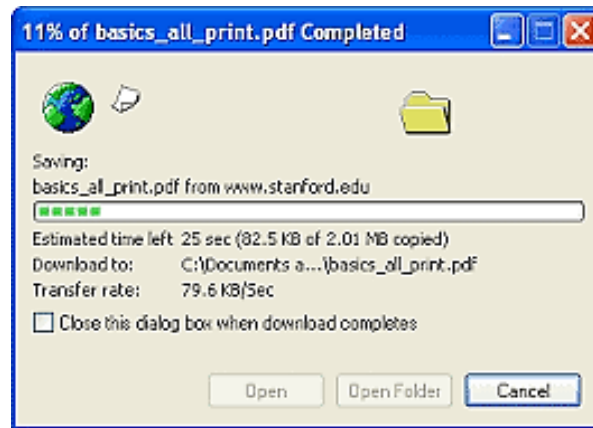


Think carefully before you download files. Some files have viruses.

Viruses can damage your computer or be used to track your information.

Check the website before you download a file. Is it a trusted site? If you are not sure, you shouldn't download files from it.

When you are using the internet, you might want to download a file. This saves it to your computer so that you can look at it later, without being connected to the internet.



Spam mail



includes unwanted messages to advertise products or gather more information from you.

The messages may also include viruses. If an email includes an **unfamiliar address, unknown links, or messages in ALL CAPITAL LETTERS**, it might be spam.

Homework (1)

Q.1: Complete the following sentences using the words in the brackets:

(Block - Instant messaging - Download - Spam - Personal information)

- (1) Emails that you receive from an unknown e-mail address that contain advertisements are
- (2) When you a file that you save to your device.
- (3) If you... someone. This person will not be able to contact you or see your account.
- (4) Think carefully before you share your address or any other with someone else on the Internet
- (5) You can use..... to communicate with your friends.

Q.2: Choose the correct answer:

- 1) Online communication requires all the following devices, except
 - a. computers
 - b. TV
 - c. tablets
- 2) People may use to communicate together
 - a. spam
 - b. instant message
 - c. personale information

- 3) If someone makes you feel unsafe, you can that person.
- advises
 - avoids
 - block
- 4) Your includes your name, address and your date of birth.
- spam message
 - personal information
 - instant message
- 5) If an email includes....., this message might be spam or include a virus.
- familiar address
 - capital letters
 - known links
- 6) Messages calling for unreal advertisements in your email are
- spam messages
 - personal information
 - downloaded files
- 7) If a friend sends you a strange picture that scares you, what should you do?
- Copy the picture to your computer.
 - Tell your parents about this picture.
 - Send the picture to all your friends.
- 8) If you accidentally view an inappropriate site, what should you do?
- Stop using technology.

- c. Leave the site and tell your parents.
- b. Keep the site opened

Lesson (2)

Using ICT Tools in a Healthy & Ethical Way

❖ **Objectives:** By the end of the lesson, I will be able to:

- Discuss communicating positive messages online.
- Explain what it means to use ICT tools ethically.

Posting Online

- When you tag someone, you identify that person in a post, photo, or video.
- The tag provides a link to the person's profile.
- Anyone who has access to your account can see it.



When you post on social media and tag your friends:

1. Make sure to ask for their permission first. It shows that you respect their privacy.
 2. Before you post something, ask yourself, Is this post kind to others?
- If you
are unsure, don't post it.

Crediting others:

- When you are looking for information to post online, or to include in a PowerPoint presentation,

- it's important to **credit a source of information** and let others know where the information you are sharing came from.

Respecting the Law:

- Respect the law when you are posting online or searching for topics.
 - 1) Don't go on banned sites.



Banned Sites

- 1-They may publish inaccurate, immoral, and harmful material.
- 2-Ask your teacher or a family member before you go on a new site.



The positive effects of ICT tools

- 1) You can read the news with just a click of the mouse.
- 2) You can communicate with your friends and family anywhere.
- 3) You can upload and download videos and photos and view them whenever you want.

The negative effects of ICT tools

- You may come across something online that **upsets** you.
- You can get **eye strain**, or **headaches**, or become **lazy** from using your devices too long.
- Some people may rely on searching on Google to answer all their questions-even though it doesn't always give the right answer!

- Remember to use ICT tools **wisely** and **ethically**.
- **Stay active** and **social** - and be **responsible**.

Homework (2)

Q.1: Choose the correct answer:

- 1- When you tag someone, the tag provides a profile to the person's
 - a. request
 - b. link
 - c. message
- 2- Samira went to her friend's birthday party and took a lot of photos. What should she do?
 - a. Share all the photos on Facebook.
 - b. Tag all her friends in a post.
 - c. Get permission from her friends to share.
- 3- is a software which you can use to create presentations.

- a. MS Word
- b. PowerPoint
- c. Windows

4- One of the ethical behaviors in using ICT tools is to a source.

- a. credit
- b. ignores
- c. edits

5- sites may publish inaccurate and harmful material.

- a. Scientific
- b. Trusted
- c. Banned

Lesson (3)

How to Search Online

Searching safely

- Choose browsers that warn users before they enter an unsafe site or download a harmful app.

If you get a warning message:

- 1) Make sure to show your teacher or a family member.
- 2) Do not proceed to the site or with the download.



Some popular browsers have search engines set up just for children:

- They will only show age-appropriate results.
- They also include a parental control app.
- They also include helpful safety tips for children.
- Watching videos online is fun, but it's dangerous if the sites you watch videos on are not safe, or if the video shows content that is not appropriate for your age.
- Choose child-friendly websites that include filters that help you avoid clicking on inappropriate videos.



Searching Smartly:

- Type longer phrases, not just a couple of words this will help you get better results.
- If your keywords are too general, you will get too many results. Many of them will not be relevant to your search.

Example:

- There is an animal called a jaguar.
- There is also a car brand called Jaguar.
- If you type in 'jaguar' you may get advertisements for a car!
- To avoid this, type jaguar animal.
- If you were interested in where jaguars live, you could type 'jaguar- animal habitat'.



If you are searching for information on an image.

- Use the image instead of words in your search.
- Use the camera button, and add your image.
- Your teacher can help you.



Important steps to help you in searching for information:

- Many search engines ignore some words like (and, how, where, or):
- Add a + sign before the word:
if you need these words to be included in your search.
- Add a - sign before the word:
if you would like the search engine to avoid this word.
- Put the phrase inside quotation marks "jaguar animal habitat ":
if you are searching for a particular phrase.

Homework (3)

Q.1: Choose the correct answer:

1- What will you do if you receive a warning message while searching online?

- I will proceed to the site.
- I will tell my teacher.
- I will stop using the internet.

- 2- Downloading applications from the internet is a problem that may face you during searching the internet.
- useful
 - safe
 - harmful
- 3- Child-friendly websites may include..... to avoid seeing inappropriate videos.
- antivirus
 - personal data
 - filters
- 4- help you get relevant results for your research.
- Short phrases
 - Long phrases
 - General words
- 5- If you are interested to knowing where jaguars live, type in the search engine.
- jaguar - habitat
 - jaguar + habitat + car
 - jaguar+ animal + habitat

lesson (4)

Who Can Help You with Online Problems?

- Online problems are common. They can be scary or make you feel helpless.
- However, you can always ask for help, no matter how embarrassed or scared you feel.

Online bullying and how to avoid it

Bullying

- It is repeated unkind behavior towards someone.
- Online bullying can include mean posts, messages, or texts.
- Our devices are always with us, so it can be hard to escape of bullying. This may make you feel trapped.



How to I avoid online bullying?

- 1- Make sure not to contact anyone you don't know.
- 2- Ask your teacher or a family member for help in any situation



Online identity theft: If Your identity gets stolen online:

- They may use your **personal information**,
- They may have access to your **social media accounts**.
- They could see your **address, email, or phone number**.



How can you face online problems?

- 1- Make sure to talk to your teacher or a family member about it.
- 2- Your teacher or a family member may feel that people in authority should get involved. This can include the police or the General Department for Combating Internet Crimes in Egypt.

Homework (4)

Q.1: Choose the correct answer:

- 1- is repeated unkind behavior toward someone.
 - a. Hacking
 - b. Headache
 - c. Bullying

- 2- If you see a post from an unknown person bullying you, what do you do?
 - a. I will share this post.
 - b. I will block them.
 - c. I will bully them.

- 3- If you found your profile picture on another account on Facebook, this is

called

- a. online bullying
- b. identity theft
- c. unreliable source

4- What are the actions that could expose you to identity theft?

- a. Blocking unkind people
- b. Using a strong password
- c. Communicating with strangers

5- If you accidentally saw a scary image on a website, what would you do?

- a. Forward this image to your friend.
- b. Ask a family member to help you.
- c. Never go online again.

6- Online bullying makes you

- a. lose confidence.
- b. happy and stronger
- c. an unkind person

Lesson (5)

My personal digital safety plan

If your password is easy to guess, the people can get into your account.

This is called hacking.

How to stay while using the internet?

1-Don't use the same password for all your account.

2-use antivirus software to protect your device

For virus.

3-have strong password, unexpected and hard to guess.

How to create passwords is strong to prevent your device from being hacked or hacked

1 - it should be at least 8 characters.

2 - shouldn't include personal information such as your name, date of birth or your address.

3 - use a password manager or keep a list of your passwords in a safe place that only you and your teacher or a family member have access to.

Viruses

A type of dangerous program that infects the computer and causes big problems such as sending an email to everyone on your computer or deleting files

Anti-virus software

- 1 - It protects your computer from viruses, catches.
- 2 - before they affect your device. it can also remove virus and fix damage files.

Homework (5)

Q.1: Choose the correct answer:

1-Using easy passwords could expose you to

a-hacking

b-bullying

c-viruses

2-A strong password must include at least

a-six

b-eight

c-ten

3-Anti-virus applications viruses before they affect your device.

a-remove

b-catch

c-delete

Lesson 6

Practicing what you learned

- Researchers and scientists prepare digital reports about the subject of their studies using different programs, like:

PowerPoint, video, documentaries or personal blogs

to spread their findings and benefit people as best as they can.

1) Microsoft PowerPoint:



- PowerPoint is a Microsoft program that helps us design a presentation.

PowerPoint is a fun way to present your ideas to others

- You can make text look interesting using Word Art.
- You can also make your presentation appear like a book.
- In your book, you can include text and pictures about your topic. You can even include fun sound effects.



2) Videos:

1) You can make one on a laptop, tablet, or cell phone without needing film sets or expensive cameras.

2) You can record yourself presenting your ideas.

3) You can interview others, and include them in your video, too.



4) You can also add more details and fun effects with different sounds and images.

➤ There is a special video software you can download to help you.

➤ Remember to check and make sure an application is safe before you download it.

3) Posters

➤ One fun and effective way to present your research is by creating a poster.

How to design a poster:

a) Choose fun colors when writing information that include art like drawings, photos or cutouts.

b) Always present your ideas.

c) Always make sure that the text is large enough for others to read from a distance.

d) Also, always remember to credit your sources.

Homework (6)

Q.1: Choose the correct answer:

1- is a Microsoft program that enables you to design a presentation.

- a. MS Word
- b. MS Excel
- c. PowerPoint

2- Researchers can include their interviews with others in their

- a. posters
- b. videos
- c. presentations

3- Microsoft PowerPoint includes all the following, except

- a. interviews
- b. texts
- c. Word Art

4- Word Art in PowerPoint makes texts look

- a. smaller
- b. interesting
- c. boring

5- To design a creative poster, you must

- a. use texts without drawings
- b. use drawings without texts
- c. use texts with fun colors and drawings