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Student's Book

**Primary 6
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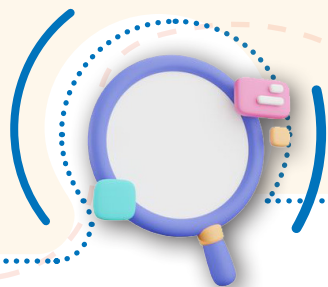


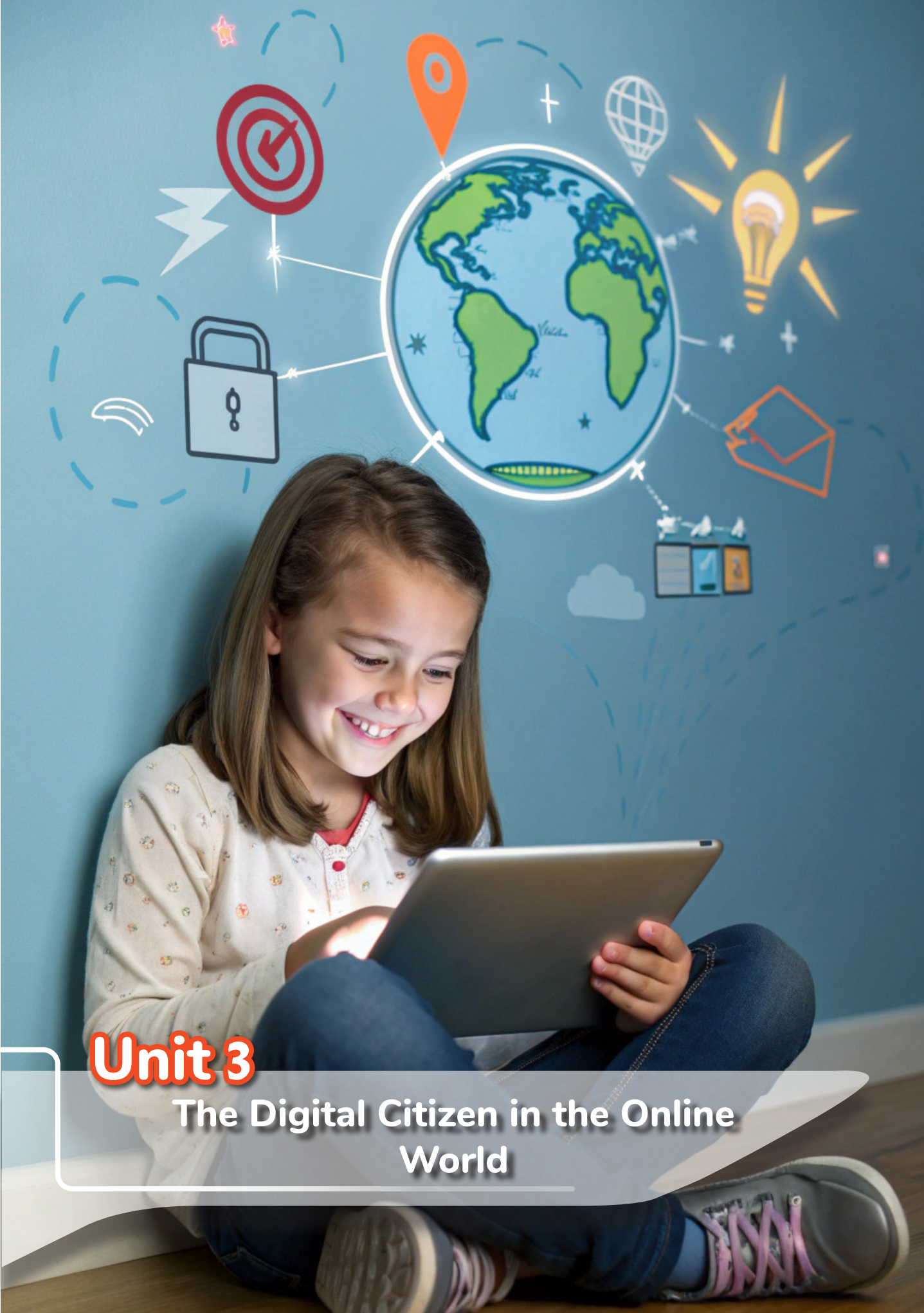
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Unit 3

The Digital Citizen in the Online World



Lesson 1

Artificial Intelligence and Ethics of Its Use

Lesson Objectives:

By the end of the lesson, the student will be able to:

1. explain the concept of artificial intelligence and its common applications.
2. explain the role of algorithms in learning artificial intelligence.



1 Artificial Intelligence (AI): Machines That Think!

Imagine a machine that can think, solve problems, and make decisions just like you! This is artificial intelligence (AI). It is a technology that enables machines to use human traits, such as logic, to solve problems.

How do these machines learn? AI relies on something called algorithms. Think of them as “recipes” or “step-by-step instructions” that the machine follows to learn and solve problems.

2 Artificial Intelligence Tools in Our Daily Lives:

AI is all around us, and you may have already used some of its tools!

The tool	Its use	Example
Face recognition to unlock a device	Used to verify your identity and unlock your phone.	Your smartphone
Voice assistants	Digital robots that answer your questions or carry out requests using your voice.	Siri or Alexa
Email filters	Tools that prevent dangerous or unwanted messages (spam) from reaching your inbox.	Your email inbox (Inbox)
Language processing tools	Help you draft writings or answers, and send emails or simple messages.	Some research tools or digital writing
Chatbot windows	Windows on websites that reply to you automatically using “chat robots”.	Customer service on some websites

3 Ethics: Using Artificial Intelligence Responsibly:

Since artificial intelligence is very powerful, we must use and develop it according to important ethical rules:

- 1 Inclusivity** : AI tools should be inclusive of all users, not just a select group. Everyone should benefit.
- 2 Fairness / Avoiding Bias** : AI decisions should be based on facts and data, not on opinions or personal viewpoints (bias).
- 3 Privacy** : The privacy and security of users' data must be protected when designing AI tools. Your personal information should not be exposed.

- 4 Benefit / Usefulness** : AI tools should be used to help society and make it better, not just to gain personal harmful advantages or to enable cheating.
- 5 Responsibility** : If an AI tool makes a mistake, its designer should acknowledge the error and fix it..

Practical Activity:

Dear student... by using Microsoft Word or any other word processing program, write a short essay about artificial intelligence in our daily lives.

General Questions

A Choose the correct answer from a, b, c, or d:

- What is the thing that artificial intelligence tries to imitate in machines?
 - The speed of a rocket
 - Human traits in problem-solving and logic
 - The movement of clouds
 - Electrical signals in circuits
- Which artificial intelligence tool is used to protect your email from dangerous messages?
 - Voice assistants
 - Smart home devices
 - Email filters
 - Smart navigation systems
- What is the name of the steps or “recipes” that artificial intelligence relies on to learn and solve problems?

A) Hypotheses	B) Algorithms
C) Records	D) Statistical models

- 4. Which ethical principle prevents artificial intelligence from making decisions based on personal opinions?**
- A) Benefit
B) Responsibility
C) Fairness (Avoiding bias)
D) Transparency
- 5. What does the principle of “inclusivity” require in AI ethics?**
- A) The tools are used only by a specific group.
B) The tools are ready to explain how they work.
C) The tools include all users, not just a specific group.
D) The tools are protected from hacking only.
- 6. Artificial intelligence enables machines to use logic and _____ to solve problems:**
- A) handwriting
B) decision-making
C) fast travel
D) automatic printing
- 7. Which of the following is a common artificial intelligence tool?**
- A) A manual sewing machine
B) Navigation apps that guide you to your destination.
C) A fax machine
D) A traditional calculator
- 8. The thing that artificial intelligence relies on to learn and solve problems is called:**
- A) Records
B) Algorithms
C) Clouds
D) Metadata
- 9. Which ethical principle is concerned with ensuring that society benefits from artificial intelligence?**
- A) Transparency
B) Benefit / Usefulness
C) Responsibility
D) Fairness
- 10. If artificial intelligence collects your personal information, which principle should it follow?**
- A) Inclusivity
B) Privacy
C) Transparency
D) Accuracy

B Put true (✓) if the sentence is correct and false (X) if the sentence is incorrect:

1. Artificial intelligence is the technology that enables machines to use human traits to solve problems. ()
2. The principle of transparency requires that the tool's designer be ready to explain how it works. ()
3. Language processing tools are the ones that help in drafting writings and emails. ()
4. It is ethical to intentionally neglect the data of a certain group of people when training AI tools. ()
5. AI tools on social media can suggest people to connect with. ()



Lesson 2

Online Shopping and Investment – How to Choose the Best?

Lesson Objectives :

By the end of the lesson, the student will be able to:

1. explain the concept of e-commerce and the importance of artificial intelligence in making online purchasing decisions.
2. describe the concept of stocks and bonds and the importance of investment in supporting companies.
3. identify reliable sources of information and infer the importance of ethical conduct in investment and purchasing.

1 E-Commerce: A Wide World of Choices :

Have you ever bought a game or ordered a meal online? This is called e-commerce.

E-commerce is the process of selling and buying goods and services over the Internet. With the growth of online stores and the variety of choices, it has become necessary to use technology and artificial intelligence to help us make the right purchasing decisions.

Dear **student**, the person who buys goods or services is called a consumer.

1 Smart Search Engines:

When searching for a specific product, such as a “new school bag,” search engines use artificial intelligence to analyze your previous data and preferences. They provide you with:

- Personalized recommendations that match your taste.
- Results ranked according to the most suitable products or the fastest delivery.

2 Comparison Websites:

These websites help you when buying products, such as electronic devices, by:

- Comparing several products in one place.
- Evaluating the quality, price, and features of each product to choose the best one.

3 User Reviews and Opinions:

Before completing a purchase, it is important to know what others think about the product or service:

- Consumer reviews: Opinions from users, friends, or family online.
- These reviews help evaluate the quality of the product and service before buying.

2 Online Investment: How Do We Support Companies?

Have you heard of the words stocks and bonds? Don't worry, the concept is simple !

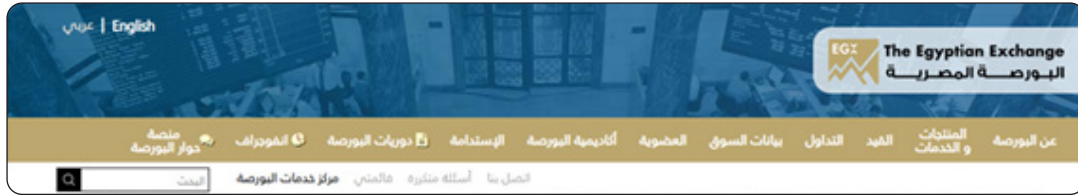
3 Stocks and Bonds :

When you buy stocks in a company, you become a partial owner of that company. When you buy bonds, you lend money to the company.

Lesson 2

Online Shopping and Investment – How to Choose the Best?

Dear student, stocks are also called financial securities that give you a share of ownership in the company.



Why do we do this?

1 To help:

To support companies that we believe provide something good for the world, such as companies that protect the environment.

2 To make a profit:

The profits or benefits earned by the company are shared with the investors (stock and bondholders).

4 Ethical and Sustainable Investment:

It is important to choose companies to invest in that follow ethical rules, such as:

- Caring for the environment.
- Having transparent and trustworthy management.
- Producing high-quality products.

To ensure this, we should check the companies' official websites and evaluate information from reliable sources.

Practical Activity:

Dear student... Search the Internet for an example of the Egyptian Stock Exchange website, then browse the site and write a report about it in terms of: (You can ask your teacher or a family member for help)

- Market summary.
- Indicators summary.
- Statistics.

General Questions

A Choose the correct answer from a, b, c, or d:

1. What is the process of buying and selling goods and services online called?
A) E-commerce
B) Digital investment
C) Traditional marketing
D) Cloud comparability
2. What do smart search engines use to provide personalized suggestions and rank products based on user relevance?
A) Font size
B) Artificial intelligence
C) Page design
D) Calculator
3. When you buy a share in a company, what do you become in relation to that company?
A) A lender
B) A consumer
C) An employee
D) A partner
4. What is the importance of reviewing a company's official website before investing in it?
A) To confirm the company logo's color.
B) To stay updated on new products.
C) To know the number of company employees.
D) To verify the ethical rules followed by the company.
5. What is the function of online comparison websites?
A) To hide product prices.
B) To compare product specifications and prices in one place.
C) To remove unwanted products.
D) To collect ratings only from friends and relatives.
6. E-commerce is the buying and selling of goods and services through:
A) The Internet
B) Regular mail
C) Traditional market
D) Libraries

Lesson 2

Online Shopping and Investment – How to Choose the Best?

- 7. What are the securities that give you an ownership stake in a company called?**
 - A) Bonds
 - B) Sukuk
 - C) Shares
 - D) Vouchers
- 8. Which technological tool helps you compare prices and specifications when buying a mobile phone?**
 - A) Traditional search engines
 - B) Shopping websites
 - C) Online comparison websites
 - D) old apps
- 9. What should an investor consider when choosing companies to support the environment?**
 - A) Profit maximization only
 - B) The company is very large.
 - C) The company is environmentally friendly and follows ethical rules.
 - D) The number of employees
- 10. Why has the importance of using technology increased in making purchase decisions online?**
 - A) To reduce the number of available options.
 - B) Because the number of options and products has become very large.
 - C) Because stores have become closed.
 - D) To make traveling easier.
- 11. Which of the following is one of the most important artificial intelligence tools that helps a user on the Internet?**
 - A) Using a calculator
 - B) Smart search engines
 - C) Writing by hand
 - D) Listening to music

- 12. The person who buys goods and services is called:**
- A) Designer
 - B) Programmer
 - C) Consumer
 - D) Developer
- 13. Investing in a company's bonds means that you:**
- A) Receive free goods from it
 - B) Lend the company an amount of money
 - C) Own all the company's shares
 - D) Consume all the company's products
- 14. Investing in a company's shares should be for the purpose of:**
- A) Wasting money
 - B) Cheating others
 - C) Supporting the company and making profits
 - D) Trading personal data
- 15. What do smart search engines use to rank the results that suit you?**
- A) The color of products
 - B) Your preferences and previous browsing behavior
 - C) Store names
 - D) Advertisement images

Lesson 3

Digital Communication



Lesson Objectives:

By the end of the lesson, the student will be able to :

1. identify educational service providers and support services.
2. explain the role of email and chatbots in communicating accurately and respectfully.
3. mention other means of communication over the Internet.



1

Who provides us with support services :

When you need help with something, whether it is a technical problem or a question about your studies, there are people and organizations ready to provide support.

Educational Service Providers (ESP): These are organizations that offer various educational services for students and teachers. They may provide books

or online training materials. For example, the Alexandrina Library may assist you in this area.

1 Customer Support Services:

These are services provided by companies to help you solve problems or answer your inquiries.

2 E-mail communication:

E-mail is a formal and professional means of communication. If your problem needs a long explanation, or you want an official document, email is the best option to communicate in the following situations:

- If your problem needs a long explanation.
- If you want an official document.

3 Tips for Writing an Email:

- a. Clear Subject:** Write a clear and concise subject line for your email so the recipient knows the purpose of your message.
- b. Communicate Respectfully:** Begin the email with a formal and polite greeting (e.g., “Dear...”).
- c. State Your Purpose:** Clearly mention the reason for your communication and the information you need (e.g., “Dear Student...”).

2

Chatbots:

Sometimes, you may visit a website and see a small window that asks: “Hello, how can I help you today?” These are (chatbot).

- **What are they?** They are programs that use artificial intelligence technology and are designed to answer questions directly over the Internet.
- **Speed:** They provide quick responses, and service providers can usually reply within 24 hours if human assistance is needed.
- **Accuracy:** Since they are robots and not real people, it is important to express your request clearly and precisely. If your questions are unclear, you will not receive accurate answers.

3 Communicating Through Other Means :

In addition to email and chat, you can communicate with service providers through:

- **Phone support windows:** Talking directly with a support staff member.
- **Visiting support offices:** Going to the organization's office to submit your request.

Practical Activity :

Dear student... Conduct a search on the Internet to review the most important applications used for secure communication online (you can ask your teacher for help).

General Questions

A Choose the correct answer from a, b, c, or d:

- 1. What is the name of the organizations that provide support to students and teachers in the field of education?**
 - A)** Educational Service Providers (ESP)
 - B)** Public transportation services
 - C)** Retail companies
 - D)** Sports training centers
- 2. Why is it important to have a clear subject in the email?**
 - A)** To increase the size of the message.
 - B)** To change the font color.
 - C)** To let the recipient know the purpose of the message.
 - D)** To add images.

- 3. What is the name given to AI-powered chat programs on websites?**
- A) Voice assistants
B) Navigation apps
C) Email
D) Chat windows (Chatbot)
- 4. Why should your questions be precise and clear when using a chat window?**
- A) To take more time.
B) To reduce Internet usage.
C) To speed up the device.
D) To get accurate answers.
- 5. What is the first step you should take when writing the content of an email?**
- A) Start with a formal and respectful greeting.
B) Write the attachments.
C) End the message with your signature.
D) Add images.
- 6. Email is considered a _____ means of communication:**
- A) informal
B) random
C) formal
D) personal only
- 7. If your problem requires a very quick response, what is the best option?**
- A) Sending a fax
B) Traditional email
C) Chat window
D) Writing letters
- 8. What do chat windows use to understand users' questions?"**
- A) AI-powered programs
B) Calculator
C) Hard drive
D) Browser
- 9. Which part should you specify the purpose of your email from the beginning?**
- A) Email signature
B) Beginning of the greeting
C) Email body
D) Email subject
- 10. Mention one advantage of chat windows compared to email:**
- A) More formal
B) Instant response
C) Suitable for explaining long problems
D) Difficult to use

B Put true (✓) if the sentence is correct and false (X) if the sentence is incorrect:

1. The best way to communicate if you need a detailed and professional explanation of a problem is email. ()
2. Chat windows are always the best way to communicate about complex problems. ()
3. Online consumer reviews are a helpful tool for evaluating the quality of a product before purchase. ()
4. Social media messages are always the most suitable way to provide accurate and professional information. ()
5. The most important element to enable the recipient to quickly identify the purpose of an email is the email subject. ()



Lesson 4

Video Conferencing

Lesson Objectives :

By the end of the lesson, the student will be able to :

1. explain the concept of video conferences and their most popular programs.
2. describe the steps to create and join a conference, including checking devices and connection.
3. mention the follow-up actions after the conference, such as follow-up or recording.



1 What are video conferences :

Imagine you are talking to your friend or teacher and can see and hear them, but each of you is in a different place! This is what video conferences are !

Video conferences are tools that allow people in different locations to communicate with each other using voice and video in real time. This is similar to direct interaction, but over the Internet. They are conducted via cloud computing.

2 Popular video conferencing tools :

Many organizations use video conferences for different purposes (such as studying or work). Some of the most popular programs are:

- Google Meet
- Microsoft Teams
- Zoom

3 Steps to Use Video Conferences :

When you or your teacher want to start a meeting or join one, there are simple steps you can follow:

First: Create a New Meeting:

- a. Click on the “New Meeting” option.
- b. Choose the option that suits you (an instant meeting or scheduling a meeting for later).
- c. After creating the meeting, you will find the meeting link. Copy it and share it with the people you want to join.

Second: Joining a Meeting:

To join a meeting that someone else invited you to, you can do one of the following:

- a. Click directly on the link that was sent to you.
- b. Copy the meeting code or link, paste it into the designated field, and then click the “Join” button.

4 Important Rules Before, During, and After a Meeting :

To make your meeting successful and effective, follow these guidelines:

Before the Conference:

1 Check the technology:

- Make sure the internet is working well and that the camera and microphone are functioning correctly. This will help you avoid technical problems that could disrupt the meeting.

2 During the Conference:

- **Manage audio and video:** Once you join, you can click the microphone icon to mute or unmute yourself, and the camera icon to turn your video on or off.
- **Stay calm and professional:** Make sure your behavior is appropriate for the meeting. Watch the screen attentively and use the camera or microphone only when necessary.

3 After the Conference:

- **Follow-up and recording:** You can send a follow-up email. If the meeting settings allow, you can also access a recording of the meeting.

Practical Activity:

Dear student... design a poster that highlights the importance of using video conferencing tools such as Google Meet and Microsoft Teams.

General Questions

A Choose the correct answer from a, b, c, or d:

1. Video conferences allow communication _____ between people in different locations?
A) Only written text messages B) Only still images
C) Voice and video at the same time D) Email
2. What is the first step you take when you want to create a new video meeting?
A) Send an email B) Click on "End Call"
C) Share the screen D) Click on "New Meeting"
3. What is the necessary step you should take before joining a conference to avoid technical problems?
A) Have breakfast.
B) Check the internet connection and ensure the camera and microphone are working.
C) Write a long message.
D) Update the operating system.
4. To join an ongoing meeting, what do you need from the person who created the meeting?
A) The street name where you live B) Phone number
C) The meeting link or join code D) Email address
5. What is the technological environment in which video conferences take place and that allows using applications remotely?
A) Memory card B) Personal computer
C) Cloud computing D) Hard disk
6. Video conferences allow you to communicate in the same _____.
A) time B) only the next day
C) only the past week D) only next month
7. If you want to join an ongoing meeting and you don't have the link, what can you use instead?
A) Your email B) The meeting code
C) Store name D) Phone number

8. What is the process that allows you to get a copy of the meeting after it ends?

A) instant chat

B) Joining the meeting

C) Screen sharing

D) Recording the conference

9. What is the function of the 'Join' button in video conferencing programs?

A) Enter the meeting.

B) Create a new link.

C) Turn off the camera.

D) Share the screen.

10. Mention a type of digital tool used in video conferences:

A) Word

B) Google Meet

C) Excel

D) Paint

B Put true (✓) if the sentence is correct and false (X) if the sentence is incorrect:

1. To create a new meeting, you should click on the "New Meeting" option. ()

2. If you are a participant, you should turn off the camera and microphone when you do not need to use them at the moment. ()

3. conferences allow real-time written communication. ()

4. The email sent after the conference is called a follow-up email. ()

5. Inappropriate behavior during a video conference is considered improper and should be avoided. ()

Lesson 5



Programming Languages and Solving Digital Problems

Lesson Objectives :

By the end of the lesson, the student will be able to :

1. recognize programming languages and their importance in creating web pages.
2. identify the steps to solve technical problems, such as file corruption or charging issues.
3. explain ways to protect files from loss and ensure secure storage.



1

Programming Languages: How Do We Talk to Computers?

- Did you know that computers have their own language? These languages are called programming languages.
- Programming languages are a set of rules and symbols that we use to give clear instructions to computer programs.

2 Most Popular Web Programming Languages:

- **HTML (HyperText Markup Language):** This language is used to build the structure of web pages. Think of it as the “skeleton” that forms the body of the page.
- **JavaScript:** This language is used to create interactive and dynamic web pages, such as moving buttons or pop-up windows. It adds “life” to the page.

3 Common Digital Problems and How to Solve Them:

In the world of technology, it is natural to encounter some problems. Some of the most important of these problems are:

The problem	The Suggested solutions (steps)
Corrupted File	1. Make sure the file is what you expect it to be. 2. Try opening it with a program other than the one you are currently using. 3. If you are sure, it is corrupted, delete it to avoid problems
Device Not Charging	1. Make sure the charging cable is working properly. 2. Ensure that the electrical socket or adapter is functioning properly. 3. You may need to replace the battery if the problem is with it.
Forgot Password	1. Click on the link that says you forgot your password. 2. Follow the steps to create a strong password.
Ways to Save Files	It is always best to make a backup. You can save the file on an external drive, or preferably, on a cloud storage service (such as Google Drive or OneDrive).
File Cannot Be Deleted	Check that the file may contain special characters. These characters may restrict Windows and make it difficult to delete.

Practical Activity:

Dear student... With the help of your teacher, identify some potential malfunctions in computers and suggest solutions for them.

General Questions

A Choose the correct answer from a, b, c, or d:

1. Which programming language is used to create the basic structure of web pages?
A) JavaScript B) Excel C) HTML D) Paint
2. If your device is not charging, what is the first thing you should check?
A) Device volume B) Date
C) Internal battery D) Charging cable
3. Which language adds interactivity and movement to web pages?
A) HTML B) JavaScript C) Paint D) Excel
4. What is the best option to permanently protect files from loss?
A) Save the file in the Recycle Bin.
B) Save it on the desktop.
C) Save it on a USB drive.
D) Save it on cloud storage.
5. What is the final step you should take if all attempts to fix a corrupted file fail?
A) Try opening it with different programs.
B) Delete the corrupted file.
C) Send the file to a friend.
D) Restart the device.
6. Programming languages are symbols and rules that give _____ to the computer:
A) instructions (or commands) B) still images
C) songs D) animated images
7. What is the problem called when a file is unusable?
A) Regular file B) Corrupted file
C) Saved file D) Temporary file



Lesson 6

Image Editing

Lesson Objectives :

By the end of the lesson, the student will be able to :

1. identify the GIMP program and the goals of image enhancement.
2. list the capabilities of image editing and integrating them into presentations.
3. explain the role of artificial intelligence in image enhancement and color organization.



1

Image Enhancement: Why Do We Edit Images?

Do you have a photo you took that has strong light or unnatural colors? You can fix that through “image editing”.

Image editing is the process of changing and adjusting images to make them look more attractive and appealing. The goal may be to correct an error in the image or to make it look professional for presentations.

2 Image Editing Programs (like GIMP):

We use powerful programs to edit images. GIMP (short for GNU Image Manipulation Program) is an excellent example:

- **Features:** It is an efficient, open-source program. This means you can use it for free and customize its tools.
- **Usage:** You can download it directly from the Internet.

What can we do in image editing?

Image editing gives us many capabilities:

1. **Correcting imperfections:** You can restore colors to their original state or remove excess camera light.
2. **Changing colors:** You can change the color of an image or video background. For example, you can adjust the color tone of a video frame to make it smoother .
3. **Merging images:** You can combine two different images into one. This is very useful when creating presentations.
4. **Special effects (filters):** You can use filters to make an image look old or to add “motion blur”, which gives a visual effect to moving objects or videos, making them appear blurred or streaked in the direction of motion.

3 Artificial Intelligence Helps You!

In modern image editing programs (like GIMP), artificial intelligence is used to assist you:

- **Color organization:** Artificial intelligence learns how to adjust the colors in an image so that only the colors you need appear.

Practical Activity:

Dear student... through using the Internet, search for free and open-source image editing programs. Then compare the features of each program.

General Questions

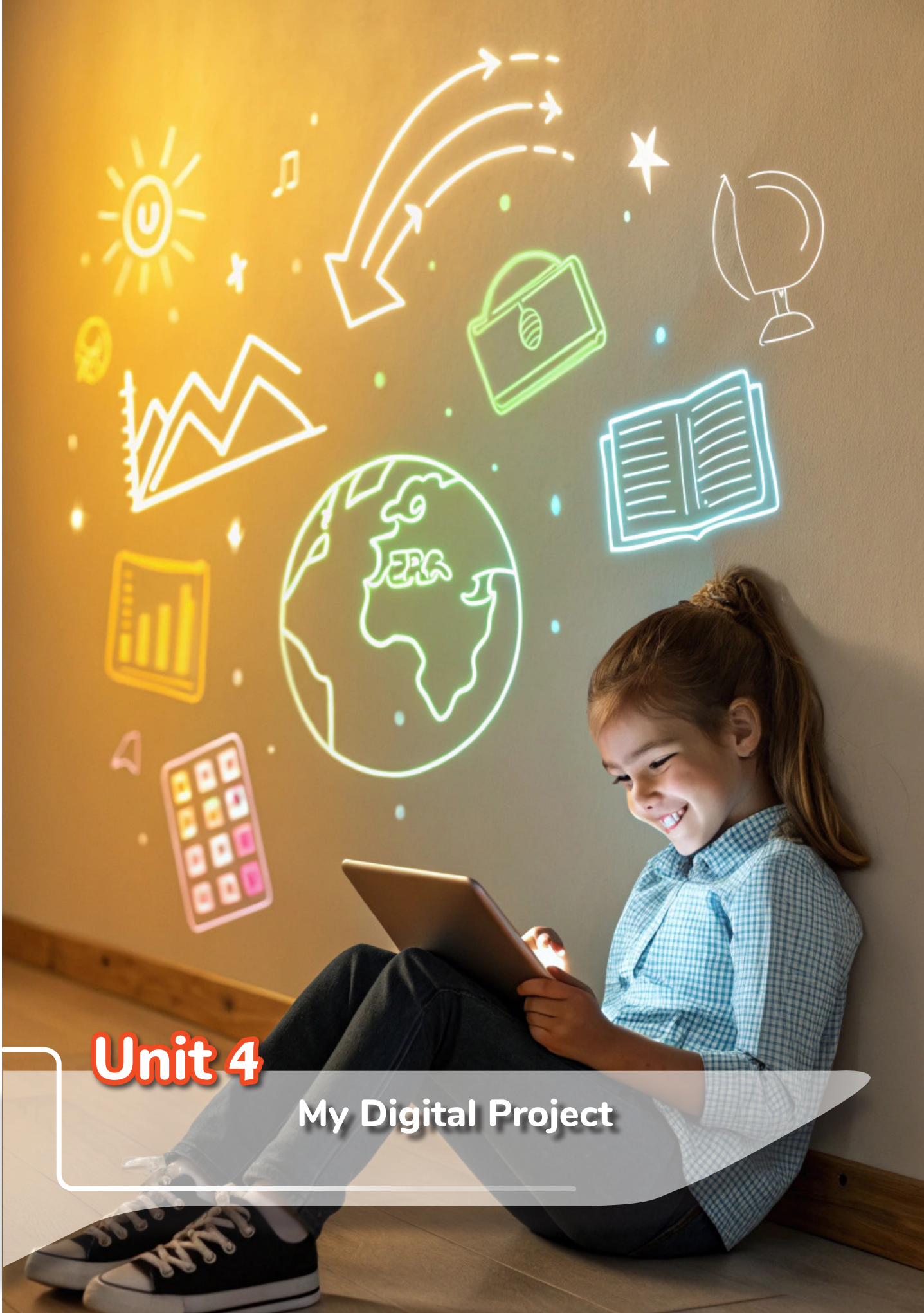
A Choose the correct answer from a, b, c, or d:

- 1. What is the main purpose of image editing?**
 - A) Changing images and making them look more attractive.
 - B) Reducing image clarity.
 - C) Making images always look old.
 - D) Increasing file size.
- 2. What is the name of the process that makes two different images appear as one image in a presentation?**
 - A) Color correction
 - B) Background change
 - C) Image merging
 - D) Image cropping
- 3. What is the role of artificial intelligence in image editing software?**
 - A) Deleting old files
 - B) Printing the image
 - C) Organizing and customizing colors
 - D) Increasing camera resolution only
- 4. Why is the GIMP program considered “open source” ?**
 - A) Because it is not free.
 - B) Because it allows users to modify its tools.
 - C) Because it is used only online.
 - D) Because it cannot be installed on a device.
- 5. Mention a defect that may appear in an image and can be corrected by editing “other than color”:**
 - A) Blemishes or excessive camera light
 - B) Slow internet
 - C) Low video sound
 - D) Difficulty typing
- 6. Improving images means correcting _____ and restoring the colors to their original state:**
 - A) the background
 - B) the lighting
 - C) blemishes
 - D) the size

- 7. If you want to make your image look old or have motion blur, what can you use?**
 - A)** Text editing
 - B)** Color organization
 - C)** Special effects (filters)
 - D)** Background removal
- 8. You can _____ to use them in your presentation?**
 - A)** merge images
 - B)** increase internet speed
 - C)** change text color
 - D)** write comments
- 9. What does using GIMP require from the user?**
 - A)** Taking enough time to learn and practice
 - B)** Purchasing the program
 - C)** Being a professional artist
 - D)** Having fast internet
- 10. What is another name given to special effects in image editing software?**
 - A)** Filters
 - B)** Colors
 - C)** Attachments
 - D)** Shapes

B Put true (✓) if the sentence is correct and false (X) if the sentence is incorrect:

1. To make an image look like it is moving or has motion blur, we use special effects (filters). ()
2. Two images can be merged to become one through image editing. ()
3. The role of artificial intelligence in image editing software is to organize and customize colors. ()
4. The famous program used as an alternative to GIMP is Microsoft Word. ()
5. If there is a defect or blemish in the image due to camera light, image editing helps correct it and restore it to its original state. ()



Unit 4

My Digital Project



Lesson 1

The Role of Information Technology in Improving Our Lives

Lesson Objectives:

By the end of this lesson, the student will be able to:

1. analyze the role of information technology in protecting the environment and improving daily services.
2. explore smart transportation tools and compare them with traditional methods.
3. design a prototype of a technological tool to solve a local transportation problem.



Information and Communication Technology (ICT): A Force for Change

Dear student, Did you know that the smartphone you carry is not just for communication, but is a powerful tool for solving real-world problems? Information and Communication Technology (ICT) is an abbreviation for all the technological tools that help us process information.

1 ICT and a Better Environment

Technology helps us build a better environment through:

1 Clean Vehicles:

ICT applications and payment systems have helped the spread of electric vehicles. These vehicles do not emit harmful exhaust, reducing pollution and protecting our health.

2 Energy Conservation:

Technology helps us manage energy consumption in homes and factories intelligently, reducing resource waste.

3 Increasing Job Opportunities:

Technology helps us manage energy consumption in homes and factories intelligently, reducing resource waste.

2 ICT and Faster Services (Online Booking)

Online booking is when you use websites or apps to request and reserve a service or appointment without having to go to its location. This saves your effort and helps you organize your time.

How Do These Tools Work?

- **Global Positioning System (GPS 📍):**

It is the foundation of any smart transportation system. It accurately determines your location and the location of the vehicle, and suggests the best and fastest route.

- **Smart Applications :**

Such as taxi booking apps or train ticket booking apps. These applications provide electronic payment options and show you the cost before you start.

- **Notifications and Reminders:**

They send you alerts about the arrival time of your transportation or reminders for your bookings, helping you avoid waiting.

3 Innovation Challenge: Designing an ICT Tool to Solve a Transportation Problem

Imagine yourself as a technology engineer responsible for solving a transportation problem in your area :

Comparison Between Traditional Methods and Technological Solutions	Traditional Methods	Technological Solutions (Using ICT)
The problem	Waiting at the bus station without knowing its arrival time.	Use a tracking app (GPS) to know its location on the map.
Payment	Paying cash to the driver, which may risk losing money.	Use electronic payment via phone, which is safer.
Result	Wasting time and being exposed to traffic	Save time, reduce pollution, and increase safety.

Practical Activity:

Dear student... Create an illustrative diagram using one of the office software programs to show how information technology contributes to our lives. Add icons and images to make the diagram attractive and easy to understand.

8. If a transportation company relies on electronic payment instead of cash, this increases:
- A) Safety B) Pollution C) Fuel consumption
D) Breakdowns
9. The tool that helps the driver know the best route to avoid traffic is part of the system:
- A) Central cooling B) Navigation and routing
C) Entertainment D) Smart lighting
10. The purpose of proposing the design of a new technological tool is:
- A) Ignoring problems
B) Making manual work more difficult
C) Innovating smart solutions for problems
D) Increasing complexity

B Put true (✓) if the sentence is correct and false (X) if the sentence is incorrect:

1. You can book a doctor's appointment online without needing to visit the clinic. ()
2. Technology contributes to increasing carbon emissions in the environment. ()
3. The school bus tracking app helps the student organize their time and arrive on time. ()
4. Proposing a new idea for designing an app is a type of innovation. ()
5. There is no difference in time or effort between traditional booking and online booking. ()



Lesson 2

Working with Operating Systems and Computer Applications

Lesson Objectives:

By the end of the lesson, the student will be able to:

1. explain the concept of an operating system and give examples of its different types in computers and smartphones.
2. describe how to change system settings to suit user needs.
3. identify the steps to install software and applications within the operating system



1 What is an Operating System?

An operating system is the software that makes a computer work. It is responsible for running various programs such as games, word processing software, and design programs. Without an operating system, a computer cannot function or interact with the user.

Examples of operating systems:

- **Windows**  (Microsoft) 
- macOS (Apple) 
- Linux 
- Android and iOS  (for smartphones and tablets)

An operating system helps you to:

- manage files and folders.
- run different programs.
- control hardware components such as the screen, mouse, and keyboard.

2 Changing System Settings:

You can modify device settings through the Control Panel in Windows or through Settings on phones. Some settings that can be changed include.

Changing the desktop/background wallpaper:

- Adjusting the volume level
- Changing the language, date, and time
- Connecting to the internet (**Wi-Fi**) 

Be careful when changing settings to avoid affecting device operation.

3 Installing Software and Applications:

Software consists of tools that help us perform specific tasks, such as writing, drawing, or learning.

- To install software on a computer, it can be downloaded from the internet or from a **CD** , and then follow the installation steps.
- On smartphones, applications are downloaded from app stores, such as:
 - **Android devices:** Google Play Store 
 - **iPhone devices:**  App Store

After installation, the application icon appears on the screen and can be opened by clicking on it.

Practical Activity:

Dear student... Add or install some safe applications on mobile devices (you can ask your teacher or one of your parents for help).

General Questions

A Choose the correct answer from a, b, c, or d:

1. Which program makes a computer work?

- A) Drawing program
- B) Operating system
- C) Word processing program
- D) Electronic game

2. Examples of operating systems for phones:

- A) Windows only
- B) Linux
- C) Android and iOS
- D) Mac

3. To change the wallpaper, we use:

- A) Keyboard
- B) Control Panel
- C) Recycle Bin
- D) Browser

4. The app store on Android devices is called:

- A) Word Store
- B) Play Store
- C) Windows Store
- D) Apple Store

5. Changing the language and date from system settings helps in:

- A) Improving sound
- B) Organizing device usage
- C) Deleting files
- D) Installing software

6. Which company developed the Windows operating system?

- A) Google
- B) Apple
- C) Microsoft
- D) Linux

7. Which of the following is not an operating system?

- A) Android
- B) Facebook
- C) Windows
- D) Mac

8. What is the function of an operating system?

- A) Running games only
- B) Running the device and managing programs
- C) Displaying images only
- D) Increasing internet speed

9. Where can applications be downloaded on a phone?

- A) Recycle Bin
- B) App Store
- C) File Manager
- D) Settings

10. When adjusting the device's volume, we use:

- A) Printer
- B) Microphone
- C) Settings
- D) Recycle Bin

B Put true (✓) if the sentence is correct and false (X) if the sentence is incorrect:

- 1. The operating system used in Apple mobile devices is iOS. ()
- 2. To change the device language, we go to the App Store. ()
- 3. The operating system on a computer is responsible for running programs and organizing the device. ()
- 4. The application store for iPhone devices is called the Play Store. ()
- 5. When installing a new program on a computer, the installation steps must be followed. ()



Lesson 3

Preparing and Sharing Reports

Lesson Objectives :

By the end of the lesson, the student will be able to:

1. identify the importance and tools of the Word program.
2. insert images and tables into a document.
3. use messaging applications safely and responsibly



1 Writing Reports Using Microsoft Word

Microsoft Word  is considered one of the most popular word processing programs in the world.

The program helps you write reports, format them, and add images, tables, and headings, making documents well-organized and easy to read.

Program Interface Components:

When you open Microsoft Word, the following appears:

- **Menu Bar** : It contains commands such as File , Insert , and Layout .
- **Toolbar** : It includes buttons for formatting text, such as changing the font color or font size.
- **Writing Area** : The space where you type the report.

Steps to Write a Simple Report:

- 1 Open **Microsoft Word** .
- 2 Choose "**New Document**".
- 3 Type the report title, such as: "Artificial Intelligence in Our Lives".
- 4 Add text and images through the **Insert**  menu.
- 5 Format the text using the tools on the top toolbar.
- 6 Save the file with a suitable name by going to **File**  puis **Save** .

2 Messaging Services

Messaging services such as **WhatsApp** , **Messenger** , and **Telegram**  help us exchange messages, images, and files quickly and easily over the Internet.

Tips for Using Messaging Safely:

- Do not share your personal information with strangers.
- Do not open strange or unknown links.
- Use messaging for useful purposes, such as studying or communicating with friends and teachers.
- Respect others in your messages, and avoid spreading rumors.

Practical Activity:

Dear student... With the help of your teacher or a family member, use one of the messaging applications such as WhatsApp or Telegram. Then, write a short report about some of its features.

General Questions

A Choose the correct answer from a, b, c, or d:

1. Which program is used to write reports?
A) Excel B) PowerPoint C) Word D) Paint
2. The command used to insert an image into a document is:
A) File B) Insert C) Layout D) View
3. The writing area in Microsoft Word is the place where:
A) We change the language B) We write text
C) We save files D) We display images only
4. An example of a messaging application is:
A) Word B) WhatsApp C) Excel D) Paint
5. To protect yourself when using messaging applications, you should:
A) Share your phone number with everyone
B) Open all links
C) Not share personal information
D) Ignore privacy settings
6. A table can be inserted in Microsoft Word from the:
A) Insert B) File C) View D) Tools
7. One of the tools that helps in formatting text is:
A) Changing the color B) Deleting the program
C) Adjusting the clock D) Playing sound
8. To save a file, we choose the command:
A) Open B) Print C) Save D) Exit

9. One of the messaging services that allows sending images is:

- A)** Word **B)** WhatsApp **C)** Paint **D)** Excel

10. One of the safe ways to use messaging applications is:

- A)** Sharing passwords
B) Not respecting others
C) Using the application for useful purposes
D) Opening unknown links

B Put true (✓) if the sentence is correct and false (X) if the sentence is incorrect:

1. Microsoft Word is used for word processing and writing reports. ()
2. To save a document in Microsoft Word, we use the "Insert" menu. ()
3. Images can be inserted into a document through the "Insert" menu. ()
4. An example of messaging services is the Excel application. ()
5. One of the safety rules in messaging is not opening suspicious links. ()



Lesson 4

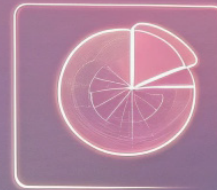
Creating Presentations

Lesson Objectives:

By the end of the lesson, the student will be able to:

1. explain the importance of presentations and the PowerPoint program.
2. identify the basic tools in the PowerPoint program interface.
3. design an attractive presentation using animations, graphics, and shapes

CREATING PRESENTATIONS



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CLOUD SYNC

≡ SHARE

What Are Presentations?

Have you ever thought about how you can present your ideas or research results to your classmates and teacher in an interesting and enjoyable way?

This is what is called **a presentation**.

Dear student,

A presentation is a set of slides that you use to present information and ideas. It helps you deliver your message clearly and attractively by using text, images, shapes, and animations. Imagine that you are telling a story using moving pictures and music! this is the secret behind successful presentations.

Microsoft PowerPoint: Your Partner in Creativity

The most popular and easiest program for creating presentations is **Microsoft PowerPoint** . This program is part of the **Microsoft Office**  suite, which you often use at school and at home.

PowerPoint has very easy tools, such as drawing and writing tools, and many animation options that make your slides appear and move in an attractive and enjoyable way.

Idea:

Using PowerPoint makes you like a creative director who creates a short movie for their ideas!

Basic PowerPoint Tools: Let's Explore the Program!

When you open PowerPoint, you will find an organized interface that makes your work easier. Here are the most important areas and tools that you will need.

Tool Name	Its Location in the Program	Its Function
File Tab (File)	Top left or right (depending on the program language)	It is used to save the presentation (Save), open a presentation (Open), or print it (Print).
Home Tab (Home)	At the top of the program	It contains important formatting commands such as changing the font size, font type, and font color.
Tabs	At the top of the screen (such as Design, Insert, and Animations)	Each tab contains a group of specialized tools.
Design Tab (Design)	One of the main tabs	We choose from it, the slide size to format the slide layout, and to select a theme to change the background and colors for a beautiful design that suits your topic.
Insert Tab (Insert)	One of the main tabs	We use it to add new elements to the slide, such as images, shapes, charts (to explain numbers), and videos.
Review Tab (Review)	One of the main tabs	It is responsible for checking words and ensuring that there are no spelling errors.

Using these tools, you can turn your ideas into a visually attractive and persuasive presentation!

Practical Activity:

Dear student... Design a presentation on one of the following topics (The opening of the Grand Egyptian Museum, Ways to protect the environment, Awareness of the dangers of the Internet)

General Questions

A Choose the correct answer from a, b, c, or d:

1. Which program is the most popular and commonly used to create presentations?

- A) Word B) Excel C) PowerPoint D) Paint

2. A presentation is used to:

- A) write long messages
B) perform mathematical calculations
C) present ideas and information in an engaging way
D) browse the Internet

3. To add a new image to a slide, we use the tab:

- A) Animations B) Design C) Insert D) View

4. If you want to change the shape and color of the entire slide background, you will use the tab:

- A) File B) Insert C) Review D) Design

5. The main function of the “Review” tab is:

- A) spell checking and ensuring word accuracy
B) adding charts
C) formatting fonts and colors
D) creating transition animations

6. Which tools can you use to create an attractive and eye-catching visual presentation?

- A) Cooking tools
B) Easy tools such as animations, shapes, and images
C) Knitting tools
D) Sculpting tools

7. In PowerPoint, the bar that contains commands such as changing the font size is:

- A) file tab B) task bar (Home tab)
C) status bar D) animations bar

Lesson 4

Creating Presentations

8. Before you start designing slides, you can set the slide size using the option:

- A) Slide Size
- B) Background Color
- C) Font
- D) Insert Table

9. Transition effects between slides help you to:

- A) Print the document
- B) Save the file
- C) Make your presentation more exciting and lively
- D) Send an email

10. What is the element you should maintain to ensure a successful presentation?

- A) Using a lot of text only
- B) Ignoring images
- C) Delivering your idea effectively and impressing the audience
- D) Using one font throughout the presentation

B Put true (✓) if the sentence is correct and false (X) if the sentence is incorrect:

1. Charts are used in PowerPoint to explain complex data and numbers in a simple way. ()
2. A theme in PowerPoint means inserting an image into the slide. ()
3. The “Animations” tab is used to add visual effects to elements on the slide. ()
4. Slides in PowerPoint are the spaces where we write text and add images. ()
5. One of the most important skills for using PowerPoint effectively is the ability to deliver the idea and impress the audience. ()



Lesson 5

Databases Using Excel

Lesson Objectives :

By the end of the lesson, the student will be able to:

1. identify the concept of databases and the importance of Microsoft Excel.
2. create a simple database using fields and record.
3. use sorting, filtering, and mathematical formulas to process data.



What Are Databases ?

Imagine that you have a very large library full of books, and you want to find a specific book quickly. If the books are scattered, this will be difficult. But if they are organized and recorded in a table—such as book title, author name, shelf number—the task becomes very easy!

This organized table is what we call a database.

A database : is a way to store and organize large amounts of data and information (such as students' names, grades, and schedules) on a computer, making it easier to analyze, search, and modify the data.

Importance : Databases help us collect information about people, places, or things and make it easier to manage them. For example, a school uses a database to organize its students' information, such as student name and registration number.

Excel (Microsoft Excel): A Tool for Building Databases

We can use **Microsoft Excel** – the program in which you learned addition, subtraction, sorting, and filtering, to create simple databases. Excel works with tables made up of rows and columns.

Remember : In a database, a column is called a field, and it represents a type of information (such as "Student Name »). A row is called a record, and it represents complete information about one item (such as the data of one student).

Steps to Create a Simple Database in Excel :

Let's assume you want to create a database for the members of the reading club in your class:

Step 1: Define the Columns (Fields)

- In the first row (A1, B1, C1, ...), enter the necessary column headings. These headings are called «**field names**».
- **Example** : In cell A1, write «**ID Number**».
- In cell B1, write «**Class Name**».
- In cell C1, write «**Student Name**».

Step 2: Enter the Data (Records)

Start from the second row and fill in the data under each column.

Example : Under "ID Number" (A1), in cell A2, write the number (1111-11-001).

- Under "Class Name" (B1) in cell B2, write "Grade 6 / B".
- Under "Student Name" (C1) in cell C2, write « Ahmed Ali »

Step 3 : Add New Columns (Insert Column)

- If you want to add a new column 'such as 'Date of Birth'', right-click on the header of the column where you want the new column to be inserted before.
- Choose 'Insert Column'. A new column will be added and formatted automatically.
- Calculations and Formulas in Excel
- Remember that Excel is an excellent program for performing calculations!
- Golden rule: To create any formula, you must always start with the equals sign (=).

Simple Examples of Formulas :

- To add specific cells
- To subtract cells
- To calculate an average (addition then division)

Practical Activity :

Dear student... Using Microsoft Excel, create a simple database for some of your classmates or friends.

General Questions

A Choose the correct answer from a, b, c, or d:

1. What is the most appropriate definition of a database?
A) A collection of stories
B) A way to store and organize large amounts of information
C) A program for creating presentations
D) A file for writing messages
2. In Excel, the row that contains complete information about one person is called:
A) Field
B) Record
C) Column
D) Workbook
3. To add a new column in Excel, we use the option:
A) Delete row
B) Insert column
C) Sort data
D) Filter data
4. Programs such as Microsoft Excel are used to create and manage:
A) Daily notes
B) Electronic games
C) Databases
D) Animations
5. Which symbol must any calculation (**formula**) start with in Excel?
A) + B) - C) * D) =
6. What do we call a column heading in a database (e.g., "Student Name")?
A) Record
B) Class
C) Field
D) Workbook
7. When you enter column headings such as "ID Number" and "Class Name", you are typing in:
A) The second row
B) The first row
C) The last column
D) Any empty cell

8. One of the common tools that helps you organize data in Excel is:

- A) Insert Picture B) Sort
C) Add WordArt D) Draw a circle

9. If you want to calculate the sum of the numbers in cells C2, C3, and C4, what is the correct formula?

- A) C2 + C3 + C4 B) =SUM(C2–C4)
C) =C2 + C3 + C4 D) C2C3C4

10. Storing databases for large amounts of information is done in:

- A) Radio B) Computer system
C) Old telephone D) Photocopier

B Put true (✓) if the sentence is correct and false (X) if the sentence is incorrect:

1. When you use a formula such as B3 – B2=, you are performing a subtraction operation. ()
2. The main goal of analyzing and modifying data is to destroy the dataA) ()
3. When sorting data based on students' ages from youngest to oldest, we use the Sort tool. ()
4. The program that uses tables made up of rows and columns to create databases is WorD) ()
5. The first step in creating a simple database in Excel is identifying and writing the column names (fields) in the first row. ()



Lesson 6

Flowcharts (SmartArt)

Lesson Objectives:

By the end of the lesson, the student will be able to:

1. identify the types of flowcharts (SmartArt).
2. insert a flowchart into a slide using SmartArt.
3. modify the flowchart (SmartArt) by changing colors, chart type, etc.



What are flowcharts?

Do you have a lot of information or steps and want to share them with your classmates in an easy and understandable way? This is the purpose of flowcharts (SmartArt)."

SmartArt : It is ready-made graphics and shapes in PowerPoint that help you present information visually and in an organized way, either as sequential steps or clear relationships (as shown in the picture).

Importance : It makes your presentation more engaging and help the audience (your classmates and teacher) understand complex information or the steps of your project more easily and quickly than reading long texts.

Idea:

You can use SmartArt to illustrate the stages of a plant's life cycle, the steps for preparing a meal, or organizing a team for a project!

Steps to Insert and Customize SmartArt in PowerPoint:

We will follow these steps so that you can add a nice and suitable flowchart.

Step 1: Inserting

- 1 Click on the "**Insert**" tab located on the top tab of PowerPoint.
- 2 Look for the "**SmartArt**" icon and click on it. A dialog box will appear showing many types of charts.

Step 2: Choosing the Type

- 1 Choose the type that best represents your information. If your information consists of sequential steps, select from the "**List**", "**Cycle**", or "**Process**" categories.
- 2 Click on the chart you prefer in the dialog box, then click "OK" to add it to the slide.

Step 3: Adding Text

- 1 Click on the “**Text**” or the “**Flowchart**” that appears on the slide.
- 2 Start typing the information or steps you want to explain inside the designated boxes in the chart.

Step 4: Customization and Beauty!

After inserting the text, you can make your flowchart more visually appealing:

- 1 Click on the chart. Two new tabs will appear at the top: “**SmartArt Design**” and “**Format**.”
- 2 From “SmartArt Design”: you can choose “**Change Colors**” to make your slides more attractive, or select a new style from the “**SmartArt Styles**” to change the shape and appearance of the boxes.

With “SmartArt”, you don’t need to write long texts; you can share information visually, which is the key to successful and effective presentations!

Practical Activity:

Dear student... Create a slide in PowerPoint and insert a SmartArt chart to present information in an organized and attractive way.

General Questions

A Choose the correct answer from a, b, c, or d:

1. Flowcharts (SmartArt) are mainly used for:

- A) Writing long texts
- B) Simplifying and presenting a series of steps or information
- C) Playing videos only
- D) Performing mathematical calculations

2. To add a SmartArt chart to a slide, we start by clicking on the tab:

- A) Design
- B) Insert
- C) Review
- D) Animations

3. To represent the sequential steps of completing a project, it is preferable to choose from the flowchart category:

- A) Hierarchy
- B) Relationship
- C) Matrix
- D) Process

4. If you want to change the colors of a flowchart, go to the tab that appears after inserting it, which is:

- A) SmartArt Design
- B) Font Format
- C) Spelling Review
- D) Slide Show

5. PowerPoint provides the ability to insert:

- A) Charts and videos
- B) Calculators
- C) Carpentry tools
- D) Measuring devices

- 6. Flowcharts help you understand the presented material better than:**
- A) Animations
 - B) Videos
 - C) Plain (**written**) texts
 - D) Graphs
- 7. When you choose the “Change Colors” option for a chart, the purpose is:**
- A) To make the flowchart attractive and colorful.
 - B) To increase the font size.
 - C) To delete the chart.
 - D) To change the written texts.
- 8. After inserting the flowchart, you click on the [flowchart] to:**
- A) Delete it.
 - B) Add the text and information you want to display.
 - C) Print the slide.
 - D) Close the program.
- 9. Charts are used in PowerPoint to:**
- A) Write poetry.
 - B) Create transition effects.
 - C) Represent data and numbers visually.
 - D) Search for information.
- 10. Which tool can you use to represent the stages of the “life cycle” of something?**
- A) List
 - B) Relation
 - C) Cycle
 - D) Matrix

B Put true (✓) if the sentence is correct and false (X) if the sentence is incorrect:

1. SmartArt diagrams are used in PowerPoint to display information in a visual and organized way. ()
2. SmartArt cannot be inserted through the “Insert” menu in PowerPoint. ()
3. The “Process” category in SmartArt is used to show sequential steps. ()
4. After inserting SmartArt, its colors or design cannot be changed.
5. One of the benefits of SmartArt is that it helps the audience understand complex information more easily and quickly. ()

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جميع حقوق الطبع والتأليف محفوظة لوزارة التربية والتعليم الفني بجمهورية مصر العربية.