English for Computer

Foreword

Welcome to the **English for Computer Course Module**! In an era where technology and language intersect, the ability to communicate effectively in English within the field of computing is essential. This module is specifically designed to enhance your proficiency in English while providing you with the foundational knowledge of computer concepts and practices.

Throughout this course, you will explore a variety of topics, starting with the basics of computer systems and operating systems. From there, you will engage with software applications and productivity tools, learning not only their functionalities but also the relevant vocabulary and phrases that will aid your communication in professional environments.

As we progress, you will delve into the critical aspects of internet safety, understanding how to navigate online spaces securely. You will acquire advanced software skills and explore emerging technologies, including the transformative role of Artificial Intelligence. Finally, we will cover the essential topic of cybersecurity and data protection, ensuring that you are well-equipped to discuss and implement safety measures in the digital realm.

This module is designed to provide you with practical language skills, enabling you to articulate your thoughts and ideas clearly while discussing complex technical topics. By the end of this course, you will have not only enhanced your English proficiency but also gained a deeper understanding of the computer world, preparing you for further studies or a successful career in technology.

Let’s embark on this educational journey together, fostering both your language and technical skills in the exciting field of computing!

Best regards,

Table of Contents

Lesson 1 : Computer Basics and Operating Systems 1

Lesson 2 : Software Applications and Productivity Tools 6

Lesson 3 : Internet and Online Safety 9

Lesson 4 : Advanced Software Skills 16

Lesson 5 : Emerging Technologies 21

Lesson 6 : Artificial Intelligence (AI) 24

Lesson 7 : Cybersecurity And Data Protection 29

Lesson 1
Computer Basics and Operating Systems

I. READING COMPREHENSION

a. Read the passage carefully, and then answer the following questions

Understanding Computer Hardware and Operating Systems

Computers are integral to modern life, serving various purposes across different sectors. At their core, computers consist of hardware components such as the central processing unit (CPU), memory (RAM), storage (hard drives or SSDs), and input/output devices (like keyboards and monitors). The CPU acts as the brain of the computer, processing instructions and managing tasks. Memory temporarily stores data that the CPU needs to access quickly, while storage holds data and applications for long-term use.

There are several types of computers, including desktops, laptops, tablets, and servers. Desktops are often used in offices and homes due to their powerful performance and upgradeability. Laptops offer portability, allowing users to work on the go. Tablets, while limited in functionality compared to desktops and laptops, are convenient for browsing the web and consuming media.

Operating systems (OS) are essential software that manage the computer's hardware and provide a platform for applications to run. Popular operat ing systems include Microsoft Windows, Apple's macOS, and Linux. Each OS has its features and user interface, catering to different user preferences and needs. Understanding the basics of computer hardware and operating systems is crucial for anyone looking to navigate the digital world effectively.

(Source: Patterson, D. A. (2018). *Understanding Computer Architecture*. Morgan Kaufmann.)

b. Answer these questions briefly.

1. What are the main hardware components of a computer?
2. What is the primary function of the CPU in a computer?
3. How does memory (RAM) differ from storage in a computer?
4. List three types of computers mentioned in the text.
5. Why are desktops often preferred in offices and homes?
6. What advantage do laptops provide compared to desktops?
7. What are tablets primarily used for, according to the text?
8. What role do operating systems (OS) play in a computer?
9. Name three popular operating systems mentioned in the reading.
10. Why is understanding computer hardware and operating systems important for users?

c. Match the word/ phrase with its definition.

No	Vocabulary	Definition
1	Upgradeability	a) A type of computer that is portable and suitable for mobile use.
2	Multimedia	b) Devices that allow users to input data into a computer and receive output from it (e.g., keyboard, monitor).
3	Memory (RAM)	c) The software that manages computer hardware and provides a platform for applications to run.
4	Input/Output Devices	d) The ability to enhance or expand a computer's capabilities by adding components or software.
5	Operating System (OS)	e) A computer designed to be used on a desk, typically more powerful than a laptop.
6	Storage	f) A type of computer that is flat and touchscreen-based, often used for browsing the web and consuming media.
7	Tablet	g) The component that acts as the brain of the computer, processing instructions.
8	Desktop	h) A type of computer that can perform calculations and store information for immediate access.
9	Central Processing Unit (CPU)	i) The capacity to hold data and applications for long-term use (e.g., hard drives, SSDs).
10	Laptop	j) Content that includes text, audio, images, and video.

II. SPEAKING

d. Study the following conversation and then practice it with a friend.

Conversation 1

Alice: Hey, Bob! I heard you're looking to buy a new computer. Have you decided what type you want?
Bob: Not really. I'm torn between getting a laptop and a desktop. What do you think?
Alice: It depends on your needs. If portability is important, go for a laptop. You can take it to classes or work from different places.
Bob: True, I like the idea of working in a café. But I've heard desktops are more powerful. Is that right?
Alice: Yes, desktops usually offer better performance and are more upgradeable. You can swap parts like the graphics card or add more RAM.
Bob: That's appealing. I might want to play some games too, and I heard desktops handle gaming better.
Alice: Definitely! Desktops are better for gaming. Plus, you can customize them.
Bob: What about tablets? I see a lot of people using them.
Alice: Tablets are great for web browsing and media, but they're less versatile for tasks like coding or graphic design.
Bob: Good point. I'll need to think about what software I'll run.
Alice: Exactly! If you need heavy applications, a laptop or desktop with a good OS like Windows or macOS is best.
Bob: I think I'm leaning towards a laptop for now but might save for a desktop later.
Alice: Sounds like a plan! Just make sure to pick the right operating system for your needs.

e. Study the expressions used for asking and telling about computers and operating, then practice using them with a friend.

Asking About Computers and Operating Systems

1. **General Inquiries:**
   - What types of computers do you think are best for beginners?
   - Can you explain the differences between desktops and laptops?
   - What operating system do you prefer and why?

2. **Specific Questions:**
   - What features should I look for in a new laptop?
   - What are the advantages of using a cloud-based operating system?
   - Can you recommend some reliable operating systems for gaming?

3. **Clarification Questions:**
   - Could you clarify what you mean by "upgradeability"?
   - What do you mean when you say a tablet has limited functionality?
   - How does memory (RAM) impact my computer's speed?

Telling About Computers and Operating Systems

Descriptive Statements:

- Computers consist of several key components, including the CPU, RAM, and storage.
- Laptops are portable, making them ideal for people who travel frequently.
- The operating system is crucial for managing hardware and software.

Explanatory Statements:

- The CPU acts as the brain of the computer, processing all instructions and tasks.
- Desktops typically offer better performance than laptops, especially for gaming.

Comparative Statements:

- Compared to tablets, laptops provide a more versatile computing experience.
- While macOS is user-friendly, Windows is compatible with a wider range of applications.
- Linux is highly customizable, making it a favorite among developers.

f. Practice: Role Play (Buying a computer)

Mark: Hi, Jessica! I just bought my first computer, but I'm confused about operating systems. Can you help?
Jessica: Sure, Mark! Operating systems manage all the hardware and software on your computer. Do you know which one you have?
Mark: I think it's Windows. I see that name a lot.
Jessica: Good choice! Windows is user-friendly and compatible with most applications, widely used in both personal and business settings.
Mark: I've heard about macOS too. What's the difference?
Jessica: macOS is for Apple computers, known for its sleek design and strong security, but it has fewer software options compared to Windows.
Mark: What about Linux?
Jessica: Linux is open-source and customizable, popular among developers, but it can be challenging for beginners.
Mark: That sounds interesting but intimidating.
Jessica: It can be! Stick with Windows for now; it supports most software.
Mark: Do I need to worry about updating the OS?
Jessica: Yes, updates are crucial for security and performance. Most systems notify you when updates are available.
Mark: Thanks for the info, Jessica! I feel more confident about my new computer.
Jessica: Anytime, Mark! Feel free to ask if you have more questions.

g. Practice: Role Play

Pair students and assign roles (buyer and salesperson). The buyer asks questions about different types of computers and their specifications, while the salesperson provides information about desktops, laptops, tablets, and operating systems.

III. GRAMMAR POINTS: Parts of Speech

In the context of computer basics and operating systems, parts of speech help us understand how words function in sentences.

- **Nouns**: These are names of things or concepts. For example, "computer," "CPU," and "software" are all nouns that refer to different components of a computer system.
- **Verbs**: Verbs show actions or states of being. In our topic, verbs like "process," "store," and "manage" describe what computers do.
- **Adjectives**: Adjectives modify nouns, giving more detail. Words like "powerful" (describing desktops) or "convenient" (describing tablets) help us understand the features of different computers.
- **Adverbs**: Adverbs modify verbs, adjectives, or other adverbs, often explaining how actions are performed. For instance, "quickly" in "access quickly" describes how data is accessed.
- **Prepositions**: These words show relationships between nouns. In the phrase "across different sectors," "across" indicates the range of applications for computers.
- **Conjunctions**: Conjunctions connect words or groups of words. For example, "and" links "hardware" and "software," showing how they work together.
- **Pronouns**: Pronouns replace nouns to avoid repetition. In our context, "it" can refer to a computer or an operating system mentioned earlier.

h. Identify the part of speech for each underlined word in the sentences below. Choose from the following options: Noun, Verb, Adjective, Adverb, Preposition, Conjunction, Pronoun.

1. The **computer** processes data efficiently.
2. She bought a **powerful** laptop for gaming.
3. The CPU can **manage** multiple tasks at once.
4. **Quickly**, the program loaded and displayed results.
5. The files are stored **on** the external drive.
6. **Both** the software and hardware need updates.
7. **It** is essential to understand how an operating system works.
8. The **software** allows users to create presentations easily.
9. The data was retrieved **from** the cloud storage.
10. The laptop is **convenient** because it is portable.

IV. WRITING: Components of a Computer

1. Choose **three components** of a computer (e.g., CPU, RAM, Hard Drive, or Monitor) and one **operating system** (e.g., Windows, macOS, or Linux).
2. Then, write a **short paragraph** describing each component and the operating system in simple, clear language. Each paragraph should answer:

    - **What is it?**
    - **What does it do?**
    - **Why is it important?**
3. Example Paragraph:
    - **CPU (Central Processing Unit)**:
      "The CPU, or Central Processing Unit, is often called the 'brain' of the computer. It processes all the instructions from software and performs calculations quickly. Without the CPU, the computer wouldn't be able to run any programs or complete tasks."
    - **Operating System (Windows)**:
      "Windows is an operating system created by Microsoft. It manages the computer's hardware and software, allowing users to easily interact with their devices. Windows is popular because of its user-friendly interface and wide compatibility with different programs."
4. Once finished, exchange your descriptions with a partner, who will read and offer feedback on clarity and simplicity.

Lesson 2
Software Applications and Productivity Tools

I. READING COMPREHENSION

a. Read the passage carefully, and then answer the following questions

Productivity Tools and Software Applications in the Modern Workplace

Software applications are programs designed to help users perform specific tasks on their computers. These applications range from simple tools to complex systems that drive businesses. Among the most commonly used productivity tools are word processors, spreadsheets, and presentation software.

Word processors like Microsoft Word and Google Docs allow users to create, edit, and format text documents. These tools are essential for writing reports, letters, and essays. Spreadsheets, such as Microsoft Excel and Google Sheets, provide a platform for organizing, analyzing, and visualizing data. Users can perform calculations, create charts, and manage budgets using these applications. Presentation software, like Microsoft PowerPoint and Google Slides, enables users to create visual presentations to communicate ideas effectively.

In recent years, cloud-based applications have revolutionized the way we work. Platforms like Google Workspace and Microsoft 365 allow for real-time collaboration, enabling multiple users to work on a document simultaneo usly from different locations. This flexibility has transformed team dynamics, making remote work more accessible and efficient. Understanding how to use these productivity tools effectively is vital for both personal and professional success.

(Source: Lewis, J. G. (2020). *The Evolution of Office Software: From Word Processors to Cloud-Based Suites*. Journal of Software Engineering.)

b. Decide whether the following statements are True, False, or Not Clear (if the information isn't provided in the text).

1. Microsoft Word is a type of word processor. ___
2. Google Docs is used for creating spreadsheets. ___
3. Spreadsheets allow users to perform calculations and create charts.
4. Presentation software is used to edit text documents. ___
5. Cloud-based applications enable real-time collaboration from different locations. ___
6. Microsoft Excel is only used for managing budgets. ___
7. Google Workspace is an example of a cloud-based platform. ___
8. Presentation software is becoming less popular. ___
9. Cloud-based applications have made remote work easier. ___
10. Word processors can create visual presentations. ___

c. Fill in the blanks with the correct word or phrase from the text.

1. Software applications are programs designed to help users perform _____ tasks on their computers.
2. Word processors allow users to create, edit, and format _____ documents.
3. Spreadsheets are used for organizing, analyzing, and visualizing _____.
4. Presentation software enables users to create _____ to communicate ideas effectively.
5. Cloud-based applications have revolutionized the way we _____.
6. Microsoft 365 allows for real-time _____ between users from different locations.
7. Using productivity tools effectively is essential for personal and _____ success.
8. Google Workspace and Microsoft 365 are examples of _____ platforms.
9. Users can perform _____ and manage budgets using spreadsheets.
10. Word processors like Microsoft Word are essential for writing reports, letters, and _____.

d. Match the terms with their correct definitions.

No	Terms	Definitions
1	Spreadsheets	a) A popular word processor used for text editing
2	Cloud-based Applications	b) A platform for creating and editing visual presentations
3	Microsoft Excel	c) A commonly used presentation software
4	Microsoft Word	d) A cloud-based platform that allows real-time collaboration
5	Google Docs	e) A software used for organizing, analyzing, and visualizing data
6	Word Processor	f) A cloud-based word processor
7	Presentation Software	g) Tools or software applications that improve productivity
8	Google Workspace	h) A type of software that helps with creating and editing text documents
9	Productivity Tools	i) A popular spreadsheet application for managing data
10	Microsoft PowerPoint	j) Programs that are stored and accessed online, allowing multiple users to collaborate

II. SPEAKING

e. Study the following conversation and then practice it with a friend.

Conversation 1

Emily: Hey, Jake! I heard you're using new software at work. How's it going?
Jake: We just switched to Microsoft 365. It's a big change. Have you used cloud apps before?
Emily: Yeah, we use Google Workspace at my office. Do you like Microsoft 365?
Jake: It's great! We can all work on the same document at once, and it connects Word, Excel, and PowerPoint. What do you use?
Emily: We use Google Docs and Sheets. Do you think Microsoft 365 is better?
Jake: If you need more advanced tools, Excel is better. It's great for data. What about you, do you analyze a lot of data?
Emily: Yes, but we just use Google Sheets. Is Excel worth switching to?
Jake: It depends. If you need more features, yes. But Google is easier if you're already using it.
Emily: That makes sense. By the way, do you use Microsoft Teams for meetings?
Jake: Yes, it's built into Microsoft 365. What about you? Still using Zoom or Google Meet?
Emily: We use Google Meet. Is the security good with Microsoft 365?
Jake: Very good. We get regular updates to stay secure. That's why our company switched.
Emily: That's helpful. I'll think about switching!

Asking About Software and Productivity Tools

- What software do you use for your work?
- Have you tried cloud apps like Microsoft 365 or Google Workspace?
- How do you create documents and manage data?
- What's better for collaboration, Microsoft 365 or Google Workspace?
- Is Excel better than Google Sheets for data?
- How does cloud software help with teamwork?

Telling About Software and Productivity Tools

- I use Microsoft Word to write documents.
- Google Docs is great for sharing documents with others.
- I use Excel for managing my data and budgets.
- Cloud apps make it easy to work with my team from anywhere.
- PowerPoint helps me create presentations quickly.
- Microsoft 365 has everything I need in one place, like Word, Excel, and Teams.
- Google Workspace is easy to use and free for most tools.

f. Practice: Role Play

Practice speaking skills while discussing various productivity tools and software applications commonly used in the modern workplace.

Study the steps below:

1. **Introduction (10 minutes)**:
    - Begin with a brief introduction to the topic of productivity tools and software applications.
    - Mention what tools they currently use in your studies or work. Write your responses on the whiteboard.
2. **Group Formation (5 minutes)**:
    - Work into small groups of 3-4 students.
3. **Tool Exploration (15 minutes)**:
    - Assign each group one of the following productivity tools:
        - Word Processors (e.g., Microsoft Word, Google Docs)
        - Spreadsheets (e.g., Microsoft Excel, Google Sheets)
        - Presentation Software (e.g., Microsoft PowerPoint, Google Slides)
    - Instruct each group to discuss the following questions:
        - What is the main purpose of the tool?
        - How can it be used in a workplace setting?
        - What are the benefits of using this tool?
4. **Group Presentations (20 minutes)**:
    - After the discussion, each group will prepare a brief presentation (3-4 minutes) summarizing their findings.
    - Encourage groups to include examples or demonstrations if possible.
5. **Class Discussion (10 minutes)**:
    - After all presentations, open the floor for a class discussion. Prompt students to share:
        - Which tools they find most useful and why.
        - Any experiences they've had using these tools in real-life situations.
        - How they think productivity tools will evolve in the future.
6. **Wrap-Up (5 minutes)**:
    - Summarize the key points discussed.
    - Highlight the importance of understanding and effectively using productivity tools for personal and professional success.

III. GRAMMAR POINTS: Simple Present Tense

In the context of software applications and productivity tools, the simple present tense is used to describe actions, facts, or general truths that are habitual or constant. This tense is particularly useful when discussing how these tools function and their impact on users in the modern workplace.

Structure of Simple Present Tense:

- **Affirmative Sentences**: Subject + base form of the verb (add "s" or "es" for third-person singular).
    - Example: "Software applications **help** users perform specific tasks."
- **Negative Sentences**: Subject + do/does + not + base form of the verb.
    - Example: "Cloud-based applications **do not require** installation."
- **Interrogative Sentences**: Do/Does + subject + base form of the verb?
    - Example: "Does Microsoft Excel **allow** users to analyze data?"

g. Fill in the blanks with the correct form of the verb in parentheses using the simple present tense.

1. Microsoft Word _____ (allow) users to create and edit documents.
2. Google Sheets _____ (provide) tools for data analysis.
3. Users _____ (use) spreadsheets to manage budgets effectively.
4. Presentation software _____ (help) in communicating ideas visually.
5. Many professionals _____ (prefer) cloud-based applications for collaboration.
6. Software applications _____ (assist) in automating repetitive tasks.
7. Word processors _____ (not require) an internet connection to function.
8. Remote teams _____ (benefit) from real-time collaboration tools.
9. Users often _____ (create) charts to visualize data.
10. Microsoft PowerPoint _____ (enable) users to design engaging presentations.

h. Rewrite the following sentences in the simple present tense.

1. Yesterday, I created a document using Google Docs.
2. They are using Microsoft Excel for their data analysis.
3. She will present her ideas using PowerPoint tomorrow.
4. He edited the report last week in Word.
5. The software was helpful for managing projects.

IV. WRITING: My Favorite Tool

Instructions:

1. Choose one productivity tool they frequently use (e.g., Google Docs, Microsoft Excel).
2. In 3-5 sentences, have them answer the following questions:
   - What is the tool?
   - What do you use it for?
   - Why do you like it?

Example:

One of my favorite productivity tools is Google Docs. I use it primarily for writing my essays and collaborating with my classmates on various projects. The best part about Google Docs is its real-time collaboration feature, which allows multiple people to work on the same document simultaneously. This is incredibly helpful during group assignments, as we can all contribute our ideas and make edits without having to send files back and forth.

For instance, when my friends and I are working on a research paper, we can each take turns adding our sections or providing feedback directly in the document. This not only saves time but also enhances our communication since we can see each other's changes and comments instantly. Additionally, I appreciate the ease of access—whether I'm on my laptop or using my phone, I can always find my documents and continue working from anywhere. Overall, Google Docs has transformed the way I approach writing and collaborating, making the entire process much smoother and more efficient.

Lesson 3
Internet and Online Safety

I. READING COMPREHENSION

a. Read the passage carefully, and then answer the following questions

Navigating the Internet Safely

Software applications are programs designed to help users perform specific tasks on their computers. These applications range from simple tools to complex systems that drive businesses. Among the most commonly used productivity tools are word processors, spreadsheets, and presentation software.

Word processors like Microsoft Word and Google Docs allow users to create, edit, and format text documents. These tools are essential for writing reports, letters, and essays. Spreadsheets, such as Microsoft Excel and Google Sheets, provide a platform for organizing, analyzing, and visualizing data. Users can perform calculations, create charts, and manage budgets using these applications. Presentation software, like Microsoft PowerPoint and Google Slides, enables users to create visual presentations to communicate ideas effectively.

In recent years, cloud-based applications have revolutionized the way we work. Platforms like Google Workspace and Microsoft 365 allow for real-tim e collaboration, enabling multiple users to work on a document simultaneously from different locations. This flexibility has transformed team dynamics, making remote work more accessible and efficient. Understanding how to use these productivity tools effectively is vital for both personal and professional success.

(Source: Lewis, J. G. (2020). *The Evolution of Office Software: From Word Processors to Cloud-Based Suites*. Journal of Software Engineering.)

b. Decide whether the following statements are True, False, or Not Clear (if the information isn't provided in the text).

1. The internet only provides opportunities for entertainment. ____
2. Phishing is a method used by cybercriminals to steal personal information. ____
3. Strong passwords should include only letters. ____
4. Two-factor authentication adds an extra layer of security to online accounts. ____
5. Users should ignore unsolicited emails and messages without any verification. ____
6. Changing passwords regularly is unnecessary for maintaining online safety. ____
7. The internet is entirely free from risks. ____
8. Using a mix of letters, numbers, and symbols is recommended for creating strong passwords. ____
9. Only large companies need to worry about online safety. ____
10. Users can fully protect themselves from online threats by using a strong password alone. ____

c. Fill in the blanks with the appropriate words from the word bank.

Security	Malware	Data breach	Password	Unsolicited
Phishing	Vigilant	Firewall	Authentication	Encryption

1. _____ is a technique used by cybercriminals to deceive individuals into providing personal information.
2. It is important to create a strong _____ that includes letters, numbers, and symbols.
3. Enabling two-factor _____ adds an extra layer of security to your accounts.
4. Users should remain _____ and check the source of emails before clicking on links.
5. Always be cautious of _____ messages that ask for sensitive information.
6. _____ helps protect your computer from unauthorized access by filtering network traffic.
7. In case of a _____, personal information can be exposed to cybercriminals.
8. Using _____ can safeguard sensitive data by making it unreadable to unauthorized users.
9. To enhance online _____, users should regularly update their software and applications.
10. _____ can slow down your computer and may steal your information if installed.

d. Match the terms with their correct definitions.

No	Terms	Definitions
1	Spreadsheets	k) A popular word processor used for text editing
2	Cloud-based Applications	l) A platform for creating and editing visual presentations
3	Microsoft Excel	m) A commonly used presentation software
4	Microsoft Word	n) A cloud-based platform that allows real-time collaboration
5	Google Docs	o) A software used for organizing, analyzing, and visualizing data
6	Word Processor	p) A cloud-based word processor
7	Presentation Software	q) Tools or software applications that improve productivity
8	Google Workspace	r) A type of software that helps with creating and editing text documents
9	Productivity Tools	s) A popular spreadsheet application for managing data
10	Microsoft PowerPoint	t) Programs that are stored and accessed online, allowing multiple users to collaborate

II. SPEAKING

e. Study the following conversation and then practice it with a friend.

Conversation 1

Alex: Hey Jamie, I've been thinking about online safety lately. I feel like I need to be more careful.
Jamie: That's a smart idea! What's on your mind?
Alex: I'm worried about phishing scams. I get so many emails that look real but could be trying to steal my information.
Jamie: Definitely a concern! Always check the sender's email and look for red flags like bad grammar. If it seems suspicious, don't click any links.
Alex: Got it. I also struggle with passwords. I sometimes use the same one for everything!
Jamie: That's risky! Use different passwords and consider a password manager to keep them secure. Strong passwords are crucial.
Alex: I've heard about two-factor authentication. How does that work?
Jamie: It adds an extra security layer. After entering your password, you get a code on your phone that you also need to enter. Even if someone steals your password, they can't get in without the code.
Alex: That sounds helpful! What about social media?
Jamie: Be careful there, too. Check your privacy settings and avoid sharing personal information.
Alex: Good point! I'll make those changes. What else should I do?
Jamie: Ensure your devices have updated antivirus software to protect against malware.
Alex: Thanks, Jamie! I feel more prepared to stay safe online now.
Jamie: No problem! Just stay vigilant and keep learning about online safety.

Asking About Online Safety

- "What are the main risks of using the internet?"
- "Can you explain what phishing is?"
- "How can I protect myself online?"
- "What should I do if I receive a suspicious email?"
- "How important is it to use a password manager?"
- "What are the best practices for social media privacy?"
- "Could you recommend any tools for online security?"
- "What steps can I take to enhance my online safety?"
- "How do I know if my passwords are strong enough?"

Telling About Online Safety

- "Phishing scams often come in the form of fake emails that look legitimate."
- "Using strong passwords is crucial for protecting your accounts."
- "Two-factor authentication adds an extra layer of security to your online accounts."
- "I always check the sender's email address before clicking on links."
- "It's important to regularly update your antivirus software."
- "Be cautious about what you share on social media to protect your privacy."
- "I use a password manager to generate and store strong passwords."

f. Practice: Group Discussion

Organize a group discussion where each participant shares one online safety tip they believe is essential. Encourage them to explain why they chose that tip.

Prompt Questions:

- What's one thing everyone should do to stay safe online?
- How can we educate others about online safety?
- What are some common mistakes people make regarding online safety?

III. GRAMMAR POINTS: Modals of Advice and Necessity

Modal Verb	Usage Description	Example
Should	Advice or recommendations	"You should always check the sender's email address."
Ought to	Advice with a moral obligation	"You ought to change your passwords frequently."
Must	Strong obligation or necessity	"You must report any suspicious activity immediately."
Need to	Practical necessity or requirement	"You need to install security updates on your devices."

- **Example Sentences:**
  - "You should use strong passwords."
  - "You must enable two-factor authentication."

i. Fill in the blanks with the appropriate modal verb (ought to, must, should, or need to)

1. To enhance your online security, you _____ use strong, unique passwords for each account.
2. If you notice suspicious activity on your account, you _____ report it immediately.
3. People _____ be aware of the dangers of sharing personal information on social media.
4. It's important that users _____ enable two-factor authentication to protect their accounts.
5. Everyone _____ educate themselves about phishing scams to avoid falling victim.
6. When using public Wi-Fi, you _____ avoid accessing sensitive information.
7. Students _____ take online safety courses to learn how to navigate the internet securely.
8. You _____ change your passwords regularly to ensure better security.
9. If you receive an unsolicited email, you _____ verify the sender before clicking any links.
10. Users _____ not share their passwords with anyone, as it compromises their security.

V. WRITING: Create Your Online Safety Guide

Communicate your understanding of online safety practices through writing while fostering collaboration.

Materials Needed:

- Paper or digital devices (like Google Docs or word processors)
- Markers or drawing tools (if doing it on paper)

Instructions:

- **Group Formation:** Work into small groups of 3-4 students.
- **Brainstorming:**
  - Each group discusses and lists common online safety tips (e.g., using strong passwords, recognizing phishing emails, enabling two-factor authentication).
  - Think about your own experiences and what they believe is important for staying safe online.
- **Writing the Guide:**
  - Write a short online safety guide. The guide should include:
    - A catchy title (e.g., "Stay Safe Online: Your Essential Guide")
    - At least 5 safety tips, using modal verbs like **should**, **must**, **ought to**, and **need to**.
    - A brief explanation for each tip

Example:

Online Safety Guide: Stay Safe Online!

In today's digital world, staying safe online is more important than ever. To protect your personal information and navigate the internet securely, consider these essential tips. First, you should create strong passwords that include a mix of letters, numbers, and symbols, as they are harder for hackers to guess. Additionally, you must enable two-factor authentication (2FA) on all your important accounts, which adds an extra layer of security by requiring a second form of verification, such as a text message code. Be cautious when clicking on links in emails from unknown sources; you need to verify the sender before clicking, as phishing emails can trick you into revealing personal information. Moreover, you ought to limit the personal information you share on social media platforms, as sharing too much can make you vulnerable to identity theft. Finally, you must keep your operating system and software updated regularly, as updates often include security patches that protect against new threats. By following these simple tips, you can significantly reduce your risk of falling victim to online threats. Stay informed and proactive about your online safety

Lesson 4
Advanced Software Skills

I. READING COMPREHENSION

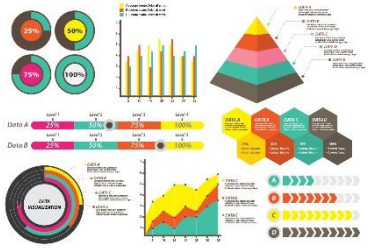
a. Read the passage carefully, and then answer the following questions

Data Visualization

Data visualization is the practice of presenting data in graphical formats, making complex information easier to understand. By transforming raw data into visual representations like charts and graphs, users can quickly identify trends, patterns, and outliers, leading to better decision-making.

Tools such as Tableau and Microsoft Power BI have revolutionized data visualization. These platforms allow users to create interactive dashboards and reports that connect to various data sources, enabling real-time data access. They support a range of visual formats—bar charts, line graphs, pie charts, and heat maps—helping organizations convey their messages effectively.

Understanding basic design principles is crucial for impactful visualizations. Clear labeling helps viewers understand data quickly, while appropriate color schemes highlight key information and indicate trends. Logical layouts guide viewers through the data, enhancing comprehension. Adhering to these principles ensures visualizations are both aesthetically pleasing and informative.



Additionally, storytelling in data visualization enriches engagement. By framing data within narratives, organizations can make information resonate on a personal level. For example, presenting sales data alongside customer feedback provides deeper insights into market trends.

Ultimately, data visualization transforms complex data into actionable insights, facilitating discussions and informed decisions. As data-driven decision-making becomes increasingly important, mastering data visualization skills will be vital for professionals across various fields.

(Source: Few, S. (2012). *Show Me the Numbers: Designing Tables and Graphs to Enlighten*. Analytics Press.)

b. Answer the following questions briefly.

1. How does data visualization help in making complex information more understandable?
2. What are some common types of visual representations used in data visualization, and when might you use each?
3. Describe a situation where data visualization could significantly impact decision-making.
4. How do tools like Tableau and Microsoft Power BI enhance the data visualization process?
5. What design principles do you think are most important for creating effective data visualizations?

6. Can you explain how storytelling can improve the effectiveness of data visualization?
7. How can color schemes influence the interpretation of data in visualizations?
8. In your opinion, what challenges might arise when creating a data visualization?
9. How do you think data visualization will evolve in the future?
10. What skills do you believe are essential for someone working in data visualization?

c. Decide whether the following statements are True, False, or Not Clear (if the information isn't provided in the text).

	T	F	NC
1. Data visualization only involves creating bar charts.			
2. Interactive dashboards can provide real-time data access.			
3. Clear labeling is not important in data visualization.			
4. Storytelling has no role in data visualization.			
5. Data visualization cannot help in identifying trends.			
6. Data visualization is primarily used in marketing and has no applications in other fields.			
7. Effective data visualizations can lead to better decision-making in organizations.			
8. Color schemes used in visualizations can affect how viewers interpret the data.			
9. Data visualizations do not need to follow any design principles.			
10. Tools like Microsoft Power BI are designed only for advanced users with programming skills.			

d. Match the terms with their correct definitions.

No	Terms	Definitions
1	Data Visualization	a) A general direction in which data is moving over time.
2	Dashboard	b) A visual method of representing relationships between variables.
3	Trend	c) A visual representation that combines graphics and data to convey information clearly.
4	Outlier	d) A visual display of key metrics and data points in one place
5	Interactive	e) A data visualization that uses color to represent values in a matrix format.
6	Chart	f) A data point that is significantly different from the others.
7	Graph	g) Allowing users to engage with and manipulate data directly.
8	Heat Map	h) A note or explanation added to a visualization to provide context.
9	Annotation	i) A graphical representation of information or data
10	Infographic	j) A graphical representation of data, often used to illustrate trends.

II. SPEAKING

e. Study the following conversation and then practice it with a friend.

Conversation 1

Alex: Hey Jamie, did you look at the sales report visuals?
Jamie: Yes! The bar chart is great for comparing monthly sales.
Alex: I agree! The colors help show different product categories.
Jamie: Should we add a line graph to show sales trends over the year?
Alex: Good idea! A line graph would help us see how sales change over time.
Jamie: Combining both would give a better view. We should also add notes to highlight key points, like holiday spikes.
Alex: Yes, and we need to label everything clearly. Some viewers were confused last time.
Jamie: Right! A short summary could help explain the trends too.
Alex: Let's finish these visuals by the end of the week.
Jamie: Sounds good! I'll work on the line graph.
Alex: I'll improve the bar chart. Excited to see it all come together!
Jamie: Me too! Data visualization is a powerful tool for storytelling.

Asking About Data Visualization

- "What do you think about data visualization?"
- "How do you feel about using charts and graphs for presenting data?"
- "Can you explain how data visualization helps in decision-making?"
- "What type of chart do you think works best for comparing categories?"
- "How do you choose colors for your visualizations?"
- "Have you used any tools for creating data visualizations?"
- "Could you clarify what that chart represents?"
- "What do you mean by 'data storytelling' in visualizations?"
- "Can you explain that trend shown in the line graph?"

Telling About Online Safety

- "Data visualization is important for making complex information easier to understand."
- "Charts and graphs can effectively highlight trends and patterns in data."
- "In this bar chart, each color represents a different product category."
- "The line graph shows sales trends over the past year."
- "Using data visualization can help stakeholders make informed decisions quickly."
- "Visuals make it easier to communicate insights and engage the audience."
- "In my last project, I found that a pie chart was very effective for showing proportions."
- "I often use Tableau for creating interactive dashboards that display real-time data."

III. GRAMMAR POINTS: Passive Voice

The passive voice is used to emphasize the action or the result rather than who performed the action. In the context of data visualization, it helps to focus on the data and the findings rather than the individual who created the visualization.

Structure:

- **Passive Voice**: Subject + form of "to be" + past participle (e.g., "The data is presented in a graph.")

f. Complete the sentences using the correct form of the passive voice.

1. The data _____ (visualize) in various formats to highlight trends.
2. Reports _____ (generate) on a weekly basis for the management team.
3. The findings _____ (present) at the annual meeting last year.
4. Key metrics _____ (track) using an interactive dashboard.
5. The visualization _____ (design) to be user-friendly and informative.
6. The data _____ (analyze) by the team before making decisions.
7. Interactive tools _____ (develop) to improve user engagement.
8. The results _____ (share) with stakeholders after the review.
9. Key insights _____ (highlight) in the final presentation.
10. The color palette _____ (select) to enhance readability.

g. Convert the following active sentences to passive voice.

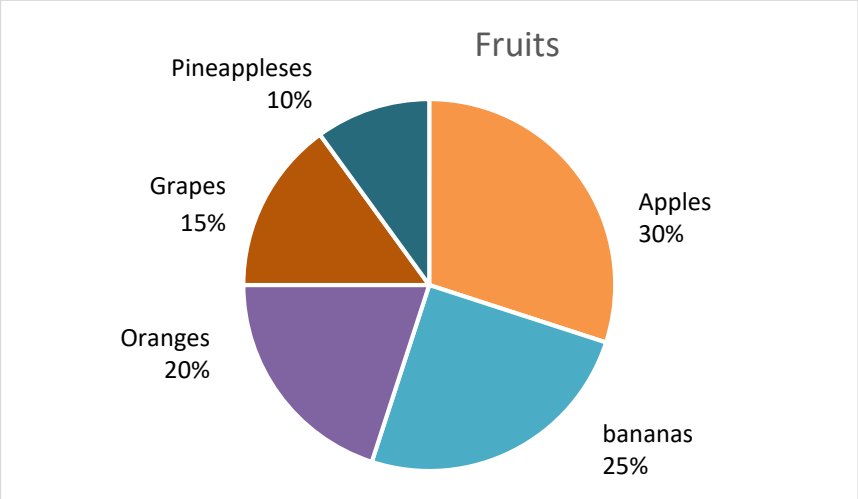
1. The analyst created a dashboard for the sales data.
2. The team presented the findings at the conference.
3. The software generates reports automatically.
4. The designer chose the color scheme for the visualizations.
5. The researchers analyzed the trends in the data.
6. The marketing team will launch the new campaign next month.
7. The data scientists have developed a new algorithm for analysis.
8. The stakeholders reviewed the final report thoroughly.
9. The company uses advanced tools for data visualization.
10. The data was collected by the interns during the summer.

IV. WRITING: Describing charts

h. Choose a simple chart or graph (e.g., a pie chart showing favorite fruits). Write a few sentences describing what the chart shows. Include:

- What the chart represents.
- The main categories and their percentages.

Sample Result:



Description of a Pie Chart Showing Favorite Fruits

The pie chart represents the favorite fruits of a group of 100 participants. It clearly illustrates the preferences among various fruits, with each segment indicating the percentage of votes received.
The main categories include:

- **Apples**: 30% of participants selected apples as their favorite fruit.
- **Bananas**: 25% chose bananas.
- **Oranges**: 20% preferred oranges.
- **Grapes**: 15% selected grapes.
- **Pineapples**: 10% indicated pineapples as their favorite.

This chart effectively highlights that apples are the most popular fruit among the group, while pineapples are the least favored. The visual format allows for an easy comparison of preferences, making it clear which fruits are preferred and by what percentage.

Lesson 5
Emerging Technologies

I. READING COMPREHENSION

a. Read the passage carefully, and then answer the following questions

Emerging Technologies: Shaping the Future

Emerging technologies refer to innovative tools, processes, and concepts that are currently being developed or will be developed in the near future. These technologies have the potential to significantly impact various industries, economies, and societies. **Artificial Intelligence (AI)** is one of the most talked-about emerging technologies. It involves the creation of algorithms that allow machines to perform tasks that typically require human intelligence, such as understanding natural language, recognizing patterns, and making decisions. AI is already transforming sectors like healthcare, finance, and transportation. For example, AI algorithms can analyze medical data to assist doctors in diagnosing diseases more accurately.

Blockchain technology is another significant development. Originally created for cryptocurrency, blockchain provides a secure and transparent way to record transactions. Its decentralized nature makes it difficult to alter data, which is why it is increasingly used in various fields, including supply chain management and digital identity verification.

Augmented Reality (AR) and **Virtual Reality (VR)** are also emerging technologies that are changing how we interact with digital content. AR overlays digital information onto the real world, while VR immerses users in a completely virtual environment. These technologies are being used in gaming, education, and training simulations, offering new ways for users to engage with information.

Internet of Things (IoT) connects everyday devices to the internet, allowing them to collect and share data. Smart home devices, such as thermostats and security systems, are examples of IoT in action. This technology enables greater efficiency and convenience, but it also raises concerns about data privacy and security.

Finally, **5G technology** is set to revolutionize communication by providing faster internet speeds and more reliable connections. This will enhanc e the capabilities of other emerging technologies, such as IoT and AI, by allowing them to operate more efficiently.

In conclusion, emerging technologies like AI, blockchain, AR/VR, IoT, and 5G are shaping the future across various sectors. While they bring numerous benefits, it is essential to address the challenges and ethical considerations they present to ensure a positive impact on society.

b. Answer the following questions briefly.

1. How do you think AI will influence the job market in the next few years?
2. What are some advantages of using blockchain technology in everyday transactions?
3. In what ways can AR enhance customer experiences in retail?

4. How do you envision the future of IoT in smart cities?
5. What ethical considerations should we keep in mind when developing AI technologies?
6. How does 5G technology impact the growth of emerging technologies?
7. Can you give an example of how VR is being used in education?
8. What challenges do companies face when integrating new technologies like IoT?
9. How can emerging technologies improve healthcare services?
10. What skills do you think will be essential for workers in an increasingly tech-driven world?

c. Decide whether the following statements are True, False, or Not Clear (if the information isn't provided in the text).

	T	F	NC
1. AI can only perform tasks that require human creativity.			
2. Blockchain technology is primarily used for social media platforms.			
3. AR provides an immersive virtual environment.			
4. IoT devices can help improve energy efficiency in homes.			
5. 5G technology will have no impact on existing mobile networks.			
6. VR is only used for entertainment purposes.			
7. Emerging technologies often raise concerns about data security.			
8. Blockchain can be easily altered once data is recorded.			
9. AI is a form of technology that can learn and adapt.			
10. AR requires special glasses to be experienced.			

d. Match the terms with their correct definitions.

No	Terms	Definitions
1	Artificial Intelligence (AI)	a) A technology that creates virtual environments.
2	Blockchain	b) Authentication based on physical characteristics like fingerprints.
3	Augmented Reality (AR)	c) A system that connects devices for data sharing
4	Internet of Things (IoT)	d) Technology that allows storage and access to data over the internet.
5	Virtual Reality (VR)	e) Technology that simulates human intelligence in machines.
6	Cybersecurity	f) Measures taken to protect data and systems from attacks.
7	Data Analytics	g) A secure and transparent ledger system.
8	Cloud Computing	h) A digital representation of physical environments.
9	Smart Devices	i) Enhances the real
10	Biometrics	j) Tools used to analyze and interpret complex data.

II. SPEAKING

e. Study the following conversation and then practice it with a friend.

Conversation 1

Alex: Hey Jamie! I've been learning about different software applications for my computer class. Do you use any productivity tools?
Jamie: Absolutely! I use several applications daily. For example, I rely heavily on Google Drive for storing and sharing my documents.
Alex: That's great! I've heard that Google Drive offers collaborative features. How does that work?
Jamie: Yes, it does! Multiple people can access the same document at once, and we can edit it in real time. It really helps when we're working on group projects.
Alex: That sounds efficient. Do you use any other tools for project management?
Jamie: Definitely! I use Trello to keep track of my tasks. It allows me to create boards and cards for different projects, so I can organize everything visually.
Alex: I see! So, you can move tasks around as you complete them?
Jamie: Exactly! I can prioritize my tasks and see what still needs to be done at a glance. It keeps me motivated and organized.
Alex: Have you tried any time management apps?
Jamie: Yes, I recently started using Pomodoro timers. They help me focus by breaking my work into intervals with short breaks in between. It boosts my productivity!
Alex: That's interesting! I've read that using timers can improve focus. Do you find it effective?
Jamie: Absolutely! It prevents me from feeling overwhelmed and makes my study sessions more productive.
Alex: I'll have to try that! Thanks for sharing your insights, Jamie. I can't wait to explore these applications more.
Jamie: No problem, Alex! If you need any help, just let me know. Happy exploring!

Asking About Emerging Technologies

- What software applications do you use for your work/studies?
- Can you recommend any productivity tools that help you stay organized?
- How do you keep track of your tasks and deadlines?
- What features do you find most useful in your favorite applications?
- Have you tried any new software recently? What do you think about it?
- How does [specific application] help you with your projects?
- Do you prefer using desktop applications or online tools? Why?

Telling About Emerging Technologies

- I use [application name] to help me manage my tasks efficiently.
- One of my favorite tools is [application name] because it allows me to collaborate with my team in real time.
- Using [software name] has significantly improved my productivity by keeping me organized.
- I find that [feature] in [application] really helps me stay focused.
- Recently, I started using [application name], and it has made a big difference in how I work.
- I prefer [application name] for its user-friendly interface and powerful features.

Lesson 6
ARTIFICIAL INTELLIGENCE (AI)

I. READING COMPREHENSION

a. Read the passage carefully, and then answer the following questions

The Evolution and Impact of Artificial Intelligence

Artificial Intelligence (AI) is a branch of computer science dedicated to developing machines and systems that can imitate human intelligence. These AI systems are engineered to perform tasks that usually require cognitive functions, such as reasoning, problem-solving, and understanding natural language. The application of AI spans various industries, including healthcare, finance, and technology, where it is employed to automate processes, analyze vast amounts of data, and enhance overall efficiency.

There are two primary categories of AI: Narrow AI and General AI. Narrow AI, also referred to as Weak AI, is task-specific and operates within a limited set of functions. For instance, virtual assistants like Siri and Alexa can manage tasks such as setting reminders or answering inquiries, but they cannot extend their capabilities beyond their programming. Other examples of Narrow AI include facial recognition software, online customer service chatbots, and recommendation systems utilized by platforms like Netflix and Amazon.

On the other hand, General AI, or Strong AI, embodie s the idea of machines capable of performing any intellectual task that a human can manage. This advanced form of AI would be able to understand, learn, and apply knowledge across diverse contexts. While Narrow AI is prevalent in today's technology landscape, General AI remains a theoretical concept, as no system has yet achieved the level of human-like reasoning that it entails.

b. Answer the following questions briefly.

1. What do you think are the most significant benefits of using AI in healthcare?
2. How can Narrow AI and General AI be distinguished in their applications?
3. In what ways do you believe AI will change the job market in the next decade?
4. Can you provide examples of ethical issues that arise with the use of AI?
5. How do you think AI could enhance the customer experience in retail?
6. What challenges do you foresee in implementing AI in education?
7. How does data bias impact the effectiveness of AI systems?
8. In your opinion, what measures should be taken to ensure the ethical use of AI?
9. How might AI influence decision-making in finance?
10. What role do you see for AI in addressing global challenges, such as climate change?

c. Decide whether the following statements are True, False, or Not Clear (if the information isn't provided in the text).

	T	F	NC
1. AI can perform any task a human can do.			
2. Narrow AI is commonly used in everyday applications.			
3. General AI is already implemented in various industries.			
4. AI applications can improve efficiency in manufacturing.			
5. All AI systems are equally intelligent.			
6. AI has no ethical implications in its use.			
7. Data privacy concerns are irrelevant when discussing AI.			
8. Virtual assistants are examples of Narrow AI.			
9. General AI is more advanced than Narrow AI.			
10. AI can help diagnose diseases in healthcare settings.			

d. Match the terms with their correct definitions.

No	Terms	Definitions
1	Artificial Intelligence (AI)	a) The use of technology to perform tasks without human intervention.
2	Cognitive Function	b) Moral principles guiding AI development and usage.
3	Ethics in AI	c) Task-specific AI with limited functions.
4	Data Bias	d) A set of rules for solving a problem.
5	Narrow AI	e) Systematic favoritism in datasets.
6	Algorithm	f) A machine that learns from data.
7	Automation	g) Machines capable of performing any intellectual task.
8	Predictive Maintenance	h) Mental processes like reasoning and understanding.
9	Natural Language Processing	i) AI's ability to understand and generate human language.
10	General AI	j) Anticipating equipment failures to prevent downtime.

e. Fill in the blanks with appropriate words from the word bank:

algorithm	healthcare	bias	reasoning	machine
data	automation	learning	efficiency	intelligence

1. AI is a field of computer science focused on creating machines that can mimic human _____.
2. Narrow AI operates within a limited set of functions, while General AI aims for broader _____.
3. _____ in AI refers to the systematic favoritism present in datasets used for training.
4. In _____, AI can assist in diagnosing diseases and personalizing treatment plans.

5. _____ involves using technology to perform tasks without human involvement.
6. An _____ is a set of rules used by AI to solve problems or make decisions.
7. Predictive maintenance uses AI to enhance _____ in manufacturing processes.
8. Natural language processing allows AI to understand and generate human _____.
9. _____ is the process by which AI systems improve their performance through experience.
10. Ethical considerations in AI are crucial for ensuring responsible _____ development.

II. SPEAKING

f. Study the following conversation and then practice it with a friend.

Conversation 1

Alex: Hey, Jordan! I've been thinking about the moral principles we need for AI development. It feels more important than ever.
Jordan: Definitely! Ethics should be a top priority. What principles do you think matter most?
Alex: I think transparency is key. Users should understand how AI makes decisions; otherwise, it's hard to trust.
Jordan: Exactly! Transparency can help address bias in algorithms. When we don't know how a system works, biases can slip through.
Alex: Right! Fairness is crucial too. We need to ensure AI doesn't discriminate, which means using diverse datasets.
Jordan: And accountability is essential. If an AI system causes harm, we need to know who is responsible—developers, companies, or users.
Alex: For sure! Privacy is also a big issue. With AI collecting personal data, we must protect people's privacy rights.
Jordan: Absolutely. Users should control their data and know how it's being used.
Alex: Lastly, I think we should focus on promoting good. AI should enhance lives, not just be efficient.
Jordan: Yes! Developers, policymakers, and ethicists need to work together on these guidelines. We have a lot of responsibility.
Alex: I'm glad we're discussing this. It's a big challenge, but it's important!
Jordan: Agreed! Let's keep talking about it as we move forward.
helpful. I'll think about switching!

Asking About Artificial Intelligence

- "What are your thoughts on the ethical implications of AI?"
- "How do you feel about transparency in AI systems?"
- "Can you explain the importance of accountability in AI development?"
- "What do you think is the most important principle guiding AI ethics?"

Telling About Artificial Intelligence

- "One important principle is transparency; which builds trust in AI systems."
- "It's crucial to ensure that AI systems are fair and do not discriminate."
- "We need to focus on accountability when discussing AI ethics."
- "A major concern is data privacy, especially with personal information

- "How do you view the issue of bias in AI algorithms?"
- "Could you share your perspective on privacy concerns in AI?"
- "What challenges do you see regarding fairness in AI?"

being used."

- "It's vital to consider how AI can promote human well-being."
- "Many experts believe that collaboration among stakeholders is essential for ethical AI."
- "In summary, we should prioritize moral principles like fairness and accountability in AI development.

g. Practice: Benefits vs. Risks of AI (Debate)

Activity Outline:

- **Preparation:** Work into two groups. One group will argue the **benefits** of AI (efficiency, automation, advancements in healthcare, etc.), and the other group will discuss the **risks** (job displacement, privacy concerns, ethical issues, etc.).
- **Scenario:** Each group will take turns presenting their points, followed by a short rebuttal session where they respond to each other's arguments.
- **Speaking Focus:** Students are to:
  a. Use specific examples of AI applications, such as virtual assistants, self-driving cars, or facial recognition software.
  b. Practice explaining their ideas clearly and persuasively.
  c. Engage in polite debate and discussion, asking follow-up questions and responding to opposing views.
- **Debrief:** After the debate, have students reflect on what they learned about AI's benefits and risks, and whether they think AI's impact on society is more positive or negative.

III. GRAMMAR POINTS: Comparative and Superlative Forms

When discussing advancements and differences in technologies, using comparative and superlative forms of adjectives helps clarify distinctions between concepts, such as Narrow AI and General AI.

- **Comparative Forms**

  Usage: To compare two entities.

  Examples:
  - "Narrow AI is **more limited** than General AI."
  - "Virtual assistants are **less capable** than machines with General AI."

- **Superlative Forms**

  Usage: To describe the highest degree among three or more entities.

  Examples:
  - "General AI represents the **most advanced** form of artificial intelligence."
  - "Among AI systems, General AI has the **greatest potential** to mimic human intelligence."

h. Complete the following sentences using the correct comparative or superlative form of the adjectives in parentheses:

1. Narrow AI is _____ (limited) than General AI.
2. Among all AI technologies, General AI is considered the _____ (advanced).
3. Virtual assistants like Siri are _____ (capable) than full-fledged AI systems.
4. General AI has the _____ (great) potential for understanding complex tasks.
5. Narrow AI is often _____ (efficient) than manual data processing methods.
6. Among AI applications, facial recognition software is one of the _____ (common).
7. Virtual assistants are usually _____ (simple) than comprehensive AI systems.
8. General AI would be the _____ (powerful) form of artificial intelligence if developed.
9. Machine learning algorithms are _____ (flexible) than traditional programming methods.
10. In terms of speed, this new AI model is the _____ (fast) we have tested so far.

i. Rewrite the following sentences to include comparative or superlative forms:

1. "Narrow AI operates within a small set of functions."
2. "General AI would perform tasks that humans can do."
3. "This AI system processes data more quickly than previous versions."
4. "Narrow AI is not as advanced as General AI."
5. "Among all the AI tools available, this one is the most user-friendly."

IV. WRITING: Future AI Predictions Journal

Activity Outline:

- **Instructions:** Write a short journal entry imagining what Artificial Intelligence might look like 20 years from now. Then, describe potential advancements in AI and how these developments could affect everyday life, work, and society.
- **Example Prompt:** "Imagine it is the year 2044. Write a journal entry describing how AI has changed the world. How are AI technologies used in daily life? Are there any new AI applications that didn't exist before? Do you think these changes are positive or negative?"
- **Focus:** Use your creativity while incorporating what you've learned about AI. You should aim to write 100-150 words, using simple language but being clear in their predictions.

Lesson 7
CYBERSECURITY AND DATA PROTECTION

I. READING COMPREHENSION

a. Read the passage carefully, and then answer the following questions

The Importance of Cybersecurity and Data Protection in the Digital Age

In today's digital age, cybersecurity and data protection are critical for individuals and organizations alike. Cybersecurity involves the practices, technologies, and processes designed to protect networks, devices, and data from cyber threats. These threats can include malware, phishing, and ransomware attacks, which can result in significant financial losses and damage to reputations.

Data protection, on the other hand, focuses on safeguarding personal information and ensuring that it is collected, stored, and processed securely. With the increasing reliance on digital communication, the risk of data breaches has also escalated. Organizations are required to comply with various regulations, such as the General Data Protection Regulation (GDPR) in the European Union, which aims to protect individuals' privacy rights.

Effective cybersecurity measures include using strong pass words, enabling two-factor authentication, and regularly updating software. Training employees on recognizing and responding to cyber threats is also vital. By fostering a culture of cybersecurity awareness, organizations can significantly reduce their vulnerability to cyber attacks.

As individuals, we can also take steps to protect our data. This includes being cautious about the information we share online, using secure connections, and regularly monitoring our accounts for suspicious activity. In an era where data is often referred to as the new oil, understanding the importance of cybersecurity and data protection is essential for safeguarding our personal and professional lives.

b. Answer the following questions briefly.

1. What do you think are the most significant benefits of using AI in healthcare?
2. How can Narrow AI and General AI be distinguished in their applications?
3. In what ways do you believe AI will change the job market in the next decade?
4. Can you provide examples of ethical issues that arise with the use of AI?
5. How do you think AI could enhance the customer experience in retail?
6. What challenges do you foresee in implementing AI in education?
7. How does data bias impact the effectiveness of AI systems?

8. In your opinion, what measures should be taken to ensure the ethical use of AI?
9. How might AI influence decision-making in finance?
10. What role do you see for AI in addressing global challenges, such as climate change?

c. Decide whether the following statements are True, False, or Not Clear (if the information isn't provided in the text).

	T	F	NC
1. AI can perform any task a human can do.			
2. Narrow AI is commonly used in everyday applications.			
3. General AI is already implemented in various industries.			
4. AI applications can improve efficiency in manufacturing.			
5. All AI systems are equally intelligent.			
6. AI has no ethical implications in its use.			
7. Data privacy concerns are irrelevant when discussing AI.			
8. Virtual assistants are examples of Narrow AI.			
9. General AI is more advanced than Narrow AI.			
10. AI can help diagnose diseases in healthcare settings.			

d. Match the terms with their correct definitions.

No	Terms	Definitions
1	Artificial Intelligence (AI)	a) The use of technology to perform tasks without human intervention.
2	Cognitive Function	b) Moral principles guiding AI development and usage.
3	Ethics in AI	c) Task-specific AI with limited functions.
4	Data Bias	d) A set of rules for solving a problem.
5	Narrow AI	e) Systematic favoritism in datasets.
6	Algorithm	f) A machine that learns from data.
7	Automation	g) Machines capable of performing any intellectual task.
8	Predictive Maintenance	h) Mental processes like reasoning and understanding.
9	Natural Language Processing	i) AI's ability to understand and generate human language.
10	General AI	j) Anticipating equipment failures to prevent downtime.

e. Fill in the blanks with appropriate words from the word bank:

algorithm	healthcare	bias	reasoning	machine
data	automation	learning	efficiency	intelligence

1. AI is a field of computer science focused on creating machines that can mimic human _____.
2. Narrow AI operates within a limited set of functions, while General AI aims for broader _____.

3. _____ in AI refers to the systematic favoritism present in datasets used for training.
4. In _____, AI can assist in diagnosing diseases and personalizing treatment plans.
5. _____ involves using technology to perform tasks without human involvement.
6. An _____ is a set of rules used by AI to solve problems or make decisions.
7. Predictive maintenance uses AI to enhance _____ in manufacturing processes.
8. Natural language processing allows AI to understand and generate human _____.
9. _____ is the process by which AI systems improve their performance through experience.
10. Ethical considerations in AI are crucial for ensuring responsible _____ development.

II. SPEAKING

f. Study the following conversation and then practice it with a friend.

Conversation 1

Alex: Hey, Jordan! I've been thinking about the moral principles we need for AI development. It feels more important than ever.
Jordan: Definitely! Ethics should be a top priority. What principles do you think matter most?
Alex: I think transparency is key. Users should understand how AI makes decisions; otherwise, it's hard to trust.
Jordan: Exactly! Transparency can help address bias in algorithms. When we don't know how a system works, biases can slip through.
Alex: Right! Fairness is crucial too. We need to ensure AI doesn't discriminate, which means using diverse datasets.
Jordan: And accountability is essential. If an AI system causes harm, we need to know who is responsible—developers, companies, or users.
Alex: For sure! Privacy is also a big issue. With AI collecting personal data, we must protect people's privacy rights.
Jordan: Absolutely. Users should control their data and know how it's being used.
Alex: Lastly, I think we should focus on promoting good. AI should enhance lives, not just be efficient.
Jordan: Yes! Developers, policymakers, and ethicists need to work together on these guidelines. We have a lot of responsibility.
Alex: I'm glad we're discussing this. It's a big challenge, but it's important!
Jordan: Agreed! Let's keep talking about it as we move forward.
helpful. I'll think about switching!

Asking About Artificial Intelligence

- "What are your thoughts on the ethical implications of AI?"
- "How do you feel about transparency

Telling About Artificial Intelligence

- "One important principle is transparency; which builds trust in AI systems."

in AI systems?"
- "Can you explain the importance of accountability in AI development?"
- "What do you think is the most important principle guiding AI ethics?"
- "How do you view the issue of bias in AI algorithms?"
- "Could you share your perspective on privacy concerns in AI?"
- "What challenges do you see regarding fairness in AI?"

- "It's crucial to ensure that AI systems are fair and do not discriminate."
- "We need to focus on accountability when discussing AI ethics."
- "A major concern is data privacy, especially with personal information being used."
- "It's vital to consider how AI can promote human well-being."
- "Many experts believe that collaboration among stakeholders is essential for ethical AI."
- "In summary, we should prioritize moral principles like fairness and accountability in AI development.

g. Practice: Cybersecurity Crisis Management (Role-Play)

Activity Outline:

- **Preparation:** Work into pairs or small groups, one student (or group) to act as an IT professional or cybersecurity expert, and the other as an employee or client whose data has been compromised in a cyber attack.
- **Scenario:** The employee/client has just discovered a data breach and contacts the IT expert to resolve the issue. The IT expert must explain the steps to mitigate the breach, educate the employee about future precautions (e.g., strong passwords, two-factor authentication), and discuss the company's data protection policies.
- **Speaking Focus:** The students will need to:
  a. Use vocabulary related to cybersecurity (e.g., "malware," "phishing," "data breach").
  b. Practice giving advice and instructions.
  c. Role-play a professional conversation, using polite and formal language.
  d. Ask and answer questions about protecting personal data and company policies.
- **Debrief:** After the role-play, students can reflect on their performance, discussing what cybersecurity measures they learned and how they can apply them in real life.

III. GRAMMAR: Present Perfect Tense

The present perfect tense is used to describe actions that occurred at an unspecified time before now. The exact time is not important. It is often used in the context of cybersecurity and data protection to discuss experiences, changes, or achievements related to security measures.

Examples:

1. Organizations **have implemented** new cybersecurity measures to protect against data breaches.
2. Many individuals **have become** more aware of the importance of data protection in recent years.
3. Cyber threats **have increased** significantly with the rise of online activities.

h. Complete the sentences with the correct form of the present perfect tense.

1. Many companies _____ (implement) stronger firewalls to protect their systems.
2. Over the past few years, hackers _____ (become) more sophisticated in their attacks.
3. My organization _____ (not experience) a major data breach so far.
4. Governments _____ (introduce) new laws to enhance data protection.
5. Recently, more people _____ (realize) the importance of using strong passwords.
6. Cybersecurity experts _____ (discover) several vulnerabilities in popular software this year.
7. The IT department _____ (not update) the antivirus software yet.
8. Many users _____ (report) suspicious emails to their security teams recently.
9. Companies _____ (adopt) encryption methods to secure sensitive information over the past few months.
10. Our team _____ (successfully prevent) several phishing attempts since the new measures were implemented.

IV. WRITING: Personal Cybersecurity Tips

i. Write a short paragraph about personal cybersecurity tips based on your understanding of the topic. Study the example below:

:

In today's digital age, protecting your personal information is crucial for maintaining cybersecurity. First and foremost, always use strong, unique passwords for each of your accounts and consider employing a password manager to keep track of them. Enable two-factor authentication whenever possible to add an extra layer of security. Be cautious when clicking on links or downloading attachments from unknown sources, as these could lead to phishing scams or malware. Regularly update your software and devices to ensure you have the latest security patches. Lastly, educate yourself about common cyber threats and stay vigilant about monitoring your accounts for any suspicious activity. By following these tips, you can significantly reduce your risk of falling victim to cyber attacks.

REFERENCE

Books:

Wishon, George, Burks, Julia M, (2002). Let's Write English. American Book. Company, New York. Zahorik, John A. 1995.

Murphy, Raymond, English Grammar in Use, Sydney: Cambridge. University Press, 1991.

Patterson, D. A. (2018). *Understanding Computer Architecture*. Morgan Kaufmann.

Lewis, J. G. (2020). *The Evolution of Office Software: From Word Processors to Cloud-Based Suites*. Journal of Software Engineering.

Source: Lewis, J. G. (2020). *The Evolution of Office Software: From Word Processors to Cloud-Based Suites*. Journal of Software Engineering.

Few, S. (2012). *Show Me the Numbers: Designing Tables and Graphs to Enlighten*. Analytics Press

Internet:

https://www.grammarly.com/blog/simple-present/

https://www.ef.co.id/englishfirst/kids/blog/modal-auxiliary-dalam-bahasa-inggris/