REPUBLIC OF KENYA
MINISTRY OF EDUCATION

DIPLOMA IN EDUCATION LEADERSHIP AND MANAGEMENT
MODULE 5: LEADERSHIP AND MANAGEMENT OF ICT INTEGRATION IN EDUCATION

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INTERNET AND ONLINE LEARNING RESOURCES

UNIT 3





- Internet can be regarded as the most useful technology of modern times which helps us not only in our daily lives but also in professional lives. For educational purposes, it is widely used to gather information and to do research or add to the knowledge of various subjects.
- In this Unit, we will learn about the internet and how should be used. We will also learn how to search for information from the internet and communication through electronic mail.

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Learning Outcomes

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Upon completion of this unit you will be able to:

a) Demonstrate understanding of internet terminologies
b) Apply the skills required to use the Internet to locate, transfer and download information.
c) Search for learning resources from the internet
d) Use emails for effective communication

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3.3 Internet Overview

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- The internet, sometimes called simply "the Net" refers to a globally connected network system which facilitates worldwide communication and access to data resources through a vast collection of private, public, business, academic and government networks.
- Internet is a global computer network providing a variety of information and communication facilities, consisting of interconnected networks using standardized communication protocols.
- Let us look at some terminologies associated with the internet:

Term	Definition
E-Mail	Messages distributed by electronic means from one computer user to one or more recipients via a network
Browsing	Browsing is exploring the Wide World Web by following Interesting links usually with a definite objective but without a planned search strategy.
Firewall	A firewall is a system designed to prevent unauthorized access to or from a private network.
Home page	Each Web site contains a home page (this is the original starting page) and may also contain additional pages.
Internet Browser	An Internet Browser is a software program that enables you to view Web pages on your computer. Browsers connect computers to the Internet, and allow people to —surf the Web
Internet Service Provider (ISP)	Internet Service Provider (ISP) is a company that provides Internet connectivity to individuals, businesses, and organizations. It may also provide additional services such as the storage space to share your personal
Password	A secret word or expression used by authorized persons to prove their right to access.
Surfing	Surfing refers to navigating through the internet usually by clicking with a mouse. It is commonly used to refer to spending time on the internet

Term	Definition
Web Page	A Web Page is like a page in a book. Websites often have several pages that you can access by clicking on links. A Web site can be a collection of related Web pages.
Web Site.	A site or area on the World Wide Web that is accessed by its own Internet address is called a Web site
World Wide Web	The World Wide Web is a system of Internet servers that support specially formatted documents
WIFI	Wi-Fi is the wireless technology used to connect computers, tablets, smartphones and other devices to the internet
Router	Router is a network hardware device that allows to make communication in between the internet and all devices which are linked to the internet in your house and office.
Hot spot	Any area that provides wireless Internet access to devices that enter the area.

Benefits of the internet

1. Cost Effective and Affordable Education

One of the largest barriers to education is high cost. The Internet improves the quality of education, which is one of the pillars of sustainable development of a nation. It provides education through Videos (like YouTube tutorial videos) and web tutorials which is affordable to everyone and cost-effective.

2. Student – Teacher and Peer Interaction

The internet has allowed students to be in constant touch with their teachers or with other fellow classmates with the help of social media, messaging apps and chat forums. Parents can interact as well as communicate with teachers and school authorities about their kid's performance in the school. Interaction with the likeminded people on forums can help students to explore new ideas and enrich their knowledge.

3. Effective Teaching and Learning Tool

The Internet has become a major tool for effective teaching as well as a learning tool. Teachers can use it as a teaching tool by posting their teaching materials (notes and videos) on school website or forum. The learning process becomes interesting and diverse with the use of tutorial videos and notes. Teachers can teach with the use of animation, PowerPoint slides, and images to capture the students' attention.

4. Easy Access to Quality Education

Learners can easily access quality education materials like tutorial videos on YouTube for free or pay fees online for more quality study materials. Teachers can also make use of the internet by proving the students with extra study material and resources such as interactive lessons, educational quiz as well as tutorials. Teachers can record their lectures and provide it to the students for revisions which is better than reading from notes.

5. Interaction with Digital Media

Regular use of digital media is one of the most basic parts of our lives. Digital bulletin boards save paper, allow displaying of videos and audios to attract the attention of students. Nowadays, there are many paid sites which provide education resources which are rich in quality and easily understandable to masses.

6. Keeping you updated with Latest Information

Information is the biggest advantage which the **internet** is offering. There is a huge amount of information available for every subject. It keeps us up to date with the latest information regarding the subjects in which we are interested.

7. Learning with Multimedia

It helps the students with the learning process as it helps to simplify the knowledge. Also, it helps to visualize what is being taught by the teachers in school. If you want to prepare for final exams, you can access Video Tutorials and other resources online through the Internet.

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Types of Internet Connections

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- Internet connection options vary by Internet Service Provider and by region. Customers should consider some of the following factors before selecting an Internet package and Internet connection type:

✓Connection speed or bandwidth

✓Cost

✓Availability

✓Reliability and

✓Convenience

- In order to determine what Internet plan is right for you, you need to review the different types of Internet connections and connection speeds available on the market today. There are numerous ways to connect laptops, desktops, mobile phones, gaming consoles, e-readers and tablets to the Internet. Some of the most widely used Internet connections are described below.

Type	Description
Mobile phone	Many cell phone and smartphone providers offer voice plans with Internet access. Mobile Internet connections provide good speeds and allow you to access the Internet.
MIFI:	MiFi is a brand name used to describe a wireless router that acts as a mobile Wi-Fi hotspot. A MiFi device can be connected to a cellular network and provide Internet access for up to ten devices
WIFI Hotspots	Sites that offer Internet access over a wireless local area network (WLAN) by way of a router that then connects to an Internet service provider. Hotspots utilize WIFI technology, which allows electronic devices to connect to the Internet or exchange data wirelessly through radio waves. Hotspots can be phone-based or free-standing, commercial or free to the public. Examples of use of WIFI in institutions of learning
Broadband	High-speed internet access which allows high quality internet services that require large amounts of data transmission such as videoconferencing.

Type	Description
Cable	Cable Internet connection is a form of broadband access. Through use of a cable modem, users can access the Internet over cable TV lines. Cable modems can provide extremely fast access to the Internet, making a cable connection a viable option for many.
Satellite	In certain areas where broadband connection is not yet offered, a satellite Internet option may be available. Similar to wireless access, satellite connection utilizes a modem.
Dedicated Internet Connection	A dedicated Internet connection is a fixed-bandwidth connection that runs directly to a single institution. This connection is ideal for institutions such as universities and banks that use the internet extensively.

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Case Study

- Obama wants high-speed Internet in schools by 2018 President Obama on Thursday will announce an initiative to bring high-speed Internet to almost all of the nation's schools by 2018. At a speech in a high-tech middle school in Mooresville, North Carolina, Obama was scheduled to order federal agencies to earmark funds for providing broadband and wireless access to 99% of U.S. public schools in the next five years, according to senior administration officials.
- The president is tasking the Federal Communication Commission with spearheading the project, and is also asking the FCC to fund high-speed connections at libraries. "We are living in a digital age, and to help our students get ahead, we must make sure they have access to cutting-edge technology," said Obama in a statement released by the White House.

"So today, I'm issuing a new challenge for America -- one that families, businesses, school districts and the federal government can rally around together -- to connect virtually every student in America's classrooms to high-speed broadband internet within five years, and equip them with the tools to make the most of it." (CNN, 2013)

Discuss this article in the context of internet connectivity in schools in Kenya

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Web Browsers

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- A web browser is a type of software that allows you to find and view websites on the Internet. There are many different web browsers, but some of the most common ones include Google Chrome, Internet Explorer, Safari, Microsoft Edge, Opera, and Mozilla Firefox.
- No matter which web browser you use, you'll need to learn the basics of browsing the Web.

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URLs and the address bar

- Each website has a unique address, called a URL (short for Uniform Resource Locator). It's like a street address that tells your browser where to go on the Internet. When you type a URL into the browser's address bar and press Enter on your keyboard, the browser will load the page associated with that URL.
- In the example below, we've typed www.kemi.ac.ke into the address bar.



Links

- Whenever you see a word or phrase on a website that's blue or underlined in blue, it's probably a hyperlink, or link for short. You might already know how links work, even if you've never thought about them much before. For example, try clicking the link below.

https://www.kemi.ac.ke/

- Links are used to navigate the Web. When you click a link, it will usually take you to a different webpage.

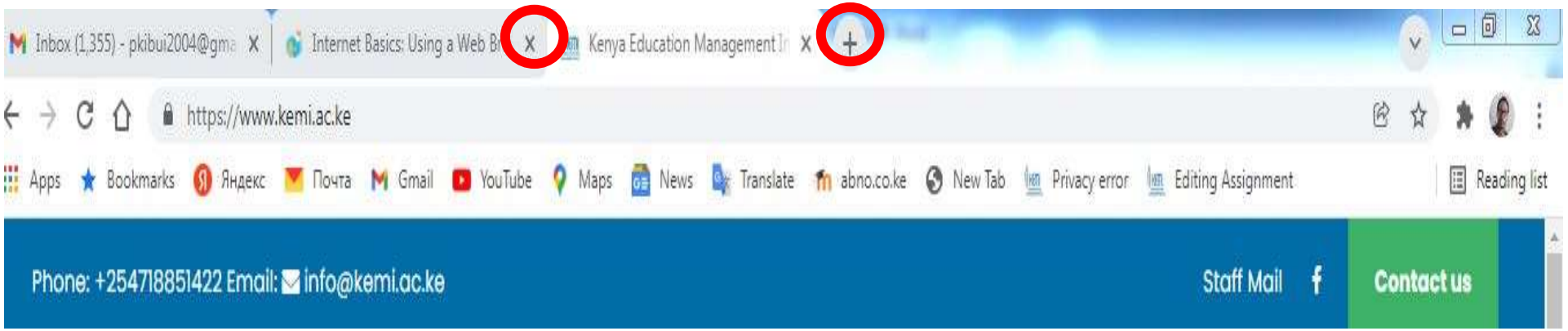
Navigation buttons

- The Back and Forward buttons allow you to move through websites you've recently viewed. You can also click and hold either button to see your recent history.



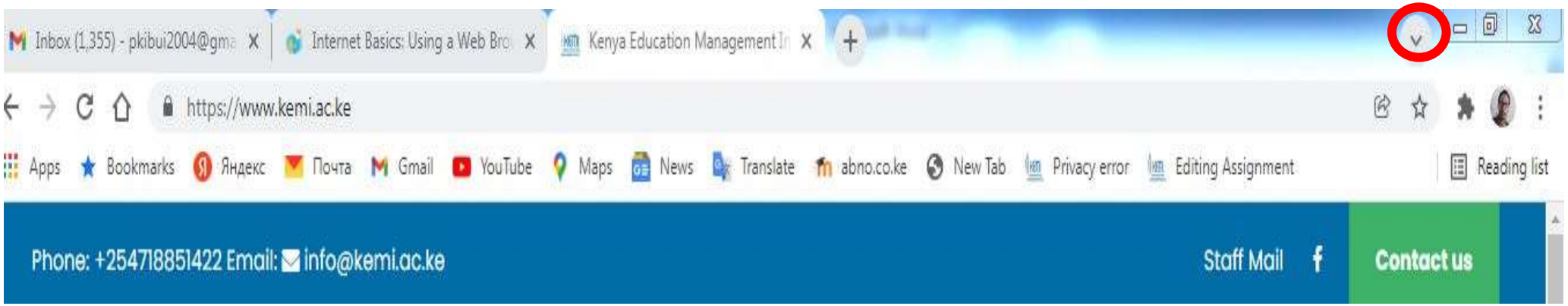
Tabbed browsing

- Many browsers allow you to open links in a new tab. You can open as many links as you want, and they'll stay in the same browser window instead of cluttering your screen with multiple windows
- To create a **new blank tab**, click the **+** button to the right of any open tabs.
- To close a tab, click the **x**.

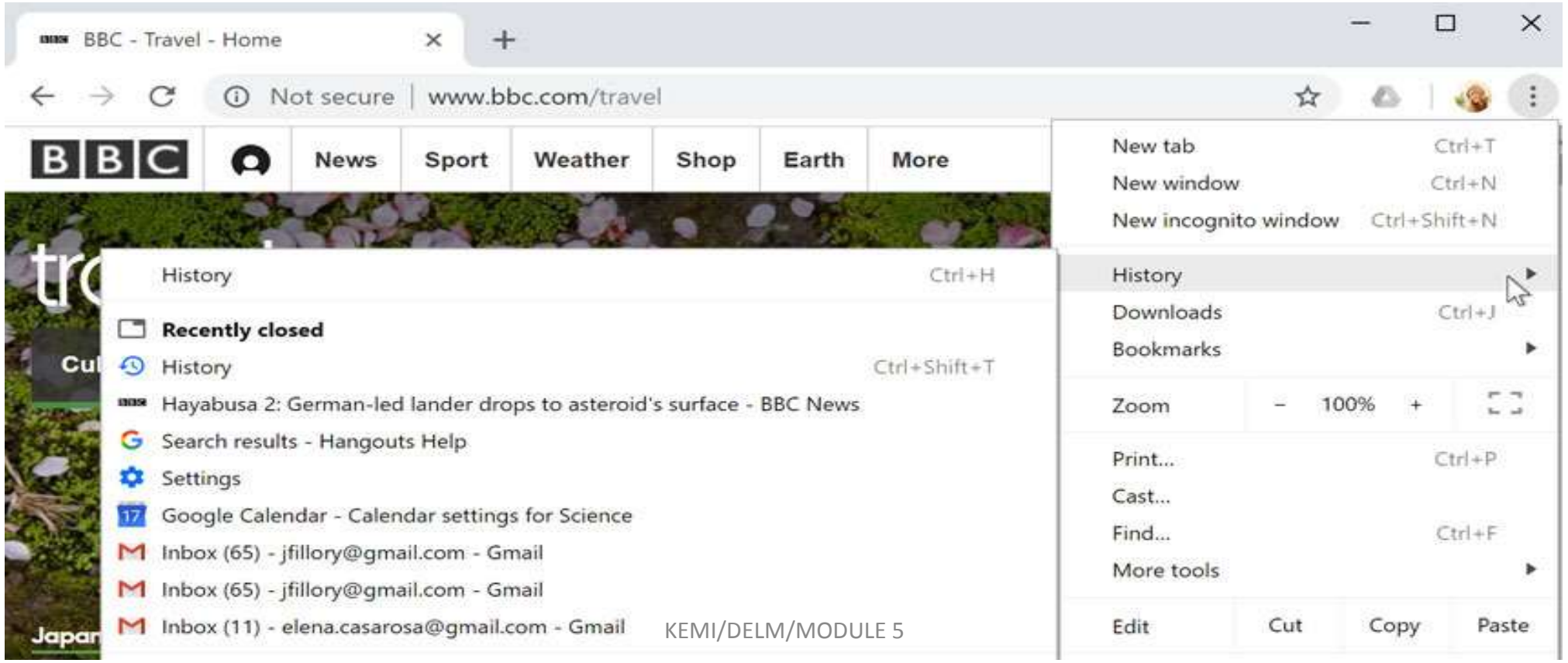


Bookmarks and history

- If you find a website you want to view later, it can be hard to memorize the exact web address. Bookmarks, also known as favorites, are a great way to save and organize specific websites so you can revisit them again and again. Simply locate and select the Star icon to bookmark the current website.



- Your browser will also keep a history of every site you visit. This is another good way to find a site you visited previously. To view your history, open your browser settings—usually by clicking the icon in the upper-right corner—and select History



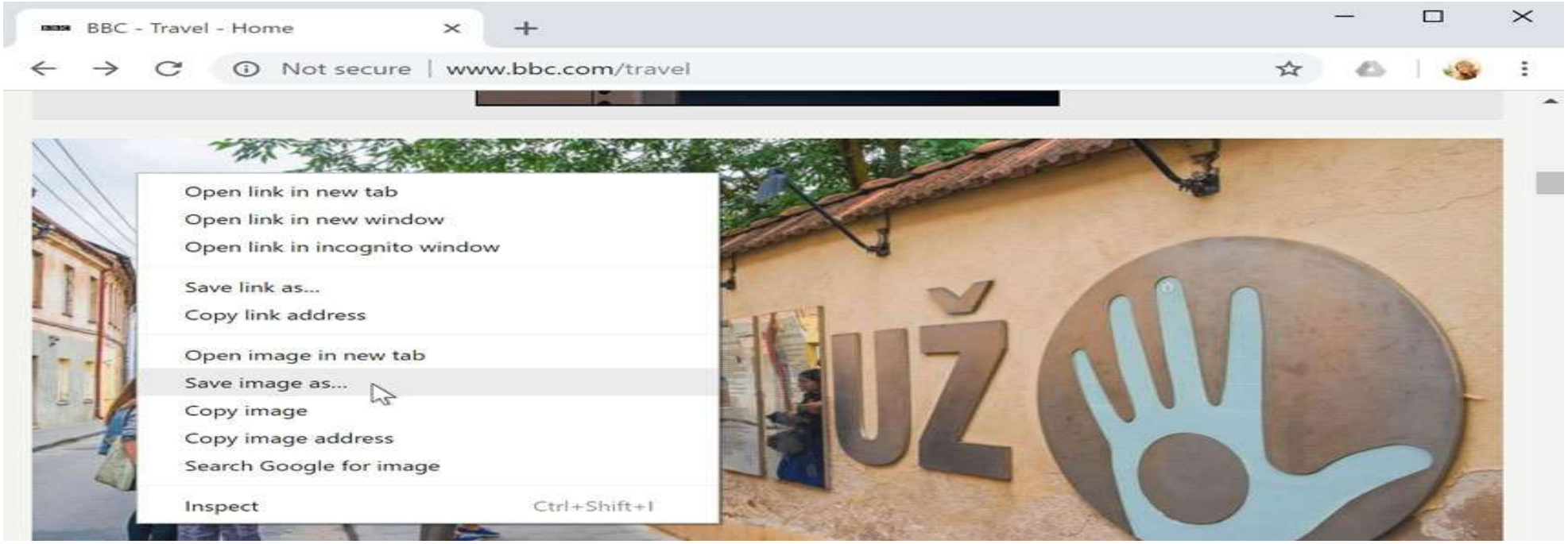
Downloading files

- Links don't always go to another website. In some cases, they point to a file that can be downloaded, or saved, to your computer.
- If you click a link to a file, it may download automatically, but sometimes it just opens within your browser instead of downloading. To prevent it from opening in the browser, you can right-click the link and select Save link as (different browsers may use slightly different wording, like Save target as).



Saving images

- Sometimes you may want to save an image from a website to your computer. To do this, right-click on the image and select Save image as (or Save picture as).



Note: You can click on the link below to learn more about web browsers: https://www.youtube.com/watch?v=FxirRVJWUTs

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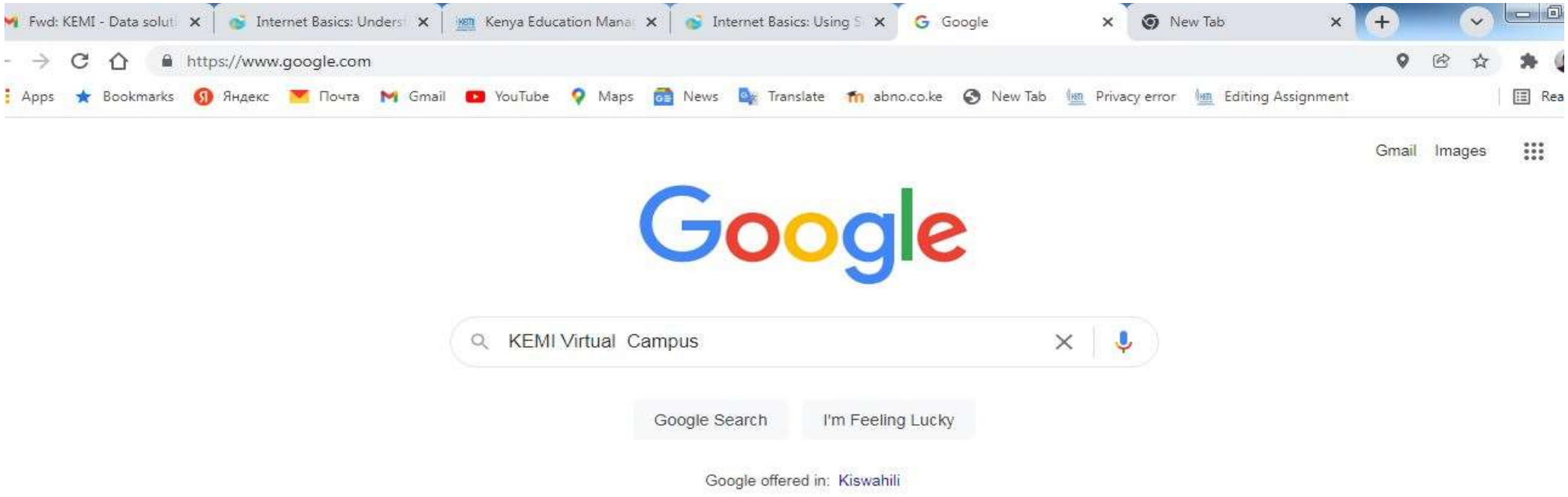
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Search Engines

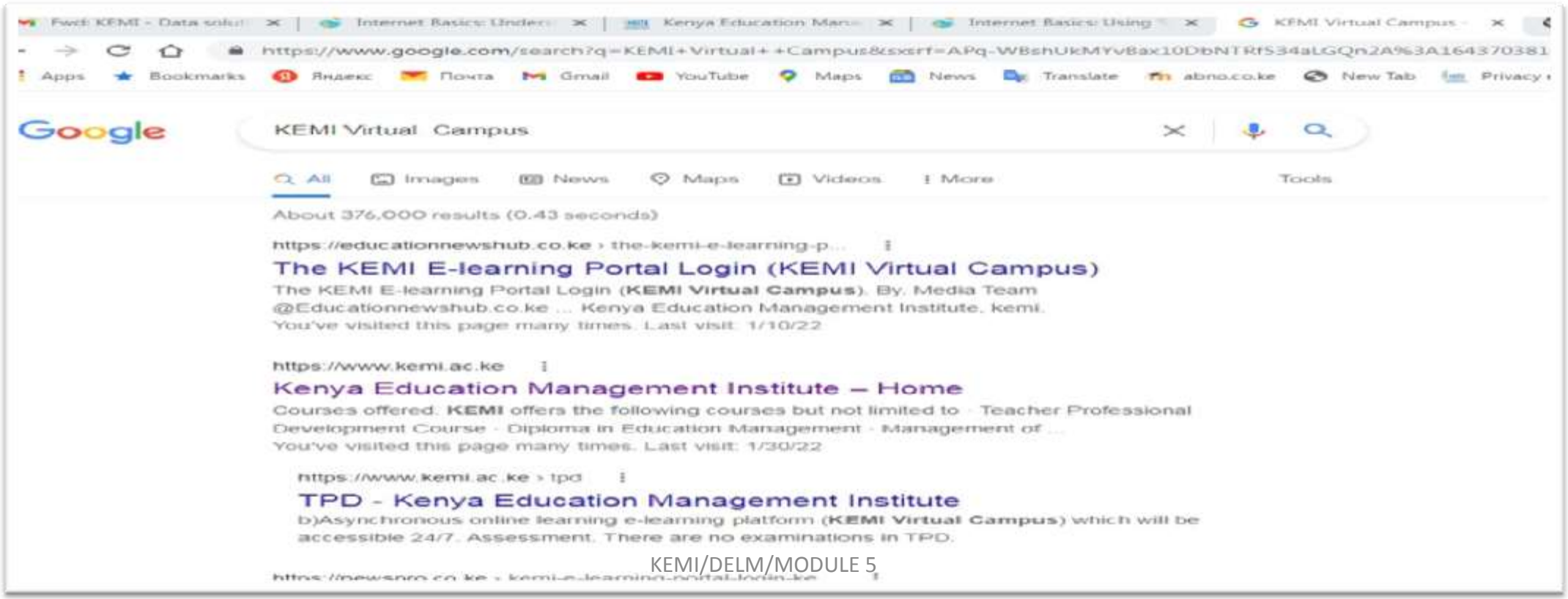
- A search engine is a website that helps you find other websites. Each search engine is a large database which utilizes different search techniques and tools. Search engines provide access to different internet sites and aid in searching for information. The common search engines are:
- Google
- Yahoo
- Bing
- Dogpile
- Mamma

Searching for information from the Web

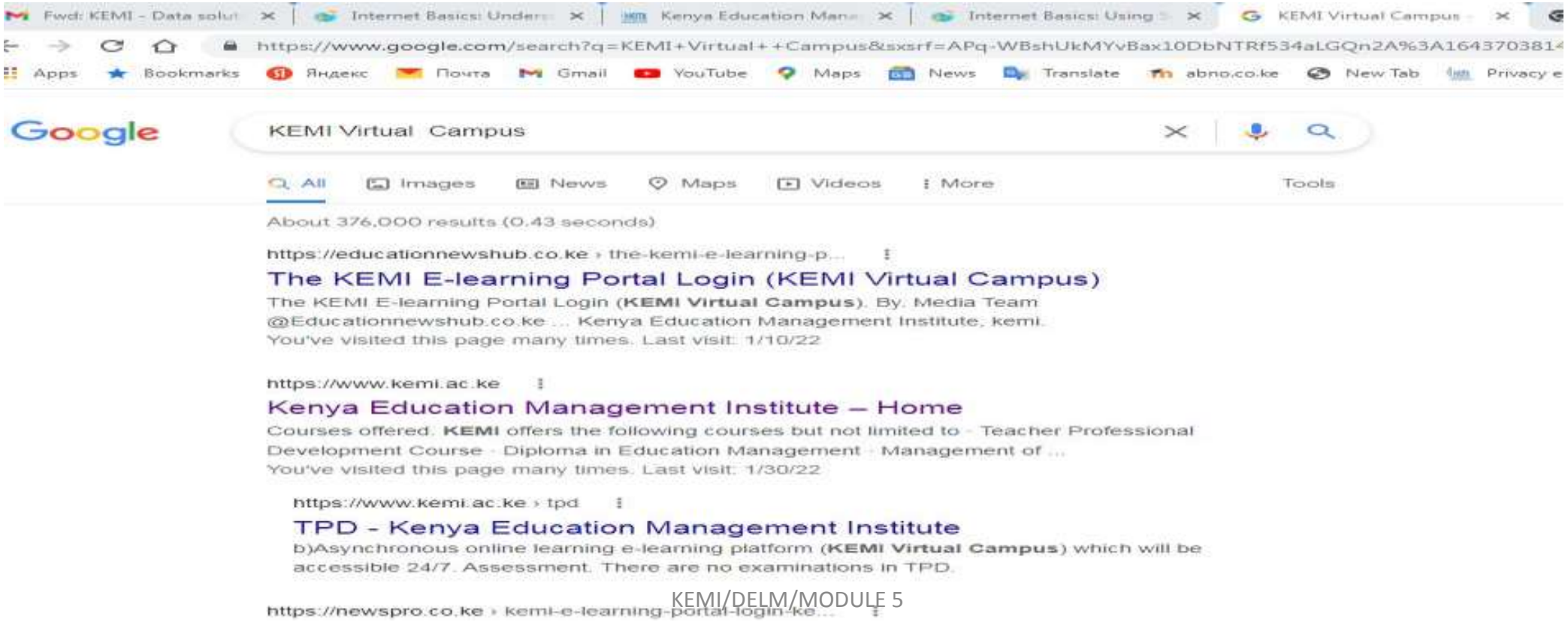
- In this section, we will learn how to search for information from the Web. Choose a search engine and type one or more keywords, also known as **search terms**, then press Enter on your keyboard. In this example, we'll search for “KEMI Virtual Campus”



- After you run a search, you'll see a list of relevant websites that match your search terms. These are commonly known as **search results**. If you see a site that looks interesting, you can click a link to open it. If the site doesn't have what you need, you can simply return to the results page to look for more options.

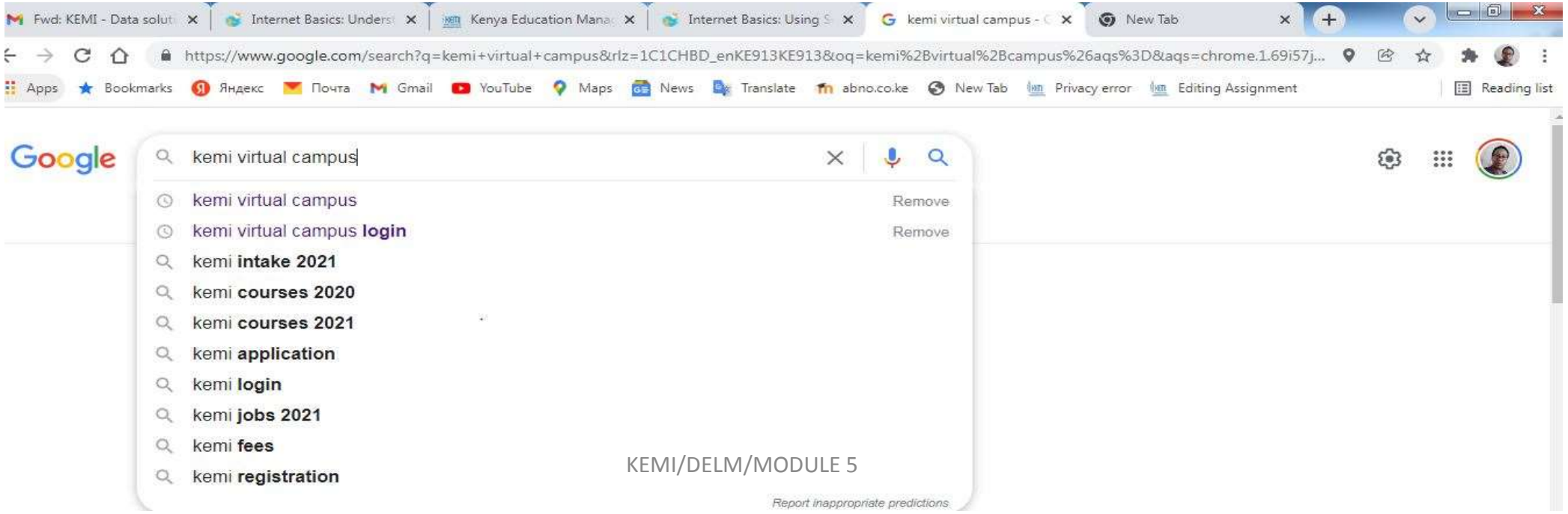


- Most browsers also allow you to perform a web search directly from your address bar, although some have a separate search bar next to the address bar. Simply type your search terms and press “Enter” to run the search.



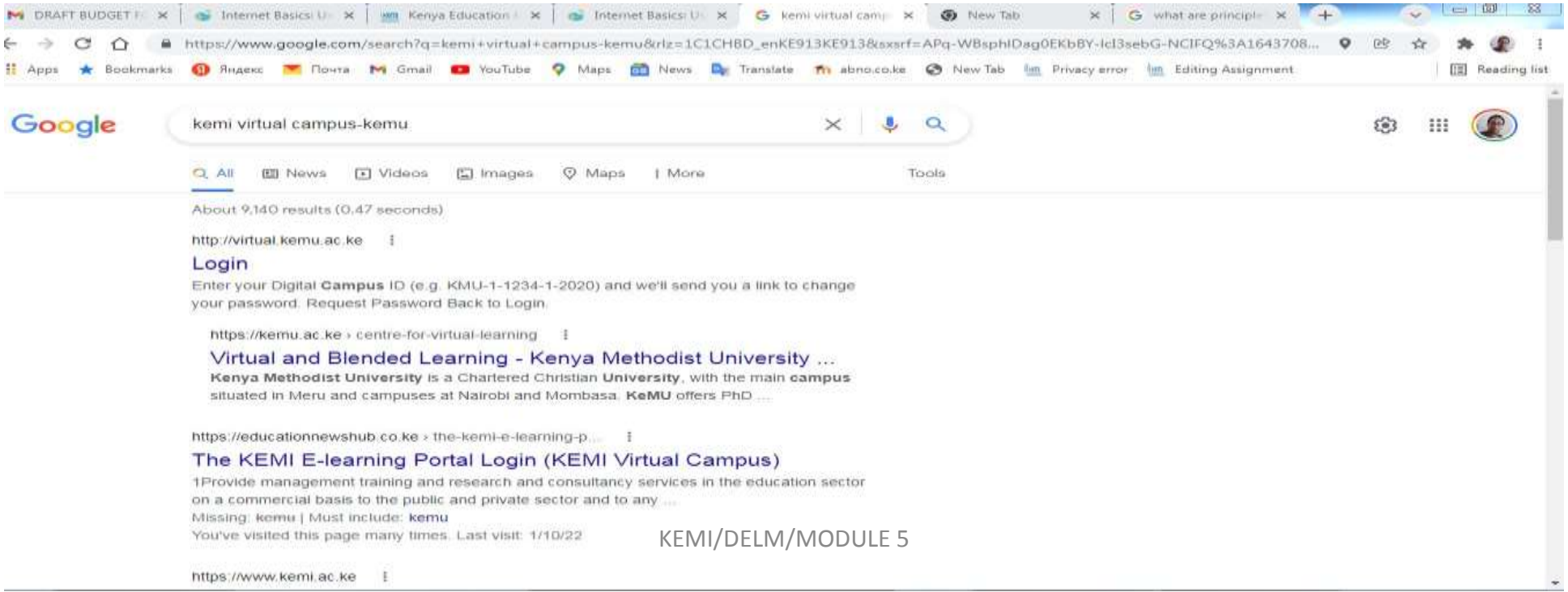
Search suggestions

- If you don't find what you're looking for on the first try, you can use search suggestions instead. These will usually appear as you're typing, and they're a great way to find new keywords. To use a search suggestion, you can click on “search suggestions” with your mouse, or select it with the arrow keys on your keyboard.



Refining your search

- If you're still having trouble finding exactly what you need, you can use some special characters to help refine your search. For example; if you wish to exclude a word from a search, you can put a hyphen (-) at the beginning of the word. So if you wanted to find “KEMI Virtual Campus” that does not include “KEMU”, you can search for KEMI Virtual Campus- KEMU



- You can also search for exact words or phrases to narrow down your results even more. All you need to do is place quotation marks (" ") around the desired search terms. For example, if you search for “KEMI Virtual Campus”, your search results will only include the KEMI Virtual campus instead of any Virtual Campus.



Activity

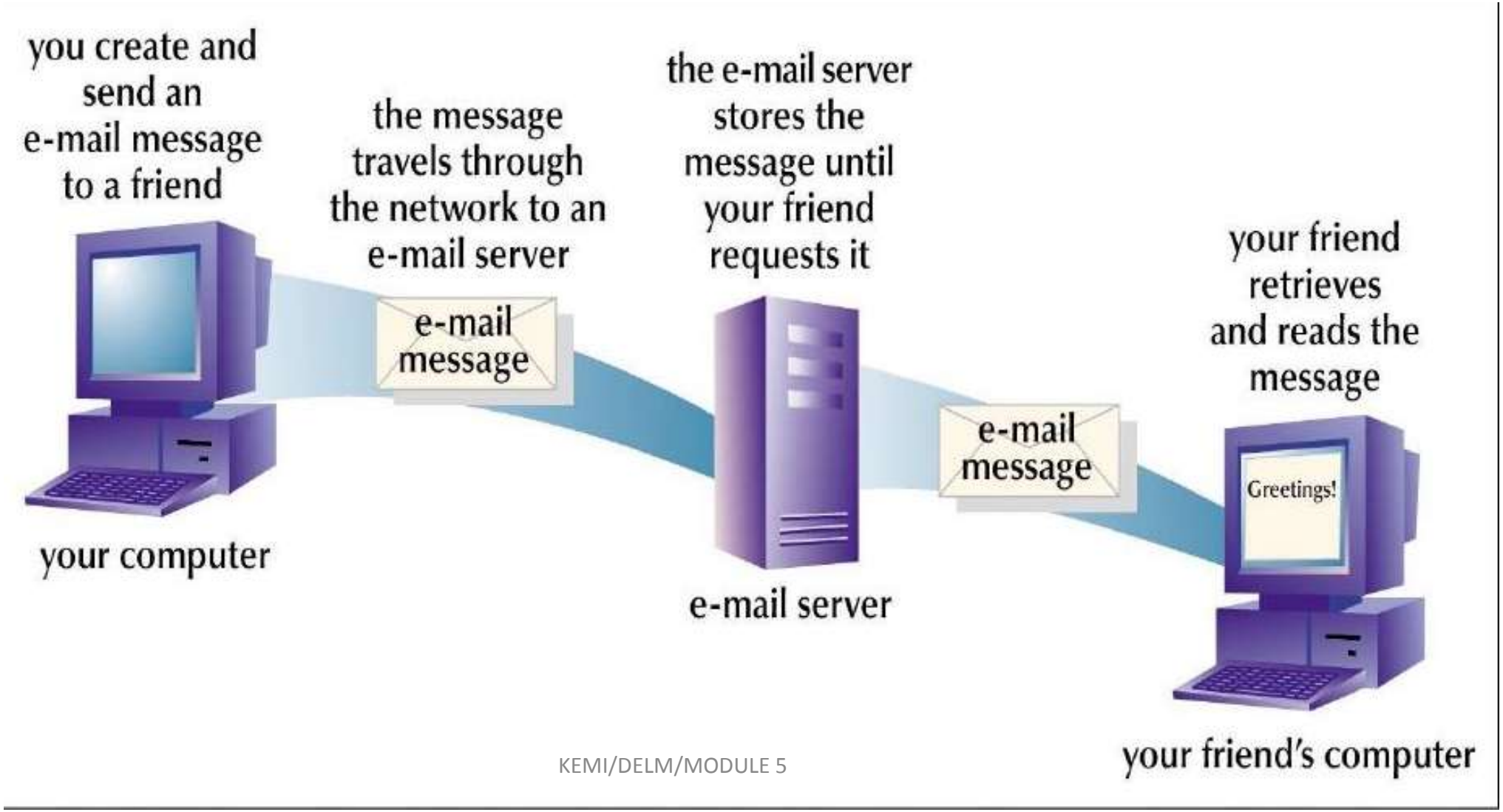
1. Select a concept/topic in one of your teaching areas/subjects
2. Using the internet search procedure we have learnt, search for information about the topic you have selected.
3. Refine your search by using (-) and (“ ”), refine your search and note the results of your search
4. Identify one site with the information you are searching for and copy the URL and send it to a colleague through email or WhatsApp

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Electronic Mail

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- Electronic mail (E-mail) is defined as the transmission of messages on the Internet. It is one of the most commonly used features over communications networks that may contain text, files, images, or other attachments. Generally, email it is information that is stored on a computer and sent through a network to a specified individual or group of individuals. E-mail is an efficient way to exchange messages with others on a network.
- Email service providers include: Gmail, Outlook, Hotmail, ProtonMail, AOL, Zoho Mail, iCloud Mail and Yahoo Mail
- The following diagram illustrates how email communication works:


you create and send an e-mail message to a friend
the message travels through the network to an e-mail server
the e-mail server stores the message until your friend requests it
your friend retrieves and reads the message
e-mail message
e-mail message
Greetings!
your computer
e-mail server
your friend's computer

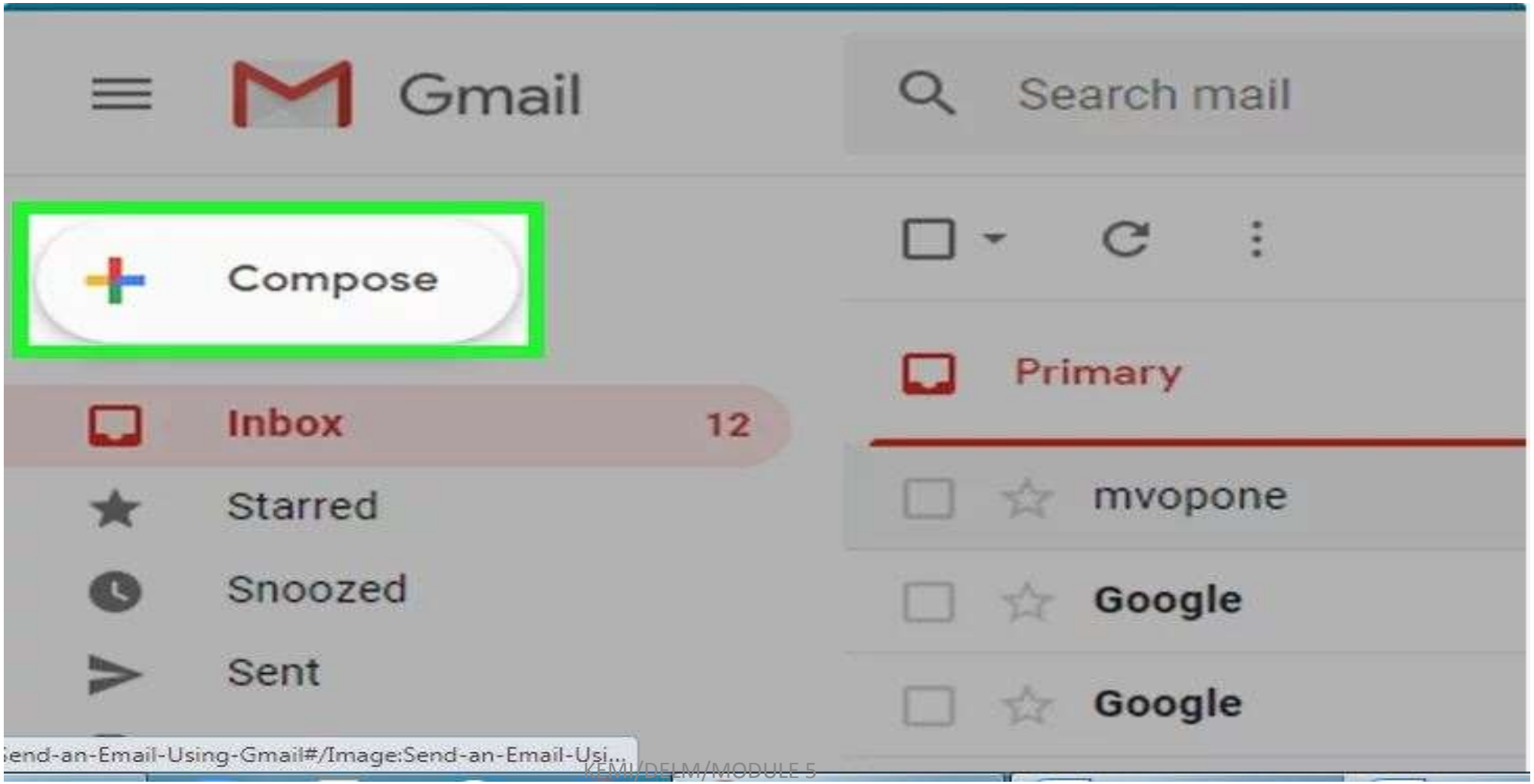
- We have said that there are many email service providers but for the sake of learning more about emails, we will look at how Gmail works.
- Gmail is one of the most used email services around the world. If you want to create a Gmail account in just a few simple steps you can create it. But before that, you need to sign up for a Google account.
- To create a Gmail account you need to provide some basic information like your name, birth date, gender, and location. Even you have to choose a name for your new Gmail address.

How to create a Gmail account

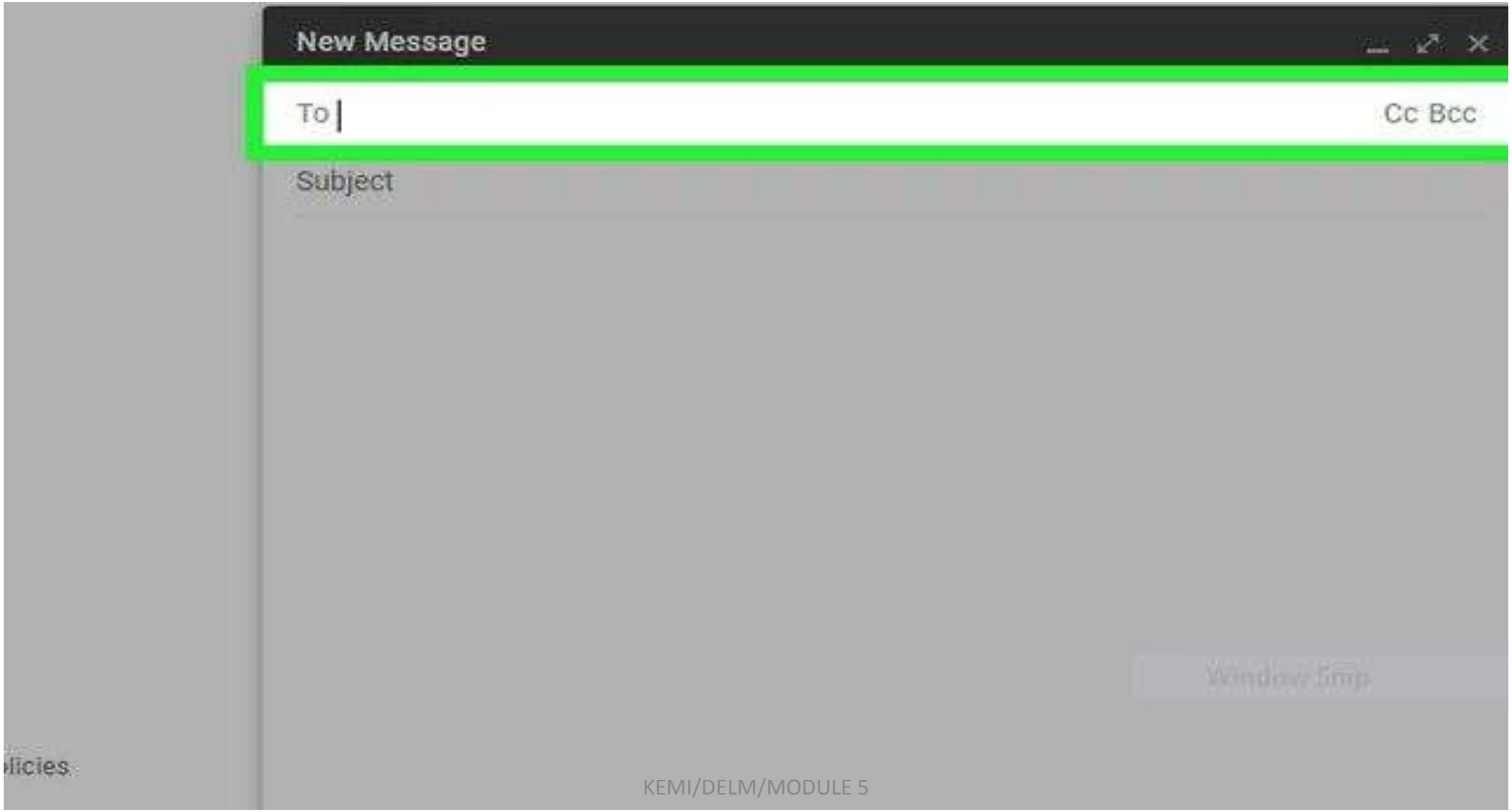
- You can use your username and password to sign in to Gmail and other Google products like YouTube, Google Play, and Google Drive. Follow the steps, create your Gmail account and start sending emails.
- Step 1: Visit Google account creation page; accounts.google.com
- Step 2: Click on “Create account”.
- Step 3: The sign-up form will appear. Enter your first and last name
- Step 4: Choose a Username for your account.
- Step 5: After choosing a username, enter a password. Type the password again to confirm. (As per Google's instruction always use 8 or more characters with a mix of letters, numbers & symbols)

How to send an email through Gmail

- You can use a computing device such a desktop computer, tablet or laptop to send an email. In this section, we will learn how to send email via a computer
- **Open Gmail.** Go to https://www.gmail.com/ in your computer's web browser. This will open your Gmail inbox if you're logged in. If you aren't logged into your Gmail account, enter your email address and password when prompted.
- **Click ＋ Compose.** It's in the upper-left side of your Gmail inbox. Doing so opens a "New Message" window in the lower-right corner of the page. If you're using the old version of Gmail, you'll click **COMPOSE** here instead


Gmail
Search mail
Compose
Primary
Inbox 12
Starred
Snoozed
Sent
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Google
Google
end-an-Email-Using-Gmail#/Image:Send-an-Email-Usi...

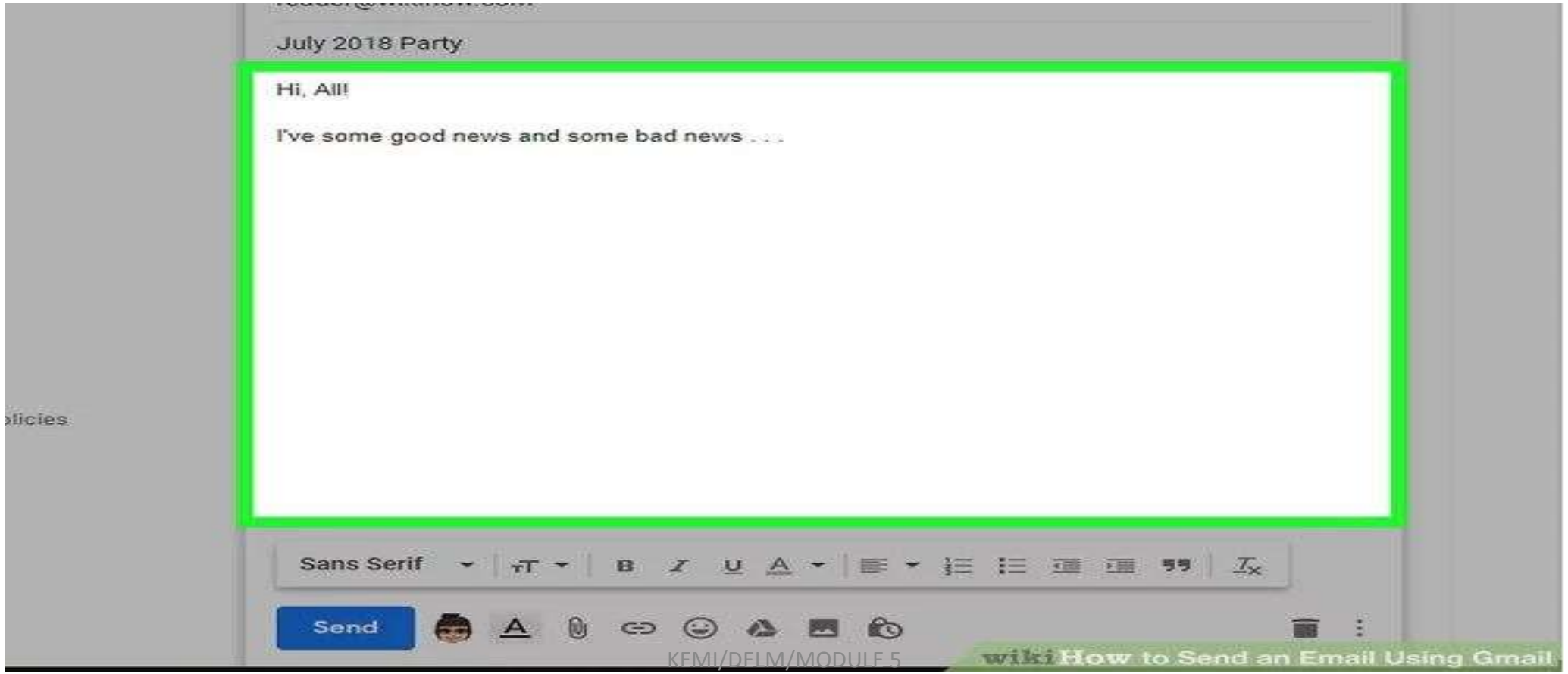
- **Enter the other person's email address.** Click the "To" or "Recipients" text box at the top of the New Message window, then type in the email address of the person to whom you want to send your email.
- To add multiple email addresses, type in the first email address, press Tab ↹, and repeat with the other email addresses.
- If you want to CC or BCC someone on the email, click either the **Cc** link or the **Bcc** link in the far-right side of the "To" text field, then type the email address you want to CC or BCC into the "Cc" or "Bcc" text field, respectively.


New Message
To
Cc Bcc
Subject

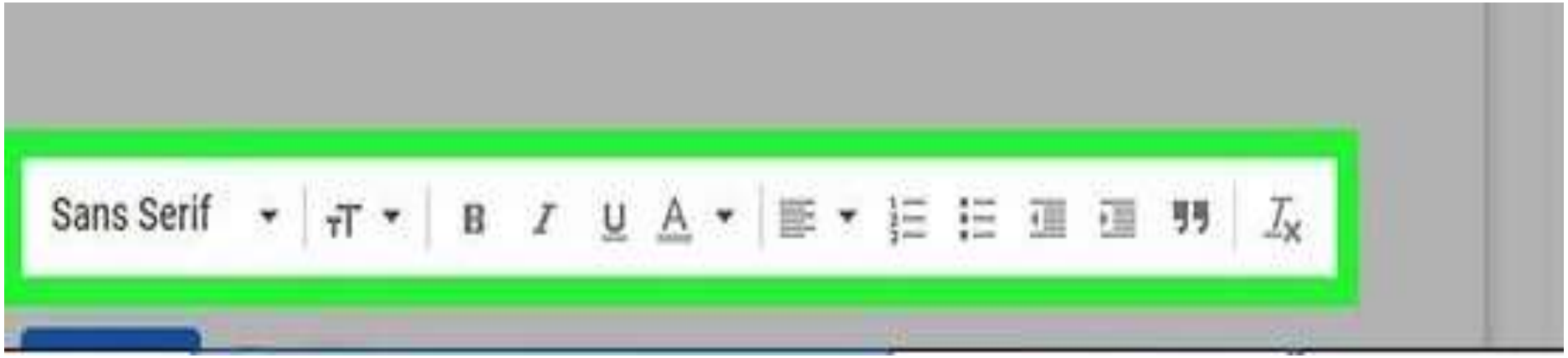
- **Add a subject:** Click the "Subject" text field, then type in whatever you want the subject of the email to be. Typically speaking, an email subject describes the gist of the email's message in a few words



Enter your email message: In the large text box below the "Subject" text box, type in whatever you want for your email message



- **Format your email's text if needed.** If you want to apply formatting to your text (e.g., bolding, italics, or bullet points), highlight the text to which you want to apply the formatting, then click one of the formatting options at the bottom of the email window.



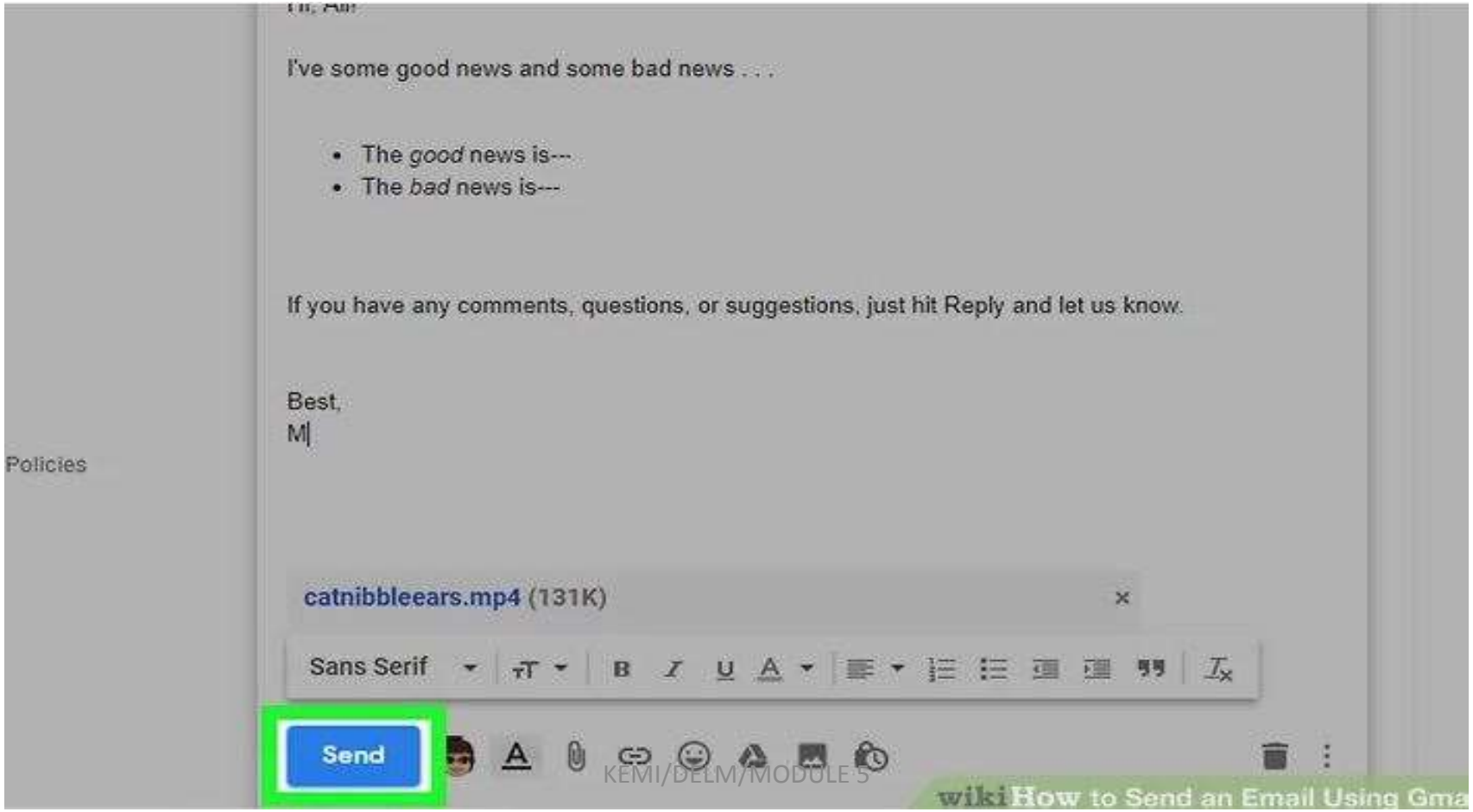
- **Attaching a file:** To add a file from your computer, click the "Attachments" Icon 

at the bottom of the window, then select the file(s) you want to upload and click **Open** (or **Choose** on a Mac).

- You can add photos in this way, or you can upload photos directly to the email's body by clicking the "Photos" icon 

at the bottom of the window, clicking **Upload**, clicking **Choose photos to upload**, and selecting photos as needed

- **Click Send.** It's a blue button in the bottom-left corner of the email window. Doing so will send your email to the specified email address(es).



Using Gmail on Mobile phone

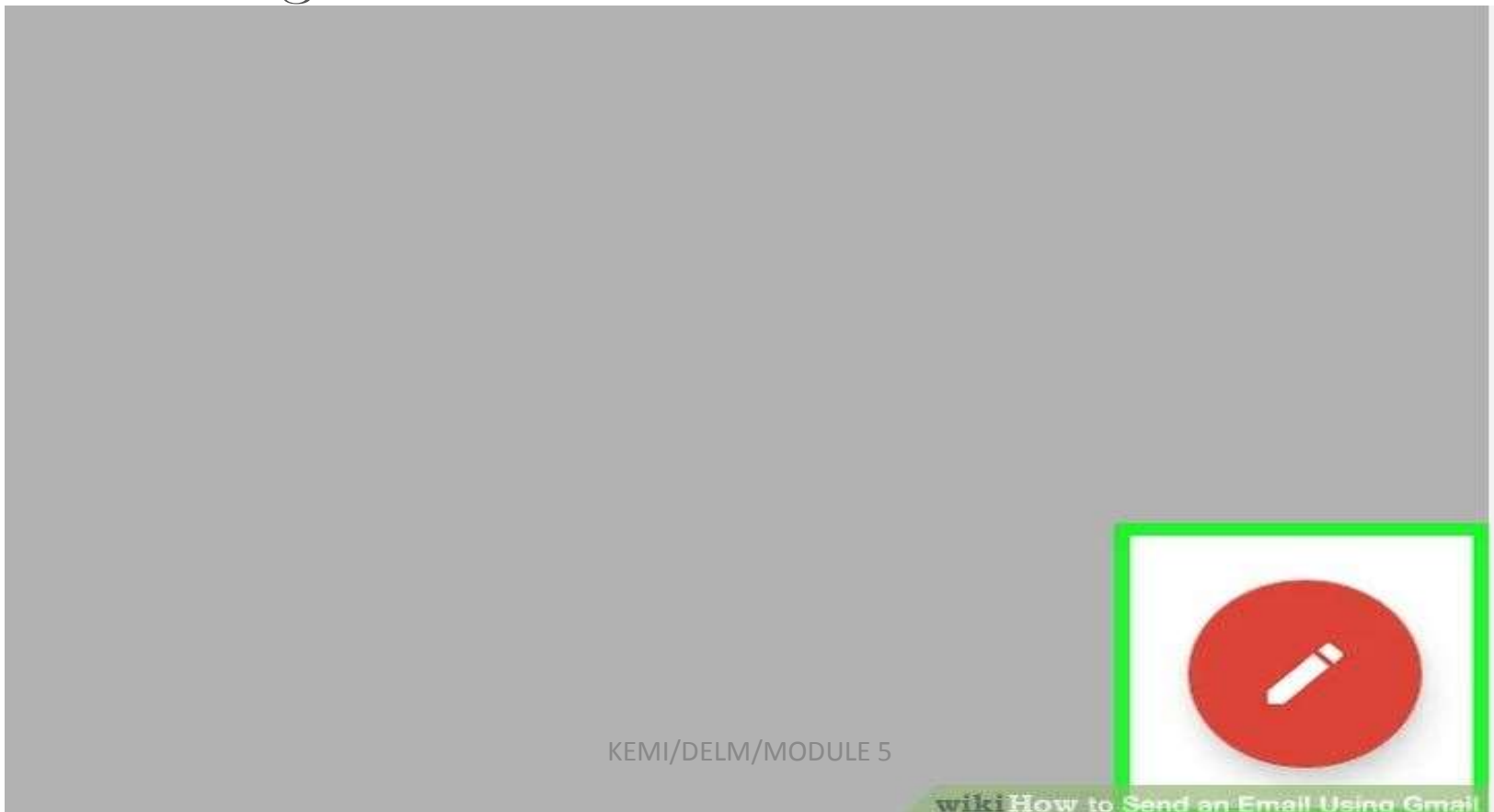
- People are increasingly using mobile phones to access internet and to enjoy internet services such as emailing. In this section we will look at how to use Gmail through a mobile phone

To open Gmail:

- Tap the Gmail app icon, which resembles a red "M" on a white background. This will open your Gmail inbox if you're logged in.
- If you aren't logged in, select your account and/or enter your email address and password to log in.


Google
Chrome
Drive
Gmail
Google
Maps
Photos
Play Games
Play Movies
& TV

- Tap the "Compose“ icon.
- It’s on the bottom-right corner of the screen. Doing so brings up a new message window



- **Enter an email address.** Tap the "To" text box, then type in the email address of the person to whom you want to send an email
- If you want to CC or BCC anyone on the email, tap on the far-right side of the "To" text box, tap either **Cc** or **Bcc**, and type in the email address you want to use.

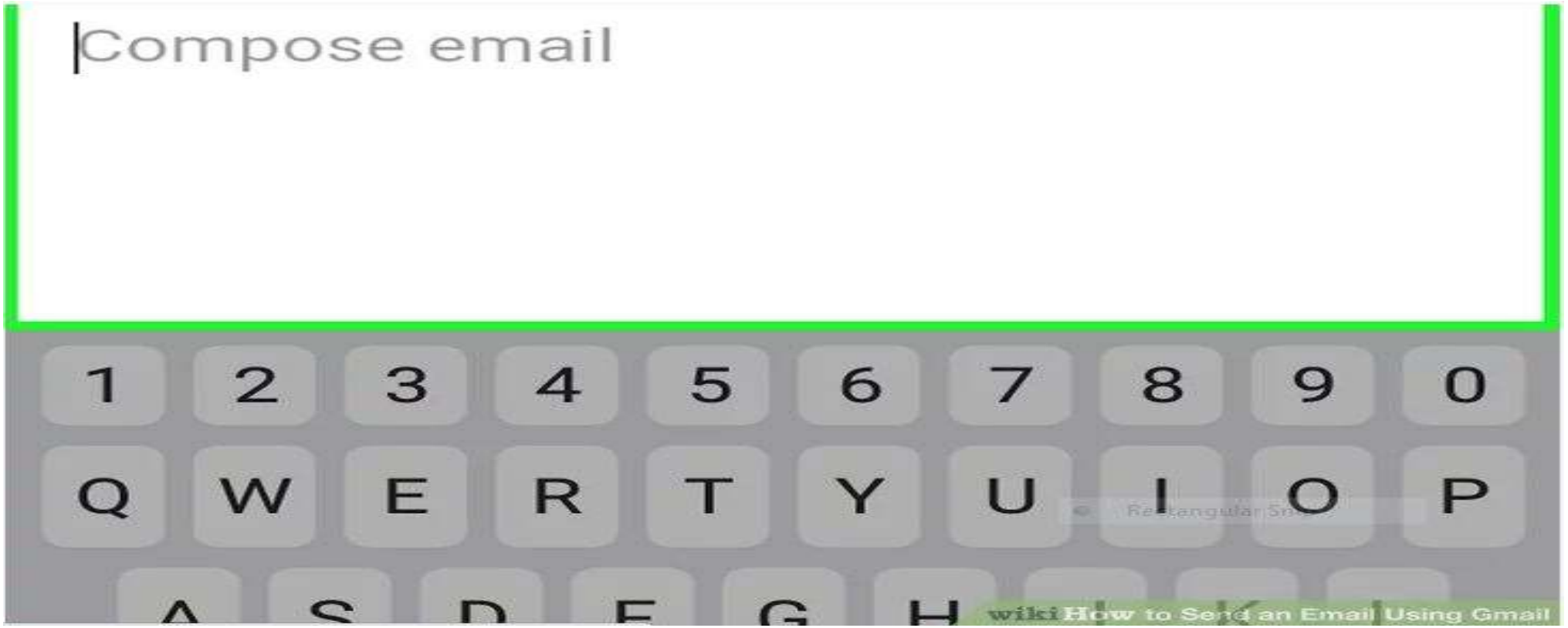


Enter a subject. Tap the "Subject" text box and then enter the subject you want to use.

- Generally, a subject summarizes the email in a few words



Enter your email's message. Tap the "Compose email" text box, then type in whatever you want to use for your email.



- **Add files or photos if necessary.** If you want to place a file or photo in your email, do the following:

. Tap 📎 at the top of the screen.

. Tap **Camera roll** (iPhone) or **Attach file** (Android).

. Select the photo or file you want to use



- **Tap the "Send" icon.**
- It's a paper plane-shaped icon in the top-right corner of the screen. Your email will be sent.



Institutional Email Account

- It is important that educational institutions use domain emails as they are unique and go a long way in identification of the sender of the email and in marketing the school.

Steps in obtaining an email domain account

1. Create distinct user name for your institution e.g. the user name for Amani High School could be “ahs”
2. Identify the provider and domain name for you email account from the following the following domain names:

- co.ke - for Companies.
- or.ke - Not for profit making or NGO's
- ne.ke - Network devices.
- go.ke - Government Entities and Agencies (provide supporting documents).
- ac.ke - Institutes of Higher Education (provide supporting documents).
- sc.ke - lower and middle level institutes of learning (provide supporting documents)
- me.ke - for personalized emails and sites
- mobi.ke - for mobile content
- info.ke - for information providers

3. Submit your user and domain name (email) registration request to Kenya Network Information Centre-KENIC. Ensure you also submit the following:

- The name and contact information (including email address, physical address and contact phone number) for the domain's registrant, administrative and billing contacts.
- The desired domain registration terms
- Payment information

4. The registrar will then send your domain name request, and the contact and technical information of the domain name to the registry.

5. The registry then files the contact information. The registry also adds your domain zone files to the master servers. These master servers tell other servers on the Internet where your website is stored.

6. Your domain is considered registered and ready-to-use when all information has been updated.



- In this unit we have looked at the internet as a source of education resources.
- We have learnt some common terms associated with the internet and how to use web browsers.
- We have also learnt some search strategies for information from the internet using search engines.
- In addition we have learnt how to use email for communication purposes.