Republic of the Philippines
Department of Education
REGION III
SCHOOLS DIVISION OFFICE OF NUEVA ECIJA

LEARNING ACTIVITY SHEET
SPECIAL PROGRAM IN ICT 7
OFFICE PRODUCTIVITY 7
First Quarter, Week 9

Introduction to the Internet

Name of Learner: _____ Date: _____

Grade Level /Section: _____

BACKGROUND INFORMATION FOR LEARNERS

Internet is the predominantly computer network in the world. This computer network which is often called the *Net, the Information Superhighway or Cyberspace*, is a worldwide interconnection with the use of standard Internet Protocol serving its billions of users. Nevertheless, it is a kind of world and lifestyle changer that almost anything is under the sun.

HISTORY OF THE INTERNET

When connected to the Internet, network allows sharing of information, supporting electronic communication, and/or exchanging of file. Exchanging and transferring of data and information in the Internet are extensively use through downloading and uploading.

Downloading refers as receiving information from another computer while *uploading* is sending off information to another computer over the net.

The origin of the internet was first commissioned by the United States Federal Government in the 1960s using computer networks. It was then in 1969 when the U.S. Defense Department's Advanced Research Projects *Agency Network* (ARPANET) first developed protocols for the internet use.

The Transmission Control Protocol (TCP/IP) was established by *Robert E. Kahn* and *Vinton Gray "Vint" Cerf* (known as the Father of Internet) in the 1970s and became the standard networking protocol.

In early 1980s, the *NSF* was funded establishing the national supercomputing centers at selected universities providing interconnectivity that leads to supercomputer sites access in the US.

In 1980s, the research of British computer scientist *Tim Berners-Lee* at CERN in Switzerland give rise to the World Wide Web that link hypertext documents into information system.

Later in the mid-1990s, the Internet had a groundbreaking impact on beliefs, business, and technology.

At present, the Internet continually grows focusing on accessible information, social networking, commerce, and entertainment.

BRIEF HISTORY OF THE INTERNET'S EVOLUTION

Source: https://www.livescience.com/20727-internet-history.html

1965	Two computers at MIT Lincoln Lab communicate with one another using packet-switching technology. *Ted Nelson* coins the word Hypertext in the publication Literary Machines.
1968	*Bolt, Beranek* and *Newman, Inc.* (BBN) unveils the final version of the Interface Message Processor (IMP) specifications. BBN wins ARPANET contract.
1969	On Oct. 29, UCLA's Network Measurement Center, Stanford Research Institute (SRI), University of California-Santa Barbara and University of Utah install nodes. The first message is "LO," which was an attempt by student *Charles Kline* to "LOGIN" to the SRI computer from the university. However, the message was unable to be completed because the SRI system crashed. The beginning of the Internet: ARPANET commissioned by DoD for research into networking.
1971	People first communicate over a network 15 nodes (23 hosts) on ARPANET. *Ray Tomlinson* invented e-mail.
1972	BBN's Ray Tomlinson introduces *network email*. The Internetworking Working Group (INWG) forms to address need for establishing standard protocols. First public demonstration of ARPANET, connecting 40 machines.
1973	Global networking becomes a reality as the University College of London (England) and Royal Radar Establishment (Norway) connect to ARPANET. The term *Internet* is born.
1974	The first Internet Service Provider (ISP) is born with the introduction of a commercial version of ARPANET, known as *Telenet*.
1976	*Queen Elizabeth II* hits the "send button" on her first email.
1979	*USENET* forms to host news and discussion groups.
1980	*Tim Berners-Lee* writes a notebook program, "*Enquire-Within-Upon-Everything*", which allows links to be made between arbitrary nodes. Each node had a title, a type, and a list of bidirectional typed links.
1981	The *National Science Foundation* (NSF) provided a grant to establish the Computer Science Network (CSNET) to provide networking services to university computer scientists.
1982	Transmission Control Protocol (TCP) and Internet Protocol (IP), as the protocol suite, commonly known as TCP/IP, emerge as the protocol for ARPANET. This results in the fledgling definition of the Internet as connected TCP/IP internets. TCP/IP remains the standard protocol for the Internet. The word "Internet" (short for *interconnected networks*) is used for the first time. Invention of Transmission Control Protocol/Internet Protocol (TCP/IP), making it possible to exchange information between many of different subnetworks
1983	The Domain Name System (DNS) establishes the familiar *.edu, .gov, .com, .mil, .org, .net,* and *.int* system for naming websites. This is easier to remember than the previous designation for websites, such as 123.456.789.10.
1984	*William Gibson*, author of "Neuromancer," is the first to coin the term "*cyberspace*".
1985	*Symbolics.com*, the website for Symbolics Computer Corp. in Massachusetts, becomes the first registered domain.

1986	The National Science Foundation's *NSFNET* goes online to connected supercomputer centers at 56,000 bits per second — the speed of a typical dial-up computer modem. Over time the network speeds up and regional research and education networks, supported in part by NSF, are connected to the NSFNET backbone — effectively expanding the Internet throughout the United States.
1987	The number of hosts on the Internet exceeds 20,000. *Cisco* ships its first router.
1989	*World.std.com* becomes the first commercial provider of dial-up access to the Internet.
1990	*Tim Berners-Lee*, a scientist at CERN, the European Organization for Nuclear Research, develops *HyperText Markup Language* (HTML). Tim Berners-Lee starts work on a global hypertext system, GUI browser / editor using the NeXTStep development environment. He makes up "*WorldWideWeb*" as a name for the program.
1991	CERN introduces the World Wide Web to the public. On *6 August 1991*, the World Wide Web became publicly available. Its creator, the now internationally known Tim Berners-Lee, posted a short summary of the project on the *alt.hypertext* newsgroup and gave birth to a new technology that would fundamentally change the world, as we knew it. First (text only) web browser available. First Web server installed outside of Europe.
1992	The first audio and video are distributed over the Internet. The phrase *"surfing the Internet"* was popularized. Tim Berners-Lee posts the first photo of the band *"Les Horribles Cernettes"* on the Web.
1993	The number of websites reaches 600; the White House and United Nations go online. *Marc Andreesen* develops the *Mosaic* Web browser. The number of computers connected to NSFNET grows from 2,000 in 1985 to more than 2 million in 1993. The National Science Foundation leads an effort to outline a new Internet architecture that would support the burgeoning commercial use of the network.
1994	*Netscape Communications* is born. Microsoft creates a Web browser for Windows 95. *Yahoo!* is created by Jerry Yang and David Filo, two electrical engineering graduate students at Stanford University. The site was originally called *"Jerry and David's Guide to the World Wide Web."* The company was later incorporated in March 1995.
1995	*Compuserve, America Online* and *Prodigy* begin to provide Internet access. Amazon.com, Craigslist and eBay go live. The original NSFNET backbone is decommissioned as the Internet's transformation to a commercial enterprise is largely completed. The first online dating site, *Match.com*, launches.
1996	The browser war, primarily between the two major players Microsoft and Netscape, heats up. *CNET* buys tv.com for $15,000. A 3D animation dubbed *"The Dancing Baby"* becomes one of the first viral videos.
1997	*Netflix* is founded by *Reed Hastings* and *Marc Randolph* as a company that sends users DVDs by mail. PC makers can remove or hide Microsoft's Internet software on new versions of Windows 95, thanks to a settlement with the Justice Department. Netscape announces that its browser will be free.
1998	The *Google search* engine is born, changing the way users engage with the Internet. The Internet Protocol version 6 introduced, to allow for future growth of Internet Addresses.
1999	*AOL* buys Netscape. Peer-to-peer file sharing becomes a reality as Napster arrives on the Internet, much to the displeasure of the music industry.
2000	The dot-com bubble bursts. Web sites such as *Yahoo!* and *eBay* are hit by a large-scale denial of service attack, highlighting the vulnerability of the Internet. AOL merges with Time Warner.
2001	A federal judge shuts down *Napster*, ruling that it must find a way to stop users from sharing copyrighted material before it can go back online.

2003	The *SQL Slammer* worm spread worldwide in just 10 minutes. Myspace, Skype and the Safari Web browser debut. The blog publishing platform WordPress was launched.
2004	*Facebook* goes online and the era of social networking begins. Mozilla unveils the Mozilla Firefox browser.
2005	*YouTube.com* launches. The social news site Reddit is also founded.
2006	AOL changes its business model, offering most services free and relying on advertising to generate revenue. The Internet Governance Forum meets for the first time. Twitter launches The Company's founder, *Jack Dorsey*, sends out the very first tweet: "just setting up my twitter."
2009	The Internet marks its *40th anniversary*.
2010	Facebook reaches 400 million active users. The social media sites *Pinterest* and *Instagram* are launched.
2011	Twitter and Facebook play a large role in the Middle East revolts.
2012	President Barack Obama's administration announces its opposition to major parts of the *Stop Online Piracy Act* and the *Protect Intellectual Property Act*.
2013	*Edward Snowden*, a former CIA employee and National Security Agency (NSA) contractor, reveals that the NSA had in place a monitoring program capable of tapping the communications of thousands of people, including U.S. citizens.
2015	*Instagram*, the photo-sharing site, reaches 400 million users, outpacing Twitter, which would go on to reach 316 million users by the middle of the same year.
2016	Google unveils *Google Assistant*, a voice-activated personal assistant program, marking the entry of the Internet giant into the "smart" computerized assistant marketplace. Google joins Amazon's Alexa, Siri from Apple, and Cortana from Microsoft.

INTERNET PROTOCOL (IP)

Internet Protocol is a set of rules that manage data communication and it defines what is communicated, how is it communicated, and when it is communicated. It provides a standard set of rules for sending and receiving data over the Internet. It also allows devices running to communicate with each other as long as they are connected to the Internet.

The main purpose and task of IP is to deliver data from the source host (source computer) to the destination host (receiving computer) according to their addresses. Messages are exchange through *data packets*. Data packet is a unit of data made into a package that transport with given network path.

TYPES OF INTERNET PROTOCOLS

Web is unique in several ways in retrieving information from the Net. These types of Internet connections are known as *protocols*.

1. Transmission Control Protocol/ Internet Protocol (TCP/IP)

It is a standard Internet communications protocols that allow digital computers to communicate over long distances. To connect with the rest of a TCP/IP based network, each computer or other network must have a unique IP address.

Two ways to configure TCP/IP Setting of computer:

- Dynamic Host Configuration Protocol (DHCP) - is a client/server protocol that provides automatically an *IP* host with its IP address, subnet mask and default gateway.
- Static IP address - is an IP address that is manually configured for a device. It is static because it cannot be changed.

2. Hypertext Markup Language (HTML)

It is a coding system used to make web pages. The browser does not show HTML. Rather, HTML tells the browser what to show, where to show it, and where to display the hypertext links and input forms.

3. Hypertext Transfer Protocol (HTTP)

Hypertext Transfer Protocol is used in transferring data over the internet and transmitting webpage data; and is using a server-client model.

The HTTP server is usually a web server software run by the web host. Once a website had been access, the browser will send request to the web server and it will respond with HTTP status code. Provided that the URL is valid and the connection is granted, the server sends to the browser the webpage and the related file.

A client may be a laptop, a mobile device, or a computer.

4. Simple Mail Transfer Protocol (SMTP)

It is used in sending and receiving e-mail on business networks and the Internet. SMTP was initially developed in the early 1980s and remains one of the most popular protocols in use worldwide.

Email software mostly uses SMTP for sending and either the Post Office Protocol 3 (POP3) or the Internet Message Access Protocol (IMAP) protocols for receiving mail. Despite its age, no real alternative to SMTP exists in mainstream usage.

LEARNING COMPETENCIES

1. To understand the concepts and underlying principles of how internet developed.
2. To identify the main functions of Internet Protocols.

ACTIVITIES

ACTIVITY 1

***Directions*:** Match the notable history in Internet's evolution in Column A to its corresponding timeline in Column B. Write only the letter of the answer on the space provided for.

A	B
_____1. Facebook goes online.	a. 1965
_____2. Google search engine is born.	b. 1971
_____3. E-mail was invented.	c. 1974
_____4. The DNS established .edu, .com, etc.	d. 1983
_____5. Telenet was born.	e. 1984
_____6. Youtube.com launched.	f. 1994
_____7. Instagram reaches 400 million users.	g. 1998
_____8. Yahoo was created by Jerry Yang and David Filo.	h. 2004
_____9. Cyberspace was first coined.	i. 2005
____10. Hypertext was used in the literary Machines' publication.	j. 2010
	k. 2015
	l. 2017

ACTIVITY 2

***Directions*:** To deepen your understanding with regards to Internet Protocols, view the video using the URL below:

https://youtu.be/znIjk-7ZuqI

After watching the video, answer the following questions:

1. How do different Internet Protocols work?

_____

_____

_____.

2. Why are Internet Protocols important in sending and receiving data over the Internet?

_____
_____
_____.

3. What network protocols do you use?

_____
_____
_____.

REFLECTION

Nowadays, with a blink of an eye internet technology emerges so fast. How does internet affect one's insight about technology and lifestyle?

_____
_____
_____.

REFERENCES FOR LEARNERS

Amoto Jr. T., et al. (2004). *HTML*. Book Craft Publishing Co., Inc., Quezon City.

https://www2.ed.gov/pubs/OR/ConsumerGuides/internet.html

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KEY TO CORRECTIONS

ACTIVITY 1

1. H
2. G
3. B
4. D
5. C
6. I
7. K
8. F
9. E
10. A