W1	Learning Area	Computer Systems Servicing	Grade Level	10
	Quarter	3	Date	

I. LESSON TITLE	OHS Policies and Procedures
II. MOST ESSENTIAL LEARNING COMPETENCIES (MELCs)	Install network cables **TLE_IACSS9-12SUCN-IVa-j-33**
III. CONTENT/CORE CONTENT	1.1 Follow OHS policies 1.2 Use appropriate PPE References: Computer Hardware Servicing –Grade 9 Learner's Material First Edition, 2013, pages 180-181 Computer Hardware Servicing –Grade 10 Learner's Material First Edition, 2014, pages 83-85

IV. LEARNING PHASES	Suggested Timeframe	Learning Activities
A. Introduction ***Panimula***	30 minutes	**Presentation** As an aspiring computer technician, you should be aware of all possible dangers in the workplace. It is a must to follow proper procedures for handling computer equipment. Failure to follow the prescribed safety procedures could result in fines, criminal convictions, and damage to equipment, claims for damage from the owner of the property and data, injury, or death. A. List at least five (5) **general safety precautions** when working with computers and other computer related tools and equipment. 1. 2. 3. 4. 5. B. List at least five (5) **safety precautions related to networks** you already know. 1. 2. 3. 4. 5. To keep you safe, this learning packet provides the safety precautions related to networks.
B. Development ***Pagpapaunlad***	1 hour	Read and understand the **INFORMATION SHEET-OHS POLICIES AND PROCEDURES** through bit.ly/3ulaIEH and answer the activity below: **Learning Activity 1: True or False** Directions. Identify whether each statement is True or False. If False, write its effects

STATEMENT	TRUE OR FALSE	EFFECTS
1. A safe workplace is clean, organized and well-lit.		
2. Watch what you are doing, and take your time.		
3. Wear your safety glasses sometimes when cutting, stripping or splicing cables		
4. It is best practice that a fire extinguisher and first aid kit be available.		
5. Wear gloves whenever possible and dispose any waste properly		
6.Do not read on labels on the		

		ladder, and follow any safety instructions written on it.		
		7. Never stand on the top rung of the ladder, and follow any safety instructions on it.		
		8. Make sure that people in the area don't have the idea that you will be working there.		
		9. Cordon off the area with caution tape or safety cones.		
		10. Make sure that the tools you are using are in good condition.		
C. Engagement ***Pakikipagpalihan***	1 hour and 30 minutes	Safety signs are a type of sign designed to warn of hazards, indicate mandatory actions or required use of Personal protective equipment, prohibit actions or objects, identify the location of firefighting or safety equipment, or marking of exit routes. Safety signs can be a tricky business. Some have words and a clear message, while many rely on visual symbols to warn of potential danger. This is also an effective way to communicate potential hazards – as long as workers understand what the symbols mean. Examples of which are the following.  https://www.google.com/search?q=safety+signs+in+the+workplace&source=lnms&tbm=isch&sa=X&ved=2ahUKEwjovJOgk_ruAhWsIqYKHeR2BocQ_AUoAXoECB8QAw#imgrc=27dfaR5_2_ZAVM On the next activity, you will create your own sign or representation of one of the safety precautions related to networks listed on the information sheet. **Learning Activity 2. Draw it!** Directions. Choose one (1) safety precaution related to networks from the information sheet and create your own sign or representation of it. *(sign/representation)* *(safety precaution related to network)* Personal Protective Equipment are gadgets, clothing or equipment that protect the workers from illness or injury that can be caused by different hazards/risks To recall concepts about PPE, watch the video clip through bit.ly/37BYUUI		

After reading the information sheet and watching the video clip, you are now able to identify the appropriate PPE one must wear in installing network cables.

Learning Activity 3. Draw and Tell

Directions: Identify at least three (3) appropriate PPE to wear/use when installing network cables. Write the name of the PPE on the first column, the illustration of the PPE on the second column and the importance of wearing/using it on the third column.

NAME OF PPE	ILLUSTRATION	IMPORTANCE
1.		
2.		
3.		

D. Assimilation
Paglalapat

1 hour

To synthesize your learned information based on the given content and relate your learned concepts to your personal life, you will do the next activity.

Learning Activity 4. Acrostic

Directions. Utilizing the concepts learned from the lesson, make an acrostic of the word SAFETY.

S –

A –

F –

E –

T –

Y –

V. ASSESSMENT

(Learning Activity Sheets for Enrichment, Remediation or Assessment to be given on Weeks 3 and 6)

Directions: Write **T** if the statement is correct and **F** if otherwise.

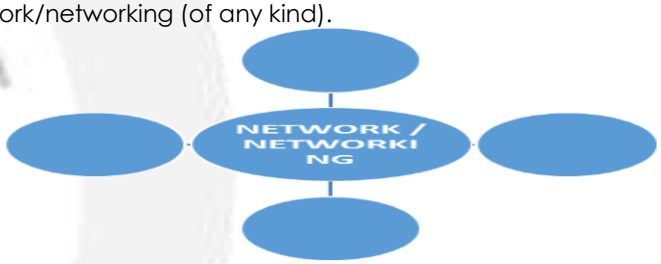
_____1. Installing network cables, whether copper or fiber optic, can be dangerous.
_____2. You should wear clothing such as miniskirts, short sleeved shirt when working with toxic materials.
_____3. A safe workplace is clean, organized and well-lit.
_____4. Wear safety glasses if possible.
_____5. Never stand on the top rung of the ladder. You could easily lose your balance and fall.
_____6. No one should know that you will be working in your area.

		_____7. Cordon off the area with caution tape or safety cones. _____8. Wear gloves whenever possible, and dispose any waste properly. _____9. You should handle solvents and glues used with fiber optics with utmost care. _____10. Keep your working tools in safe place. _____11. The process of cutting and trimming the strands of fiber-optic cables can produce tiny fragments of glass that can penetrate your eyes. _____12. You should keep the work area full of clutter. _____13. Use tape to pick up small fragments and dispose them off properly. _____14.Use special detectors to help you tell if a fiber is energized. _____15. Make it sure that fire extinguisher and first aid kit be available in a workplace.
VI. REFLECTION		Write your personal insights about the lesson using the prompts below. I understand that _____. I realize that _____. I need to learn more about _____.

Prepared by:	Jayson V. Nuñez/Roger C. Maldia	**Checked by:**	Florinda C. Gagasa

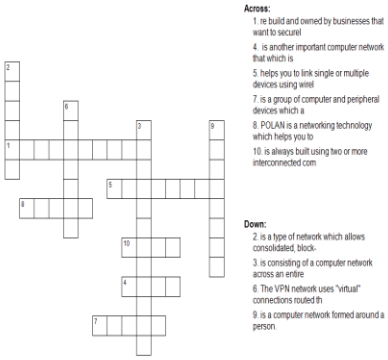
W2	Learning Area	Computer Systems Servicing	Grade Level	10
	Quarter	3	Date	

I. LESSON TITLE	Networking Concepts Networking Devices, Media and Connectors
II. MOST ESSENTIAL LEARNING COMPETENCIES (MELCs)	Install network cables **TLE_IACSS9-12SUCN-IVa-j-33**
III. CONTENT/CORE CONTENT	1.1 Identify necessary network materials in accordance with established procedures and check against system requirements 1.2 Obtain necessary network materials in accordance with established procedures and check against system requirements Reference: Computer Hardware Servicing –Grade 10 Learner's Material First Edition, 2014, pages 85-89

IV. LEARNING PHASES	Suggested Timeframe	Learning Activities
A. **Introduction** ***Panimula***	1 hour	**Presentation** To make data transmission more extensible and efficient than a simple peer-to-peer network, network designers use specialized network devices to send data between devices. This Learning Packet will provide you the knowledge on the common networking concepts and networking devices, media, and connectors that are essential in putting up a network. A. Using the concept map below, give terms/phrases that can be associated with network/networking (of any kind).  B. To know some of the basic concepts of computer network, watch the video clip through https://www.youtube.com/watch?v=95_36NgiaMY , then answer the following questions. 1. What is a computer network? 2. What is the main purpose of a computer network? 3. How computers are connected in a network?
B. **Development** ***Pagpapaunlad***	1 hour	There are various types of computer networks available. We can categorize them according to their size as well as their purpose. The size of a network should be expressed by the geographic area and number of computers, which are a part of their networks. It includes devices housed in a single room to millions of devices spread. To fully understand the various types of computer networks, read and understand the information on https://www.guru99.com/types-of-computer-network.html, then answer Learning Activity 1. **Learning Activity 1: CROSSWORD PUZZLE** Directions. Complete the crossword puzzle using the hints/clues below. **ACROSS** 1. _____private networks are built and owned by businesses that want to securely connect numerous locations in order to share various computer resources. 4. _____ Area Network is another important computer network that which is spread across a large geographical area 5. _____ local area network that helps you to link single or multiple devices using

7. _____ Area Network is a group of computer and peripheral devices which are connected in a limited area
8. _____ is a networking technology that helps you to integrate into structured cabling
10. _____ Area Network is always built using two or more interconnected computers to form a local area network (LAN) within the home

DOWN
2. _____ Area network is a type of network that allows consolidated, block-level data storage
3. _____ Area Network is consisting of a computer network across an entire city, college campus, or a small region
6. The VPN network uses _____ connections routed through the internet from the enterprise's private network or a third-party VPN service to the remote site.
9. _____ Area Network is a computer network formed around a person



Until recently, cables were the only medium used to connect devices on networks. A wide variety of networking cables are available

To familiarize oneself with the common network cables, read and understand the COMMON NETWORK CABLES – INFORMATION SHEET through https://drive.google.com/file/d/1x2hK4P1YQs3-0BADQ3aJCmJRVNXBTOpx/view?usp=sharing, then answer Learning Activity 2.

Learning Activity 2: MATCH IT!
Directions. Match the description in Column A with the type of network cables in Column B.

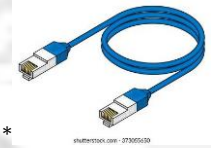
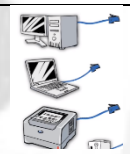
COLUMN A	COLUMN B
1. a glass or plastic conductor that transmits information using light 2. each pair of wire is wrapped in metallic foil to better shield the wires from noise 3. a type of copper cabling that is used for telephone communications and most Ethernet networks 4. is a copper-cored cable surrounded by a heavy shielding. 5. is the cable that has two or four pairs of wires.	A. coaxial cable B. twisted pair cable C. unshielded twisted pair cable D. shielded twisted pair E. fiber-optic cable

C. **Engagement**
Pakikipagpalihan

1 hour

Networking is connecting computers together so that they can share data with each other and connect to the internet at the same time. For networking to take place, there are several devices needed. To know more of these devices and how networking takes places among these devices, watch the video through https://www.youtube.com/watch?v=EWTJKcg7Pj8

Learning Activity 3. NAME IT!
Directions. Name the networking devices below and give its functions.

ILLUSTRATION	NAME	FUNCTION/S OR USE/S
A. 		
B. 		
C. 		
D. * 		
E. 		

Photos used are screenshots from the video in https://www.youtube.com/watch?v=EWTJKcg7Pj8
** www.shutterstock.com*

D. **Assimilation**
Paglalapat

1 hour

To synthesize your learned information based on the given content you will do the next activity.

Learning Activity 4. DRAW AND TELL
Directions. Draw/Illustrate a basic diagram or representation showing the networking process. Then, provide a brief explanation how the devices affect each other and how networking takes place.

DRAWING / ILLUSTRATION

EXPLANATION:

		_____ _____ _____ _____ _____ _____ _____ _____ _____
V. ASSESSMENT (Learning Activity Sheets for Enrichment, Remediation or Assessment to be given on Weeks 3 and 6)		**I. TRUE OR FALSE** Directions: Write **BRAIN** if the statement is correct and **DRAIN** if otherwise. _____1. A network is an interconnected group of computers. _____2. A switch has a small little computer inside that identifies all of the computer and devices on a network. _____3. LAN is a computer network formed around a person. _____4. Networking connecting computers together so that they can share data with each other and connect to the internet at the same time _____5. Coaxial cable fiber-optic cable is not affected by EMI or RFI. This means that it can deliver clearer signals, and can go farther, without compromising the clarity of signals. **II. MULTIPLE CHOICE** Directions: Choose the letter of the correct answer. 6. It is a device usually provided by Internet Service Providers to connect to the internet. A. switch B. hub C. modem D. switch 7. It is a type of computer network which is spread across a large geographical area. A. PAN B. LAN C. WAN D. MAN 8. Which of the following is NOT true about networking cables? A. Networking cables are used to connect one network device to other network devices or to connect two or more computers to share a printer, scanners etc. B. Shielded twisted pair relies solely on the cancellation effect produced by the twisted-wire pairs that limits signal degradation caused by electromagnetic interface (EMI) and radio frequency interference (RFI C. Categories of UTP are based on the number of wires in the cable and the number of twists in those wires D. UTP cables have a range of 328 feet (100 m). 9. It is a private network which uses a public network to connect remote sites or users together. A. Wireless Local Area Network B. Campus Area Network C. Virtual Public Network D. Virtual Private Network 10. It is a coaxial cable used in networks operating at 10 Mbps, with a maximum length of 185 meters. A. Thicknet (10BASE5) B. Thinnet (10BASE2) C. RG-59 D. RG-6
VI. REFLECTION		Write your personal insights about the lesson using the prompts below. I understand that _____. I realize that _____. I need to learn more about _____.

Prepared by:	Jayson V. Nuñez/Roger C. Maldia	**Checked by:**	Florinda C. Gagasa

W3	Learning Area	Computer Systems Servicing	Grade Level	10
	Quarter	3	Date	

I. LESSON TITLE	Ethernet Cabling
II. MOST ESSENTIAL LEARNING COMPETENCIES (MELCs)	Install network cables **TLE_IACSS9-12SUCN-IVa-j-33**
III. CONTENT/CORE CONTENT	1.1 Obtain tools, equipment, and testing devices in accordance with established procedures 1.2 Check tools, equipment, and testing devices in accordance with established procedures 1.3 Perform copper cable splicing based on Electronic Industries Alliance / Telecommunications Industry Association (EIA/TIA) standards 1.4 Follow OHS standards and 5S principles according to enterprise standards Reference: Computer Hardware Servicing –Grade 10 Learner's Material First Edition, 2014, pages 85-92

IV. LEARNING PHASES	Suggested Timeframe	Learning Activities
A. **Introduction** ***Panimula***	1 hour	**Presentation** Ethernet cabling has been the standard in networking installation for years. It is the fastest way of connecting a PC to a peer or to your router or a central switch. This Learning Packet will provide you the materials, tools and testing devices used, and the procedures in creating an Ethernet cable specifically straight-through and cross-over. A. To see how much do you know about the materials, tools and testing devices used in Ethernet cabling, try to name the following:

1. _____  http://bit.ly/2Qdjghn

2. _____  http://bit.ly/3ttLxyt

3. _____  http://bit.ly/3bRq9E2

3. _____  http://bit.ly/3qVNmT0

5. _____  http://bit.ly/3bW0EuO

Learning Activity 1. SPOT THE DIFFERENCE
To familiarize oneself with the two types of ethernet cables, the straight-through and cross-over cable, read and understand the information on bit.ly/2P9cqZN then complete the table below.

STRAIGHT-THROUGH CABLE	DIFFERENCE IN TERMS OF:	CROSS-OVER CABLE
	USES/FUNCTIONS	
	COLOR SEQUENCE/COMBINATION OF TWO ENDS	

B. **Development**
Pagpapaunlad

1 hour

Purchasing Ethernet cables can be quite expensive and pre-made lengths are not always the length you need. It will be beneficial to know how to make one.

To know how to fabricate a straight-through and a cross-over cable, read and understand the information on https://www.groundcontrol.com/galileo/ch5-ethernet.htm. You may also consider watching the video on https://www.youtube.com/watch?v=UFlqNQsjYCs for the actual steps.

Learning Activity 2: USE IT!

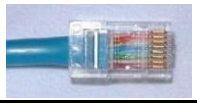
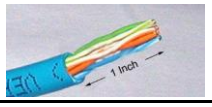
Directions. Based on the learned information from the links, identify the following materials, tools and testing device. then give its function/s or use/s.

ILLUSTRATION	NAME AND FUNCTION/S OR USE/S
1.  http://bit.ly/2Qdighn	
2.  http://bit.ly/3ttLxyt	
3.  http://bit.ly/3bRq9E2	
4.  http://bit.ly/3qVNmT0	
5.  http://bit.ly/3bW0EuO	

Learning Activity 3: ARRANGE THE STEPS

Directions. Consider that you will make your own Ethernet cable, rearrange the following steps, then match the illustration that best describes the step.

A. Pinch the wires between your fingers and straighten them out as
B. Take a view from the top. Make sure the wires are all the way in. There should be no short wires.
C. Unwind and pair the similar colors.
D. Crimping the Cable – carefully place the connector into the Ethernet Crimper and cinch down on the handles tightly
E. Cut into the plastic sheath 1 inch from the end of the cut cable
F. Make sure to test the cables before installing them
G. Push the wires into the connector. Each wire fits into a slot in the RJ45 connector. Note the position of the blue plastic shielding. Also, note how the wires go all the way to the end.

A.	B.	C.	D.
			

		E.  F.  G.  *All photos used in Learning Activity 3 were retrieved from https://www.groundcontrol.com/galileo/ch5-ethernet.htm* **STEPS** / **ILLUSTRATION** STEP 1 STEP 2 STEP 3 STEP 4 STEP 5 STEP 6 STEP 7
C. **Engagement** ***Pakikipagpalihan***	1 hour	Proper use of tools and devices leads to better results. The next activity will ask you to enumerate the steps in using the crimping tool and cable tester. **Learning Activity 3. ENUMERATE THE STEPS** Directions. Enumerate the steps in using a crimping tool and a cable tester. Refer to the steps in the box for your answer. Power on the tester. Squeeze the tool very lightly and release Plug the network cable into the appropriate slot of the tester. Place/Insert the connector into the crimping portion of the tool Squeeze the tool for a second time to make sure that all the pins are pushed down on the connector. Read the report from the tester. Steps in Using a Crimping Tool 1. 2. 3. Steps in Using a Cable Tester 1. 2. 3. In fabricating an Ethernet cable, whether straight-through or cross-over, one must consider some important points to remember and strictly observe and follow necessary precautions. **Learning Activity 4: LIST IT!** Directions. Give at least five (5) points to remember or safety precautions when making an Ethernet cable. 1. 2. 3. 4. 5.
D. **Assimilation** ***Paglalapat***	1 hour	5S is a system for organizing spaces so work can be performed efficiently, effectively, and safely. This system focuses on putting everything where it belongs and keeping the workplace clean, which makes it easier for people to do their jobs without wasting time or risking injury. To recall concepts about 5S, read the information on https://www.graphicproducts.com/articles/what-is-5s/

Learning Activity 5. APPLY IT!

Directions. Think of specific ways/situations/scenarios where 5S can be applied in fabricating cables and in CSS in general.

5S	SPECIFIC WAYS/SITUATIONS
SEIRI/SORT	
SITON/SET IN ORDER	
SEISO/SHIINE	
SEIKETSU/STANDARDIZE	
SHITSUKE/SUSTAIN	

V. ASSESSMENT

(Learning Activity Sheets for Enrichment, Remediation or Assessment to be given on Weeks 3 and 6)

I. TRUE OR FALSE

Directions: Write **BREAD** if the statement is correct and **BREED** if otherwise.

_____1. An Ethernet cable is a network cable used for high-speed wired network connections between two devices.

_____2. Cross-over cable is a type of CAT5 with RJ-45 connectors at each end, and each has the same pinout.

_____3. A network cable is made of eight-pair cable, which is consists of twisted pair conductors

_____4. Crossover cable is used to connect two devices of the same type.

_____5. Cutting into the plastic sheath about 1 inch from the end of the cut cable is the first step in fabricating an Ethernet cable.

II. MULTIPLE CHOICE

Directions: Choose the letter of the correct answer.

6. What device is used to test the validity and accuracy of a network cable?
A. RJ 45 C. LAN tester
B. crimping tool D. UTP cable

7. The standard connector for unshielded twisted pair cabling is _____
A. RJ 45 C. LAN tester
B. crimping tool D. UTP cable

8. What tool is designed to remove the protective covering (jacket) off of a cable to expose the inner wires
A. soldering tool C. LAN tester
B. crimping tool D. wire stripper

9. What device is used to conjoin two pieces of metal by deforming one or both of them in a way that causes them to hold each other.
A. soldering tool C. LAN tester
B. crimping tool D. wire stripper

10. What S in the 5S principle has something to do with removing unnecessary things in the workplace?
A. Seiri C. Seiso
B. Seiton D. Seiketsu

VI. REFLECTION

Write your personal insights about the lesson using the prompts below.

I understand that _____.
I realize that _____.
I need to learn more about _____.

Prepared by:	Jayson V. Nuñez/Roger C. Maldia	**Checked by:**	Florinda C. Gagasa

W4	Learning Area	TLE-Computer Systems Servicing	Grade Level	10
	Quarter	3	Date	

I. LESSON TITLE	Network Design and Topology
II. MOST ESSENTIAL LEARNING COMPETENCIES (MELCs)	LO 2: Set network configuration **TLE_IACSS9-12SUCN-Ia-e-34** 2.1 Check network connectivity of each terminal in accordance with network design
III. CONTENT/CORE CONTENT	• network cables • cable raceways/ducts • network design • network topology Reference: Computer Hardware Servicing –Grade 10 Learner's Material First Edition, 2014, pages 123, 135

IV. LEARNING PHASES	Suggested Timeframe	Learning Activities
A. Introduction ***Panimula***	45 minutes	Networking is connecting computers together so that they can share data with each other and connect to the internet at the same time. Until recently, cables were the only medium used to connect devices on networks. A wide variety of networking cables are available. On Week 2, you already learned some of the cables used in networking. Let us see how much do you remember by doing Preliminary Activity A. **Preliminary Activity** A. List down the different network cables. Write your answer on a sheet of paper. 1. 2. 3. 4. There are several types of networks that are briefly explained on the previous weeks. Let us see how much you can recall about it by doing Preliminary Activity B. B. Look for the different types of networks hidden in the puzzle below. Write your answers on a sheet of paper.

Q	P	V	E	Z	X	P	U	G	W	C	J	H	N	F
O	S	W	I	R	E	L	E	S	S	L	O	C	A	L
H	I	N	U	R	I	B	Q	L	O	C	A	L	F	M
L	R	K	V	Y	T	S	C	E	D	I	W	Y	E	V
Y	O	I	R	W	M	U	G	Y	A	L	Q	T	P	O
Z	S	L	D	E	X	P	A	T	E	H	R	E	R	Q
X	O	N	T	S	D	M	N	L	W	O	N	X	P	F
E	J	S	X	R	B	A	E	B	P	T	A	S	I	X
C	Y	Z	E	F	W	C	V	L	E	I	C	N	M	N
S	T	K	B	G	N	F	O	R	W	P	V	S	L	G
I	G	S	Z	V	A	I	P	Q	G	E	U	W	V	D
N	M	C	W	D	T	R	P	E	R	S	O	N	A	L
E	J	F	H	A	I	X	O	F	U	C	X	R	Y	O
I	R	B	N	S	P	W	M	T	V	K	T	I	B	G
U	P	Z	E	R	D	E	A	Z	S	D	S	U	R	M

1. _____Area Network	6. _____Area Network
2. _____Area Network	7. _____Area Network
3. _____Area Network	8. _____Area Network
4. _____Area Network	9. _____Private Network
5. _____Area Network	10. _____Private Network

<table>
<tr><th>IV. LEARNING PHASES</th><th>Suggested Timeframe</th><th>Learning Activities</th></tr>
<tr><td>B. Development
Pagpapaunlad</td><td>1 hour</td><td>
Network design refers to the planning of the implementation of a computer network infrastructure. It is generally performed by network designers, engineers, IT administrators and other related staff. It is done before the implementation of a network infrastructure. Network design involves evaluating, understanding and scoping the network to be implemented. The whole network design is usually represented as a network diagram that serves as the blueprint for implementing the network physically. Typically, network design includes the following:

Logical map of the network to be designed
Cabling structure
Quantity, type and location of network devices (router, switches, servers)
IP addressing structure
Network security architecture and overall network security processes

One of the most common network designs is the Local Area Network. It is a network that connects computers and devices in a limited geographical area such as a home, school, office building, or closely positioned group of buildings. Each computer or device on the network is a node. Local Area Network can be a peer-to-peer network or a client-server network.
In a peer-to-peer network, devices are connected directly to each other without any additional networking devices between them. In this type of network, each device has equivalent capabilities and responsibilities. Individual users are responsible for their own resources and can decide which data and devices to share. Because of that, the network has no central point of control or administration
In a client-server network, the server provides the requested information or service to the client. Servers on a client-server network commonly perform some of the processing work for client machines, such as sorting through a database before delivering only the records requested by the client.
To learn more about peer-to-peer and client-server network, watch the video through https://www.youtube.com/watch?v=3qRCxu9C_AI .

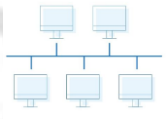
Learning Activity 1. LET'S COMPARE!
Directions. Compare the two types of Local Area Network in terms of design/lay-out, characteristics, advantages and disadvantages. Follow the matrix below for your answers. Write it on a sheet of paper.
<table>
<tr><th>PEER-TO-PEER NETWORK</th><th>POINT OF COMPARISON</th><th>CLIENT-SERVER NETWORK</th></tr>
<tr><td></td><td>PHYSICAL DESIGN/LAY-OUT</td><td></td></tr>
<tr><td></td><td>CHARACTERISTICS</td><td></td></tr>
<tr><td></td><td>ADVANTAGES</td><td></td></tr>
<tr><td></td><td>DISADVANTAGES</td><td></td></tr>
</table>
</td></tr>
<tr><td>C. Engagement
Pakikipagpalihan</td><td>1 hour and 15 minutes</td><td>
The layout of your network is important for several reasons. Above all, it plays an essential role in how and how well your network functions. Choosing the right topology for your organization's operational model can increase performance while making it easier to locate faults, troubleshoot errors, and more effectively allocate resources across the network to ensure optimal network health. A streamlined and properly managed network topology can increase energy and data efficiency, which can in turn help to reduce operational and maintenance costs.
The most common types of network topologies are the star, bus, ring, tree, mesh and hybrid topology. To know more about these types of network
</td></tr>
</table>

IV. LEARNING PHASES	Suggested Timeframe	Learning Activities

topologies, read and understand the information on https://www.dnsstuff.com/what-is-network-topology . You may also consider watching a video clip through https://www.youtube.com/watch?v=zbqrNg4C98U .

Learning Activity 2, NAME AND TELL!

Directions. Name the types of the following illustration of network topologies, Then, briefly tell the characteristics of each topology type. Write your answers on a sheet of paper.

ILLUSTRATION	NAME	CHARACTERISTICD
1.  www.dnsstuff.com		
2.  www.dnsstuff.com		
3.  www.dnsstuff.com		
4.  www.dnsstuff.com		
5.  www.dnsstuff.com		

In structuring a network, it is a must that cables are neatly organized in place to avoid accidents. In that case, cable raceways could be of great help. A cable raceway is a channel to run cables through, that mounts on a wall, or a desk, or some other surface, concealing wires or cables so your set-up looks nice and pretty.

To learn more about cable raceways, read and understand the information sheet through http://bit.ly/cableraceways .

Learning Activity 3. COMPLETE ME!

Directions. Complete the activity card by supplying the appropriate information/answers. Write your answers on a sheet of paper.

COMPLETE ME! CARD

Cable raceways are _____

_____

_____

Some examples of cable raceways are _____

_____

Cable raceways are important _____

_____

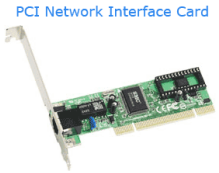
_____

IV. LEARNING PHASES	Suggested Timeframe	Learning Activities
D. Assimilation ***Paglalapat***	1 hour	To synthesize your learned information based on the given content you will do the next activity. **Learning Activity 4. DRAW AND TELL** Directions. On a sheet of paper, do one of the following. A. Draw a representation/model of a peer-to-peer network and briefly state its characteristics and advantage/s. B. Draw a representation/model of a client-server network and briefly state its characteristics and advantage/s. C. Draw the topology that you think is best for your network and briefly state the reason/s of your choice.
V. ASSESSMENT (Learning Activity Sheets for Enrichment, Remediation or Assessment to be given on Weeks 3 and 6)		**I. TRUE OR FALSE** Directions: Write **BRAIN** if the statement is correct and **DRAIN** if otherwise. Write your answers on a sheet of paper. 1. LAN is a network that connects computers and devices in a limited geographical area such as a home, school, office building, or closely positioned group of buildings. 2. In a client-server network, each device has equivalent capabilities and responsibilities. 3. Each computer or device on the network is a mode. 4. A raceway is any rigid enclosed or semi-enclosed channel that protects, routes and hides cables and wires. 5. A star topology is laid out so every node in the network is directly connected to one central hub via coaxial, twisted-pair, or fiber-optic cable. **II. MULTIPLE CHOICE** Directions: Choose the letter of the correct answer. 6. It is an intricate and elaborate structure of point-to-point connections where the nodes are interconnected. A. star topology C. ring topology B. tree topology D. mesh topology 7. It gets its name from how the central node functions as a sort of trunk for the network, with nodes extending outward in a branch-like fashion. A. star topology C. ring topology B. tree topology D. mesh topology 8. It is identifiable by its hinged or sliding cover that fully encloses the cables within the channel. A. latching raceway C. corner duct B. J channel D. wire guard 9. It is a type of topology with a simple layout, allowing all devices to be connected via a single coaxial or RJ45 cable. A. bus topology C. ring topology B. tree topology D. mesh topology 10. A topology that combines two or more different topology structures A. bus topology C. hybrid topology B. tree topology D. mesh topology
VI. REFLECTION		Write your personal insights about the lesson using the prompts below. I understand that _____. I realize that _____. I need to learn more about _____.

Prepared by:	Jayson V. Nuñez TLE-ICT-CY10-W4	**Checked by:**	Roger C. Maldia Mary Ann Q. Clanor Michael B. Zuniga

W5	Learning Area	TLE-Computer Systems Servicing	Grade Level	10
	Quarter	3	Date	

I. LESSON TITLE	Network Interface Card (NIC)
II. MOST ESSENTIAL LEARNING COMPETENCIES (MELCs)	LO 2: Set network configuration **TLE_IACSS9-12SUCN-Ia-e-34** 2.1 Configure Network Interface Card (NIC) in accordance with the network design
III. CONTENT/CORE CONTENT	Network Interface Card (NIC) settings Reference: Computer Hardware Servicing –Grade 10 Learner's Material First Edition, 2014, pages 114-122

IV. LEARNING PHASES	Suggested Timeframe	Learning Activities
A. Introduction ***Panimula***	1 hour	In one of the lessons in Grade 9, you already learned about expansion cards. An expansion card is a printed circuit board that can be inserted into an electrical connector, or expansion slot, on a computer motherboard, backplane or riser card to add functionality to a computer system via the expansion bus. To recall some of the common expansion cards that can be added to a computer, read and understand the information on https://www.computerhope.com/jargon/e/expacard.htm A. List down at least five (5) expansion cards that can be available to a computer. Write your answers on a sheet of paper. 1. 2. 3. 4. 5. This Learning Packet will focus on one of the expansion cards which is the network card. A network interface card (NIC) is a hardware component without which a computer cannot be connected over a network. It is a circuit board installed in a computer that provides a dedicated network connection to the computer. To learn more about network interface card, read and u information on http://bit.ly/NetworkInterfaceCard and http://bit.ly/NetInterCard then answer the questions on Learning Activity 1.  **Learning Activity 1. Q&A** Directions. Answer the following. Write your answers on a sheet of paper. 1. What are other names/terms for network interface cards? 2. What are the two types of network card 3. How does a computer with a network card connect to a network? 4. Where is a network card located in a computer?
B. Development ***Pagpapaunlad***	1 hour	A NIC is a computer expansion card for connecting to a network. But how can be sure of if your computer has a NIC? To know if your computer has a NIC installed in it, read the information on http://bit.ly/NICCheck . If a computer doesn't have a NIC, it is impossible for it to connect to a network. n that case, you must install a network interface card to enable the computer for your network. Installing a network interface card is a manageable task, but you have to be willing to roll up your sleeves. To know how to install a network card in your computer, read and understand the information on http://bit.ly/InstallingNIC. Yu may also consider watching the video through https://www.youtube.com/watch?v=7xbTDCclOn8 for the actual installation.

<table>
<tr><th>IV. LEARNING PHASES</th><th>Suggested Timeframe</th><th>Learning Activities</th></tr>
<tr><td></td><td></td><td>
Learning Activity 2. ARRANGE THE STEPS
Directions. Arrange the following steps. Use LETTERS to determine order of precedence. Write your answers on a sheet of paper.

A. identifying if your computer has an Ethernet/Network Interface Card (NIC)
___1. From your computer, click Start, then Control Panel.
___2. If an Ethernet card is listed, then YES, your NIC or PC card is installed.
___3. Select Network and Internet Connections icon.
___4. Select the Network Connections icon.
___5. Under LAN or High-Speed Internet category, look for the name of the Ethernet card (Tip: words like Ethernet adapter, Ethernet link, or LAN adapter may be contained in the card name).

B. Installing a Network Interface Card
___1. Assemble your materials.
___2. Find an unused expansion slot inside the computer.
___3. Insert the network interface card into the slot.
___4. Plug in the computer and turn it back on.
___5. Put the computer's case back together.
___6. Remove the cover from your computer.
___7. Remove the metal slot protector from the back of the computer's chassis.
___8. Secure the network interface card.
___9. Shut down Windows, turn off the computer and unplug it.
</td></tr>
<tr><td>C. Engagement
Pakikipagpalihan</td><td>1 hour and 15 minutes</td><td>
Windows usually detects the presence of a network adapter automatically; typically, you don't have to install device drivers manually for the adapter. When Windows detects a network adapter, Windows automatically creates a network connection and configures it to support basic networking protocols. You may need to change the configuration of a network connection manually, however.
To know more about configuring network connections for Windows, read and understand the information on http://bit.ly/ConfiguringNetworkConnections

Learning Activity 3. MATCH IT!
Directions. Match the description in Column A with the items on Column B. Write your answers on a sheet of paper.

<table>
<tr><th>COLUMN A</th><th>COLUMN B</th></tr>
<tr><td>1. Shows basic information about the adapter, such as the device type and status.
2. With this tab, you can inspect various properties of the adapter such as the date and version of the device driver.
3. It lets you set a variety of device-specific parameters that affect the operation of the adapter.
4. This item enables the client computer to communicate by using the version 4 standard TCP/IP protocol.
5. Choose this option if a DNS server isn't available.
6. Choose this option if your network has a DHCP server that assigns IP addresses automatically.</td><td>A. Advanced
B. Client for Microsoft Networks:
C. Details
D. File and Printer Sharing for Microsoft Networks:
E. General
F. Internet Protocol Version 4 (TCP/IPv4)
G. Internet Protocol Version 6 (TCP/IPv6)
H. Network Connections page
I. Obtain an IP Address Automatically
J. Use the Following DNS Server Addresses</td></tr>
</table>
</td></tr>
</table>

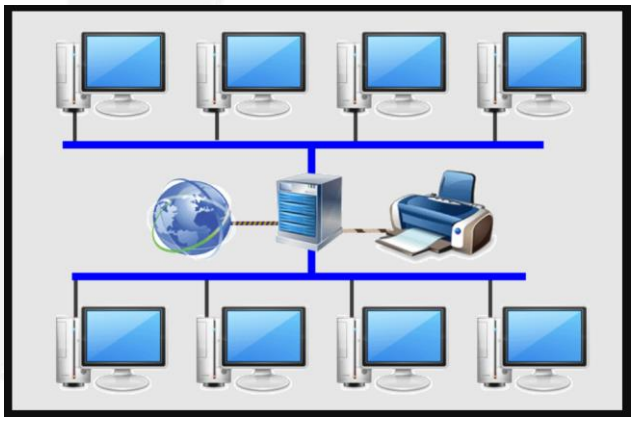
IV. LEARNING PHASES	Suggested Timeframe	Learning Activities
		7. This item enables version 6 of the standard TCP/IP protocol. 8. This option is usually used with peer-to-peer networks, but you can use it even if your network has dedicated servers. 9. This page lists each of your network adapters. 10. This item is required if you want to access a Microsoft Windows network. It should always be present. **Learning Activity 4. STEP BY STEP** Directions. Arrange the following steps in configuring network connections in Windows. Use LETTERS to determine order of precedence. Write your answers on a sheet of paper. ___1. Click Change Adapter Options. ___2. Click Ethernet. ___3. Click Network & Internet. ___4. Click the Start icon (or press the Start button on the keyboard), and then tap or click Settings. ___5. If a protocol that you need isn't listed, click the Install button to add the needed protocol. ___6. Review the list of connection items listed in the Properties dialog box. ___7. Right-click the connection that you want to configure and then choose Properties from the contextual menu that appears. ___8. To configure TCP/IP settings, click Internet Protocol (TCP/IP); click Properties to display the TCP/IP Properties dialog box; adjust the settings; and then click OK. ___9. To configure the network adapter card settings, click Configure. ___10To remove a network item that you don't need (such as File and Printer Sharing for Microsoft Networks), select the item, and click the Uninstall button.
D. Assimilation ***Paglalapat***	45 minutes	To synthesize your learned information based on the given content and relate your learned concepts to your personal life, you will do the next activity. **Learning Activity 5. ACROSTIC** Directions. Utilizing the concepts learned from the lesson, make an acrostic of the word NETWORK. Write your answers on a sheet of paper. ***N –*** ***E –*** ***T –*** ***W –*** ***O –*** ***R –*** ***K –***
V. ASSESSMENT (Learning Activity Sheets for Enrichment, Remediation or Assessment to be given on Weeks 3 and 6)		**TRUE OR FALSE** Directions. Write **DEED** if the statement is correct and **DEAD** if it is not. Write your answers on a sheet of paper.

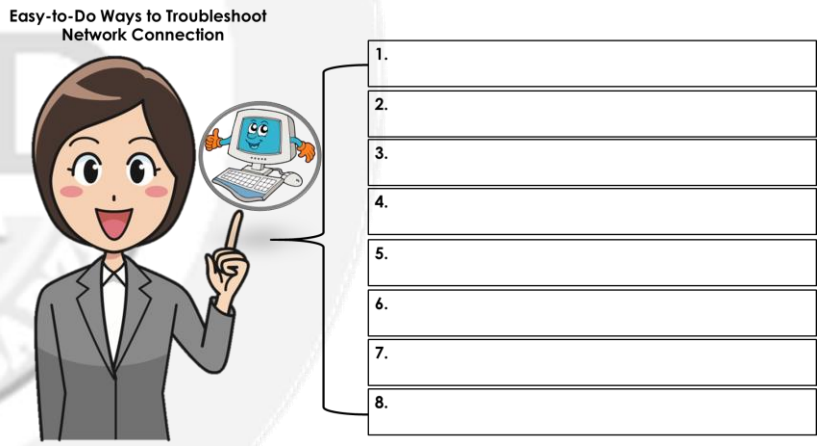
IV. LEARNING PHASES	Suggested Timeframe	Learning Activities
		1. Most desktop computers manufactured after 2000 and laptops manufactured after 2001 come standard with a preinstalled Ethernet card. 2. A network interface card (NIC) is a hardware component without which a computer can still be connected over a network. 3. NIC allows only wired communications. 4. In external networks cards, motherboard has a slot for the network card where it can be inserted. 5. In a laptop, the network card is integrated into the motherboard. 6. Never work inside the computer with the power on or the power cord plugged in. 7. NIC is both a physical layer and a data link layer device, 8. Wireless network card needs to be inserted into the motherboard; however, no network cable is required to connect to the network. They are useful while traveling or accessing a wireless signal. 9. When computers need to connect to a different network (e.g., the Internet), they must use a router to route the network packets to the correct network. 10. If you're using a Plug and Play card with Windows, the card is automatically configured after you start the computer again.
VI. REFLECTION		Write your personal insights about the lesson using the prompts below. I understand that _____. I realize that _____. I need to learn more about _____.

Prepared by:	Jayson V. Nuñez TLE-ICT-CY10-W5	**Checked by:**	Roger C. Maldia Mary Ann Q. Clanor Michael B. Zuniga

W6	Learning Area	Computer Systems Servicing	Grade Level	10
	Quarter	Third	Date	

I. LESSON TITLE	Network connectivity checking procedures and techniques
II. MOST ESSENTIAL LEARNING COMPETENCIES (MELCs)	Set network configuration **- TLE_IACSS9- 12SUCN-Ia-e-34**
III. CONTENT/CORE CONTENT	Carry out communication check between terminals in accordance with operating systems network configuration guides. References: Computer Hardware Servicing –Grade 10 Learner's Material First Edition, 2014, pages 109

IV. LEARNING PHASES	**Suggested Timeframe**	**Learning Activities**
A. Introduction ***Panimula***	30 minutes	**Presentation** One of the ways to share digital resources is the use of networking which uses sets common communication protocols. In setting up a network, there are things that you need to know to be able to ensure that you are connected properly. In example, those who are engage in a business like computer shops also use this kind of networking. The given picture below is an example of a networking setup being used. Observe how the devices are connected and answer the questions that follow. 1. What are the devices that are interconnected with one another? _____ 2. What can be shared with one another? _____ 3. What do you think will happen if there is one device that is not connected to the server? _____  https://www.computernetworkingnotes.org/images/networking-tutorials/nt03-10-server-client-network.png In ensuring that computer devices are interconnected with one another, you need to be familiar on how to perform network checking procedures and techniques. This learning packet will help you to know more of this lesson.
B. Development ***Pagpapaunlad***	1 hour	Read and understand the **INFORMATION SHEET on Network Checking Procedures and Techniques on this link** http://bit.ly/NetworkCheckingProceduresandTechniques and answer the activity below: **Learning Activity 1: Familiarize Me!**

IV. LEARNING PHASES	Suggested Timeframe	Learning Activities
		Identify what features of utilities being used to verify TCP/IP connectivity. Indicate if it is Ping Command, Netstat Command or IP Config. Refer to the legend given below and write only the letter of your answer. **A** – Ping Command **B** - Netstat Command **C** – Ip Config _____1. A command used to find out the IP address of a certain network you are connected to. _____2. This shows what networks are active. _____3. This verifies connectivity to other hosts _____4. This is one of the most important tools in troubleshooting Internet problems. _____5. The information from this window will be useful because it shows the IP address, subnet mask and default gateway of a network you are connected to.
C. Engagement ***Pakikipagpalihan***	1 hour and 30 minutes	**Learning Activity 2. Complete Me!** There is no perfect connection once you are connected to a network because there will be possible problems that might occur. With this occurrence, there are ways on how to check your connectivity. Complete the diagram by writing down the easy-to-do ways to troubleshoot your network connection.  https://www.pikpng.com/pngvi/xmimbh_office-worker-png-person-thinking-clipart-png-transparent-png/ https://www.pngitem.com/pimgs/m/13-131646_computer-clipart-computer-system-healthy-computer-hd-png.png **Learning Activity 3. Watch, Learn, Jot it Down!** For you to be able to familiarize the process of networking checking procedures and techniques, there are additional tools being used as mentioned in this 33-minute video entitled Networking Command Line Tools by NaturalSnaps on this link http://bit.ly/VIDEOonNetworkingCommandLineTools . Jot down the tools that can be used in networking and give its meaning/function. 1. _____ 2. _____ 3. _____ 4. _____ 5. _____ 6. _____

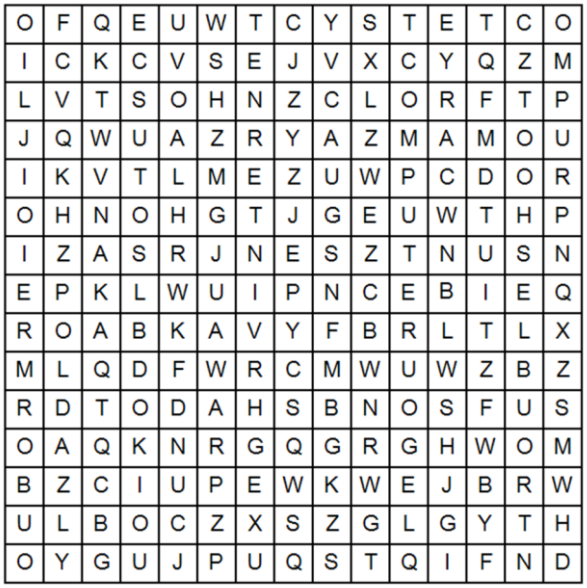
IV. LEARNING PHASES	Suggested Timeframe	Learning Activities
D. Assimilation ***Paglalapat***	1 hour	**Learning Activity 4. What to do?** With the current situation now that internet connectivity is very important because this is one way of connecting to your teachers and have an access on the learning materials that you will be using in your subjects, what will you do to the following situations once that you encounter them while using your internet? Give your honest response to the following situations. 1. You found out that you cannot connect with your internet connection at home. What troubleshooting are you going to conduct? _____ _____ 2. You want to know the IP configuration of the connection you are using, what are the steps that you need to do to be able to execute this process? _____ _____ _____
V. ASSESSMENT (Learning Activity Sheets for Enrichment, Remediation or Assessment to be given on Weeks 3 and 6)		Let us see how much you can recall on the concepts you have learned from our lesson. **I.** Directions: Give at least 5 utilities used to verify TCP/IP Connectivity 1. _____ 2. _____ 3. _____ 4. _____ 5. _____ **II.** Directions: Put a check mark (✓) if the statement is a way to troubleshoot network connection, if otherwise, just leave it blank. ____6. Check Your Settings ____7. Check who sent you a message ____8. Open and check your system unit ____9. Check Your Access Points ____10. Go Around Obstacles ____11. Restart the Router ____12. Check the Wi-Fi Name and Password ____13. Check DHCP Settings ____14. Update Windows ____15. Open Windows Network Diagnostics
VI. REFLECTION		• The learner communicates the explanation of their personal assessment as indicated in the Learner's Assessment Card. • The learner, in their notebook, will write their personal insights about the lesson using the prompts below. I understand that _____. I realize that _____. I need to learn more about _____.

Prepared by:	Gina Z. Parra TLE-ICT-CY10-W6	**Checked by:**	Roger C. Maldia Mary Ann Q. Clanor Michael B. Zuniga

W7	Learning Area	Computer Systems Servicing	Grade Level	10
	Quarter	Third	Date	

I. LESSON TITLE	IP addressing - Class A - Class B - Class C - Class D - Class E Subnetting/Subnet Mask IPv4 and IPv6
II. MOST ESSENTIAL LEARNING COMPETENCIES (MELCs)	Set network configuration **- TLE_IACSS9- 12SUCN-Ia-e-34**
III. CONTENT/CORE CONTENT	Carry out communication check between terminals in accordance with operating systems network configuration guides. References: Computer Hardware Servicing –Grade 10 Learner's Material First Edition, 2014, pages 100-102

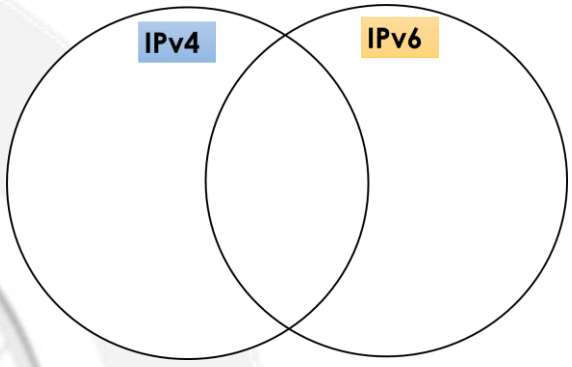
IV. LEARNING PHASES	**Suggested Timeframe**	**Learning Activities**
A. Introduction ***Panimula***	30 minutes	**Presentation** We can relay our messages to other people by either verbal, written or sign language. Do you want to know how our messages in the computer can be delivered? Watch the video clip "Internet Protocol" by Spencer Brinkerhoff III with this link http://bit.ly/InternetProtocolVideo and answer the questions that follow. Guide Questions: 1. How do messages in the computer are being translated? _____ _____ 2. What are the layers of the stack protocol? 2.1. _____ 2.2. _____ 2.3. _____ 2.4. _____ 2.5. _____ Internet Protocol, or IP, is the method that governs how computers share data across the Internet. From this learner's packet, you will know more about internet protocol and IP addressing.
B. Development ***Pagpapaunlad***	1 hour	Read and understand the **INFORMATION SHEET on IP Addressing** on this link http://bit.ly/IPAddressingInfoSheet and answer the activity below: **Learning Activity 1: Search Me!** Search for words based on the lesson you have just read. You will find 10 words horizontally, vertically, diagonally, or diagonally upward. Mark a straight line the word that you will find and write down the words on the blank provided.

IV. LEARNING PHASES	Suggested Timeframe	Learning Activities
		

O	F	Q	E	U	W	T	C	Y	S	T	E	T	C	O
I	C	K	C	V	S	E	J	V	X	C	Y	Q	Z	M
L	V	T	S	O	H	N	Z	C	L	O	R	F	T	P
J	Q	W	U	A	Z	R	Y	A	Z	M	A	M	O	U
I	K	V	T	L	M	E	Z	U	W	P	C	D	O	R
O	H	N	O	H	G	T	J	G	E	U	W	T	H	P
I	Z	A	S	R	J	N	E	S	Z	T	N	U	S	N
E	P	K	L	W	U	I	P	N	C	E	B	I	E	Q
R	O	A	B	K	A	V	Y	F	B	R	L	T	L	X
M	L	Q	D	F	W	R	C	M	W	U	W	Z	B	Z
R	D	T	O	D	A	H	S	B	N	O	S	F	U	S
O	A	Q	K	N	R	G	Q	G	R	G	H	W	O	M
B	Z	C	I	U	P	E	W	K	W	E	J	B	R	W
U	L	B	O	C	Z	X	S	Z	G	L	G	Y	T	H
O	Y	G	U	J	P	U	Q	S	T	Q	I	F	N	D

1. _____
2. _____
3. _____
4. _____
5. _____
6. _____
7. _____
8. _____
9. _____
10. _____

C. Engagement ***Pakikipagpalihan***	1 hour and 30 minutes	**Learning Activity 2. What Am I?** Guess what is being described with the following statements. Write your answers by completing the sentence provided. 1. I am a number that is used to identify a device on the network. I should be unique in each device on a network to communicate with other network devices. What am I? I am an _____. 2. I am used because it is very difficult for humans to read a binary IP address where it consists of a series of 32 binary bits (1s and 0s) and grouped into four 8-bit bytes. What am I? I am an_____. 3. I am a class of an IP address. I am used for large networks, implemented by large companies and some countries. What am I? I am a _____. 4. I am indicated in the network portion of an IP address. Just like the IP address, I am also a dotted-decimal number. What am I? I am a _____. 5. I am widely used protocol in data communication over several kinds of networks. I am considered fourth revision of the Internet protocol. What am I? I am an_____. 6. I am used to move data across the network. I can be hub, switch, or router. What am I? I am a _____. 7. I am another class of IP address. I am used for medium-sized networks, implemented by universities. What am I? I am a _____. 8. I am the newest version of Internet Protocol used for carrying data in packets from one source to a destination via various networks. I am also considered as an enhanced version of the older IPv4 protocol, as it supports a significantly larger number of nodes than the latter. What am I? I am an _____. 9. I am one of the classes of IP address. I am used for small

IV. LEARNING PHASES	Suggested Timeframe	Learning Activities
		networks, implemented by ISPs for customer subscriptions. What am I? I am a _____. 10. I am also an IP address class. I am used for experimental testing. What am I? I am a _____. **Learning Activity 3. Fill Me Out!** Based from the information sheet, there are features of IPv4 and IPv6, fill out the Venn diagram below by giving the similarities and differences of the two. Give at least 3 differences and 2 for the similarities. 
D. Assimilation ***Paglalapat***	1 hour	**Learning Activity 4. Time to Reflect!** Watch the 2-minute video with the title "Why IP Address Is Important" in this link http://bit.ly/WhyIPAddressIsImportant created by Only Why?. How important IP addressing in internet connectivity? Give your own explanation of its importance and how it will help you as a student in two sentences. 1. _____ 2. _____ **Learning Activity 5. Exit Ticket!** Answer the Exit Ticket honestly below for you to be able to move on with the last part of this learning activity. **Exit Ticket** ☺☹😐 **How well did you understand the lesson?** **3** Things I learned today 1. _____ 2. _____ 3. _____ **2** Things I found interesting 1. _____ 2. _____ **1** Question I still have 1. _____

IV. LEARNING PHASES	Suggested Timeframe	Learning Activities
V. ASSESSMENT (Learning Activity Sheets for Enrichment, Remediation or Assessment to be given on Weeks 3 and 6)		After learning the concepts on IP addressing. Let us see how much have learned by answering the 10-item below. **Directions:** Read each statement carefully. Match Column A with the words from Column B. Write only the letter of your answer on the space provided before each number. **Column A** ____1. This class is used for large networks, implemented by large companies and some countries. ____2. A device that sends or receives information on the network. ____3. Used for medium-sized networks, implemented by universities ____4. This is a number that is used to identify a device on the network. ____5. The term used when the 32 bits are grouped into four 8-bit bytes. ____6. Used for small networks, implemented by ISPs for customer subscriptions. ____7. Used for special use for multicasting ____8. Used for experimental testing ____9. This indicates the network portion of an IP address. ___10. This is a widely used protocol in data communication over several kinds of networks. **Column B** A. Class A B. Class B C. Class D D. *IP address* E. Host F. *subnet mask* G. Class C H. IPv4 I. Class E J. octets
VI. REFLECTION		• The learner communicates the explanation of their personal assessment as indicated in the Learner's Assessment Card. • The learner, in their notebook, will write their personal insights about the lesson using the prompts below. I understand that _____. I realize that _____. I need to learn more about _____.

Prepared by:	Gina Z. Parra TLE-ICT-CY10-W7	**Checked by:**	Roger C. Maldia Mary Ann Q. Clanor Michael B. Zuniga

W8	Learning Area	Computer Systems Servicing	Grade Level	10
	Quarter	Third	Date	

I. LESSON TITLE	Contingency procedures in response to unplanned events and conditions Remote Desktop
II. MOST ESSENTIAL LEARNING COMPETENCIES (MELCs)	Set network configuration **- TLE_IACSS9- 12SUCN-Ia-e-34**
III. CONTENT/CORE CONTENT	Respond to unplanned events or conditions in accordance with established procedures References: https://www.pcmag.com/encyclopedia/term/contingency-plan https://whatis.techtarget.com/definition/contingency-plan https://link.quipper.com/en/organizations/547ff96bd2b76d0002001bbf/curriculum#curriculum https://searchenterprisedesktop.techtarget.com/definition/remote-desktop

IV. LEARNING PHASES	Suggested Timeframe	Learning Activities
A. Introduction ***Panimula***	30 minutes	**Presentation** In whatever undertaking, our main concern is our safety. We cannot control what will happen, it is only lessened when we practice safety measures, and we have the contingency plan if any problem arises. From the given picture below, give 3 words that can be associated with what is being portrayed. 1. _____ 2. _____ 3. _____  https://encrypted-tbn0.gstatic.com/images?q=tbn:ANd9GcTIJy9aT6A4BTM_DDkHVN60dgO5PY2DO6zhUw&usqp=CAU Guide Questions: 1. What could be the possible problem that the man in the picture experienced? _____ 2. If you are in the same situation, what will be the first thing that you will do? _____
B. Development ***Pagpapaunlad***	1 hour	For you to be more knowledgeable on the Contingency Procedures, read and understand the **INFORMATION SHEET** on this link http://bit.ly/InfoSheetContingencyPlan and answer the activity below: **Learning Activity 1: Fact or Bluff!** Tell whether each statement is a **Fact** or **Bluff** about the information about contingency procedures. Write your answer on the provided before each number. _____1. A contingency plan is a course of action designed to help an organization respond effectively to a significant future event or situation that may or may not happen.

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		_____2. A contingency plan is sometimes referred to as "Plan B," because it can be also used as an alternative for action if expected results fail to materialize. _____3. A contingency plan's updating periodically is only optional. _____4. A contingency plan is also called a first aid procedure. _____5. The plan must be documented and tested until it works effectively. **Learning Activity 2. Fill Me Completely!** There are 7 steps outlined for an IT contingency plan and these are as follow; 1. _____ 2. _____ 3. _____ 4. _____ 5. _____ 6. _____ 7. _____
C. Engagement ***Pakikipagpalihan***	1 hour and 30 minutes	**Learning Activity 3. Connect Me!** Aside from Contingency Planning, Remote Desktop is also given importance because this has the capability to allow the user to connect to a computer in another location just in case there is a problem that might happen. Mr. Compy is encouraging us to use this because this can do variety of things. Choose from the given below by connecting the callouts to Mr. Compy.  https://comps.gograph.com/business-man-with-computer-screen-for-head_gg56679268.jpg **Learning Activity 4. What are your thoughts?** Below is illustration how a Contingency Plan that will help in times of urgent need. Give your own interpretation in one sentence in a brief and concise manner. For 5 points.  https://waterfm.com/planning-every-contingency/

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		_____ _____ **Learning Activity 5. Your Safety: Our Priority!** Complete each statement with the appropriate words in order to ensure that we are safe in our workplace. 1. Always work with someone or have somebody near the place where you are working, so that in case of problems or an _____, there will be someone to assist you. 2. Always be careful in using tools that may cause short _____. 3. Before touching any part of the computer, always ground or _____ yourself first. You can also use an anti-static wrist strap. 4. Always wear _____ that are appropriate for the specific job and it must allow you freedom of movement. 5. In case of any accident or other emergencies, _____ measures should be recognized.
D. Assimilation ***Paglalapat***	1 hour	**Learning Activity 6. I am an artist!** Let us unleash your creativity on this activity. You are going to make a Contingency Plan that can be used inside a computer laboratory. You can search from the internet to gather some information. The materials and instructions are given below and you will be graded by a rubric. **Materials Needed:** 1 pc short typewriting — 1 pc Ruler 1 pc Pencil — 1 set Crayon 1 pc Marker **Evaluation:** I am going to evaluate your work by using the following criteria: 1. Content and Organization of Thoughts – 5 points 2. Creativity – 3 points 3. Neatness – 2 points Total - 10 points **How and when to submit:** Once you are finished, take a selfie of your work and send it to me through my messenger.
V. ASSESSMENT (Learning Activity Sheets for Enrichment, Remediation or Assessment to be given on Weeks 3 and 6)		Now is the time to assess your acquired learning of the lesson. Answer the test below by telling whether a statement is True or False. Write **T** if it is True and **F** if otherwise on the space provided before each number. _____1. A contingency plan is a course of action designed to help an organization respond effectively to a significant future event or situation that may or may not happen. _____2. It is not necessary to have data already backed up on another storage device either on the same computer, a network server or the Internet. _____3. If there is no backup and data must be recovered, there are organizations that specialize in retrieving data from damaged computers. _____4. Measures are taken to reduce the effects of system disruptions that can increase system availability and reduce contingency

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		life cycle costs. _____5. The plan should be a living document that is updated regularly to remain current with system enhancements and organizational changes. _____6. It is safe to touch the Integrated Circuit or IC parts especially when computer is working. _____7. Never connect or use a telephone or modem during a lightning storm to avoid any electric shock that can be caused by lightning. _____8. In handling the computer parts, you can use excessive force. _____9. Remote desktop is a program or an operating system feature that allows a user to connect to a computer in another location, see that computer's desktop and interact with it as if it were local. _____10. One of the features of a remote desktop is that it has the ability to have an access a workplace computer from home or when traveling.
VI. REFLECTION		• The learner communicates the explanation of their personal assessment as indicated in the Learner's Assessment Card. • The learner, in their notebook, will write their personal insights about the lesson using the prompts below. I understand that _____. I realize that _____. I need to learn more about _____.

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