WEEKLY LESSON NOTES – B7

WEEK 8

Date: 1ST JULY, 2022		DAY:		Subject: Computing	
Duration:				Strand: Communication Networks	
Class: B7		Class Size:		Sub Strand: Computer Networks	
Content Standard: B7.3.1.1 Identify the concept of computer networking for global communications.		Indicator: B7.3.1.1.3 Discuss the entrepreneurial opportunities in networking computing devices			Lesson: 1 of 2
Performance Indicator: Learners can describe the benefits and challenges of networking in different environments		Core Competencies: DL5.1: Ability to ascertain when information is needed and be able to identify, locate, evaluate and effectively use it to solve a problem.			
Reference: Computing Curriculum P.g. 16-18					

Activities For Learning & Assessment	Resources	Progression
Starter (5 mins) Using questions and answers, revise the previous lesson with learners. Display pictures or show a video of people communicating using phones, text messaging, video conferencing, etc. Help learners understand how they are all connected to each other. Share performance indicators and introduce the lesson. **Main (35 mins)** Guide learners to discuss the benefits of networking in different environments (school, business, health, etc.). Benefits *1. Ease of accessibility* *Modern computer networks are easy to explore. So, even if you are a kid or a person new to technology, you'll find it easy to connect.*	Pictures of network topologies, sketch diagram, projector	Identifying the benefits and challenges of networking in different environments

2. Flexibility *Here, flexibility means that different people will be able to explore different things as per their requirements. For this purpose, computer networks provide you a wide array of choices to share a particular piece of information. For example, e-mail or messaging apps like WhatsApp. So, there is flexibility for different users.* *3. Convenient resource sharing* *The main aim of a computer network is to enable sharing of resources among its users. You can use resources such as printers, scanners and photocopy machines that can be shared across multiple users. This resource sharing is important for big companies as they can use one single common network for connecting with their employees.* *4. Connectivity* *Computer Networks improve connectivity irrespective of a person's location. In these testing times, we can see live examples as we use video call apps or Google documents to connect with our friends and colleagues.* *5. Security* *Computer networks provide security through authorization. Authorization is done via user id and password. So, it ensures that when we log in, we are only able to do it when there is a perfect match between our details and the details stored in the data VVVVVbase.* *6. Great storage capacity* *Organizations have an abundance of data that needs to be stored. For that purpose, they are required to store them in a central server. A central server is a remote server that is accessible to each and every employee. So, if in case one loses the data, others have it.* *7. Reduced cost* *Cost is one of the crucial factors that one needs to consider while evaluating the pros and cons of a particular technology. In networking, a central server is used that enables companies to store files in one place and thus reducing file storage expenses.* ## Guide learners to discuss the challenges of networking in different environments (school, business, health, etc.). <u>Challenges</u> *1. Lack of robustness* *Computer networks rely on the main server called the central server. If the central server malfunctions or there is an issue in the central server, then the entire network would stop functioning. So, this is a major disadvantage due to dependency on a single server.* *2. Spread of computer virus* *As computers in a network are interconnected, there is a high probability that if one of the computers is affected by the virus, others too can get affected. This spread can actually damage the entire system. Also, if the central server gets corrupted, then it's quite dangerous as the network depends on the central server.* *3. Independence issues* *The entire networking system is based on a centralized server, so it lacks independence. So, individual users lack the freedom to use the computer as per their wish.*		

4. Lack of productivity *Since a network has a lot of advantages and applications, it is certain that it results in simultaneous use of many services that cause distraction. Thus, due to employees focusing on a myriad of tasks, productivity issues are quite common.* *5. Health issues* *Computer network provides access to a gamut of services including entertainment, gaming, and movies. These result in making you addicted to the content and thus results in overuse of these services. This excessive screen time makes you feel lethargic, causes eye strain and body pain.* ***Reflection (10 mins)*** We have learnt the benefits and challenges of networking in different environments. Use peer discussion and effective questioning to find out from learners what they have learnt during the lesson. Take feedback from learners and summarize the lesson.	

Homework/Project Work/Community Engagement Suggestions

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Cross-Curriculum Links/Cross-Cutting Issues

None

Potential Misconceptions/Student Learning Difficulties

The facilitator/teacher can arrange to use a nearby Senior High School (SHS) ICT laboratory

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Class: B7		Class Size:		Sub Strand: Computer Networks	
Content Standard: B7.3.1.1 Identify the concept of computer networking for global communications		Indicator: B7.3.1.1.4 Identify different environments where the various types of networks can be applied.			Lesson: 2 of 2
Performance Indicator: Learners can describe different environments where the various types of networks can be applied		Core Competencies: DL5.1: Ability to ascertain when information is needed and be able to identify, locate, evaluate and effectively use it to solve a problem.			
Reference: Computing Curriculum P.g. 16-18					

Activities For Learning & Assessment	Resources	Progression
Starter (5 mins) Using questions and answers, revise the previous lesson with learners. Share performance indicators and introduce the lesson. **Main (35 mins)** Guide learners to identify different environments where the various types of networks can be applied. • *Marketing and sales: – Computer networks are widely used in both marketing sales firms. These are used by marketing professionals to collect, exchange, and analyzes data relating to customer requirements and product development cycles. Teleshopping is also important part of sales applications that use order-entry computers or telephones connected to an order-processing network, and on-line reservation services for hotels airline and so on.* • *Manufacturing: – Now days, computer networks are used in a several aspects of manufacturing, including the manufacturing process itself. Two applications which use a network to provide necessary services are computer-assisted manufacturing (CAM) and computer –assisted designing (CAD) both of which permit multiple users to work on a project simultaneously.* • *Financial Services: – In Present, Financial services are completely dependent on computer networks. Main applications are credit history searches, foreign exchange and investment services, and Electronic Funds Transfer (EFT) that permits a user to transfer money without going into bank.*	Pictures of network topologies, sketch diagram, projector	Identifying different environments where the various types of networks can be applied.

• *Teleconferencing: – With The help of teleconferencing conferences are possible to occur without the participants being in the same place. Applications include simple text conferencing, voice conferencing, and video conferencing.* • *Cable Television:-Future Services provided by cable television network can include video on request, as well as the same information, financial and communications services currently provided by the telephone companies and computer networks.* • *Information Services:- Network information services include bulletin boards and data banks. A World Wide Web site offering the technical specifications for a new product is an information service.* • *Electronic Messaging:– Electronic mail (e-mail) is the most widely used network application.* • *Electronic Data Interchange (EDI):– EDI permits business information to be transferred without using paper.* • *Directory services: – By using directory services, it is possible to store the last of files in a central location to speed worldwide search operations.* • *Cellular Telephone: – In the past, two parties desiring to use the services of the telephone company had to be linked by a fixed physical connection. But, in present cellular network make it possible to maintain wireless phone connections even while travelling over large distances.* In groups, task learners to identify the business aspect of networking and how they can be turned into a lucrative business. Have them to present their findings to the whole class. *Reflection (10 mins)* We have learnt the different environments where the various types of networks can be applied. Use peer discussion and effective questioning to find out from learners what they have learnt during the lesson. Take feedback from learners and summarize the lesson.		

Homework/Project Work/Community Engagement Suggestions

• Identify 5 environments where the various types of networks can be applied

Cross-Curriculum Links/Cross-Cutting Issues

None

Potential Misconceptions/Student Learning Difficulties

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