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| **Term : Advent 1**  **Subject: Computers:Computing systems and networks Year:6 Medium Term Planning** | | | | | | |
| **National Curriculum Objectives**   * Understand computer networks, including the internet; how they can provide multiple services, such as the World Wide Web, and the opportunities they offer for communication and collaboration * Select, use and combine a variety of software (including internet services) on a range of digital devices to design and create a range of programs, systems and content that accomplish given goals, including collecting, analysing, evaluating and presenting data and information * Use technology safely, respectfully and responsibly; recognise acceptable/unacceptable behaviour; identify a range of ways to report concerns about content and contact | | | | | | |
|  | Lesson 1 | Lesson 2 | Lesson 3 | Lesson 4 | Lesson 5 | Lesson 6 |
| **Learning intention for each lesson:** | LI-I know the importance of internet addresses  (Substantive knowledge) | LI - I know how data is transferred across the internet  (Disciplinary knowledge) | LI - I know how sharing information online can help people to work together  (Disciplinary knowledge) | LI - I know different ways of working together online  (Substantive knowledge) | LI - I know how we communicate using technology  (Disciplinary knowledge) | LI - I know how to evaluate different methods of online communication  Disciplinary knowledge) |
| **Recall and retrieval** | *.* | What is an IP address? What translates when an IP address is entered on the internet? | What is a data header?  What is the data payload? | How can people work collaboratively online with one another?. | What are the different ways in which people can work together online? | How do people communicate?  How do they do this online? |
| **Sequence of knowledge throughout the lesson**  **:** | **Key knowledge**   * To know that when someone uses the internet in any way, data is transferred over the internet. * To know that a protocol is an agreed way of doing something and digital devices have protocols for how they communicate with each other. * To know that all networked computers have an IP address and what IP stands for. * To know that every website address is known as its domain name:DNS * To know that every domain is hosted somewhere on a web server that has its own IP address. | **Key knowledge**   * To know what a ‘packet’ is. * To know that data is sent in packets. * To know that packets break large volumes of data into small chunks, making them easier to send across networks. * To know that the ‘header’ contains the information needed for the data packet to get from the sender to the recipient * To know that the payload contains the actual information that is sent * To know that data is split into multiple packets * To know that audio, video, and images can also be transferred in data packets | **Key knowledge**   * To know what it means to work collaboratively * To know how to access shared files stored online | **Key knowledge**   * To know that using someone else’s work needs to be within the bounds of copyright and with the relevant permissions. * To know different ways of working together on the internet and this can be public or private | **Key knowledge**   * To know that computers also use protocols to communicate successfully. * To know that for a protocol to be effective, both people communicating need to understand it. * To know that there are different methods of communication to suit particular purposes | **Key knowledge**   * To know how to compare different methods of communicating on the internet * To know when they should and should not share information online * To know that communication on the internet may not be private |
| **Scaffolding** | odd one out- protocol features. | Children will be able to explain explain the main parts of a data packet | Children will be able to send information over the internet in different ways by working collaboratively | Children will be able to experiment with search engines. | Children will be able to list different ways in which people communicate | * Children will be able to list the three most important things that should be considered when choosing how to communicate with other people using the internet |
| **Challenge** | To explain what protocols and domains are in relation to computers. | Children will be able to explain how data is transferred over networks in packets | Children will be able to explain that the internet allows different media to be shared | Children will be able to view and change other people’s work | Children will be able to explain the different ways in which people communicate | * Children will be able to explain the three most important things that should be considered when choosing how to communicate with other people using the internet |
|  | **Key Vocabulary**  Communication, protocol, data, address, Internet Protocol (IP) address, Domain Name Server (DNS) | **Key Vocabulary**  Packet, header, data payload | **Key Vocabulary**  Chat, explore, slide deck | **Key Vocabulary**  Reuse, remix, collaboration | **Key Vocabulary**  Communication, internet | **Key Vocabulary**  Communication, public, private, one-way, two-way, one-to-one, one-to-many |