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| **Computing - Networks** | | | | | | |
| What and how do we want the children to learn? | **Knowledge** | | **Skills** | | **Learning Behaviour** | |
| National Curriculum:   * Recognise common uses of information technology beyond school * Understand computer networks including the internet and how they provide worldwide services * Use search technology effectively, appreciate how results are selected and ranked * Evaluate digital context | | Logic – predicting and analysing  Decomposition – breaking down in to parts  Evaluation – making judgement  Tinkering – experimenting and playing  Debugging – finding and fixing errors  Persevering – keeping going  Collaborating – working together | | * Problem Solving * Aiming High * Leading * Working in a Team * Sharing Ideas * Using Imagination * Staying Positive * Listening Carefully | |
| **Planning** | | | **Obtaining and Presenting Evidence** | | **Considering evidence and Explaining** | |
| **What do children already know?** | | | | **What would the children like to learn?** | | |
| **Prelearn activity** –  Match the vocab to the definition  Cables  Fibre  Transmitters  Receivers  Switches  Routers  Hardware | | | |  | | |
| **Big Question:**  How does the internet work? | | | | | **Mini Wow:**  Open up a computer | |
| How will we enable this learning to take place? | | | | | | |
| **Key Vocabulary** | | **Resources** | | | | **Outdoor Learning** |
| Cables  Fibre  Transmitters  Receivers  Switches  Routers  Hardware | | Computers  Old computer to look at  Key vocab list | | | | NA |
| **Challenge Area reinforcement** | | | | | | |
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| Lesson 1 – The job of the internet  Input – Chinese whispers.  Start with a message and see if it can get the whole way round the circle?  Explain the important of a message reaching everyone worldwide, without a connection being lost.  The internet’s one job is to transport data from one computer to another.  How is this information transmitted on computers?  EG email, video call, chats, audio, web-page  Activity - Chn to work in groups to connect between computers.  They need to devise the roles which allows the messages to be sent, and then they need to create the connection by holding hands.  If it is in the wrong order the connection will be lost.  Photograph underneath the LO.  LO: I can explain the job of the internet  R2 - | | | | | Lesson 2 – Everything is digital  Input – Explain to the children that data that travels via the internet is digital, its expressed through numbers.  Guess which number I am thinking of.  Chn to narrow down using questions  Activity –  Work in pairs to find your partners number.  What questions did you ask?  How could this be transferred to a computer?  What would you have to input?  Introduce key vocab – Packets (smaller chunks of data)  Pass the objects through the gap.  How small does it need to be?  Show the chn the amount of coding and digital data needed to create even an image.  How long did it take you?  Think about how fast our computers are.  Can you beat the video loading.  LO: I can understand that everything on the internet is digital | |
| Lesson 3 – How the internet has progressed  Think about the starting point of the computers and connections and how this has changed over time.  WHAT DO WE HAVE NOW THAT WAS NOT THERE BEFORE?  Blast from the past – Show them what people use to have  Now – What is around us?  Side by side comparison of the route our networks take for us to be able to use them.  Poster explaining where our internet begins and ends.  EG from your home access wifi point, BT green cabinet, London internet exchange, fibre optics under the atlantic.  Track it on a map.  LO: I can show how my networks reach my computer | | | | | Lesson 4 – Who can see the data we transmit?  Input – Write a message on a slip  Pass the messages round in 1 minute  How many people saw my message?  Think about the safety of the networks  How quick the networks pass information to more than one person  How immediate everything is nowadays.  More of a discussion lesson.  CT to type up discussion.  LO: I can understand that data is transmitted at speed. | |
| Lesson 5 – What can you do on the internet?  Input –  2 class teachers to bounce emails to one another and ask the chn how they think this is an instant messaging forum  Explain computers communicate directly as equals passing data directly to and from each other.  Activity –  Chn to send and receive a series of emails, within them explaining the process that has occurred for the email to reach them.  E-Safety think about how the networks can be hacked, and include viruses.  LO: I can explain what you can do on the internet. | | | | | Lesson 6 – What is the world wide web?  Input –  What does www. Stand for?  Brain storm ideas.  Introduce the background of Tim Berners-Lee and the impact he had on the world wide web.  Think about the different between the internet and world wide web.  Internet – is connecting computers together  WWW – the connections between documents  Activity – Which one is this? Internet or WWW and explain why.  Show chn the broken down link.  Where did each section come from and why?  Eg, http:, ://, info, .html  LO: I can identify the difference between the WWW and the internet | |
| **Home Learning – Ask you parents/grandparents about the different the WWW has had on their liv*e*s?** | | | | | | |