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| **Year Group** | **National Curriculum**  *Computing* | **Topics** | **Vocabulary** | **Skills/ Procedural Knowledge** |
| Y1 | Key stage 1 Pupils should be taught to:  Understand what algorithms are; how they are implemented as programs on digital devices; and that programs execute by following precise and unambiguous instructions  Create and debug simple programs  Use logical reasoning to predict the behaviour of simple programs  Use technology purposefully to create, organise, store, manipulate and retrieve digital content  Recognise common uses of information technology beyond school  Use technology safely and respectfully, keeping personal information private; identify where to go for help and support when they have concerns about content or contact on the internet or other online technologies | **Autumn**  **Unit 1.1 Online Safety & Exploring Purple Mash**  **Unit 1.2 Grouping & Sorting**  **Unit 1.3 Pictograms**  **Spring**  **Unit 1.4 Lego Builders**  **Unit 1.5 Maze Explorers**  **Unit 1.6 Animated Story Books**  **Summer**  **Unit 1.7 Coding**  **Unit 1.8 Spreadsheets**  **Unit 1.9 Technology outside school** | Alert  Avatar  Button  Device  File Name  Icon  Log in  Log Out  Menu  Notification  Password  Private  Criteria  Groups  Sort  data  Compare  Pictogram  Results  Title  Algorithm  Code  Debug  Program  Command  Animation  Edit  Font  Text  Background  Execute  Code  Action  Algorithm  Properties  Object  Instruction  Plan  Run  Cell  Column  Value  Spreadsheet  Computer  technology | **Unit 1.1 Online Safety & Exploring Purple Mash**  Use technology safely and respectfully, keeping personal information private; identify where to go for help and support when they have concerns about content or contact on the internet or other online technologies.  **Unit 1.2 Grouping & Sorting**  Understand what algorithms are; how they are implemented as programs on digital devices; and that programs execute by following precise and unambiguous instructions.  **Unit 1.3 Pictograms**  Use technology purposefully to create, organise, store, manipulate and retrieve digital content  **Unit 1.4 Lego Builders**  Understand what algorithms are; how they are implemented as programs on digital devices; and that programs execute by following precise and unambiguous instructions.  **Unit 1.5 Maze Explorers**  Create and debug simple programs  Use logical reasoning to predict the behaviour of simple programs.  Understand what algorithms are; how they are implemented as programs on digital devices; and that programs execute by following precise and unambiguous instructions.  **Unit 1.6 Animated Story Books**  Use technology purposefully to create, organise, store, manipulate and retrieve digital content  **Unit 1.7 Coding**  Create and debug simple programs  Use logical reasoning to predict the behaviour of simple programs.  Understand what algorithms are; how they are implemented as programs on digital devices; and that programs execute by following precise and unambiguous instructions.  **Unit 1.8 Spreadsheets**  Use technology purposefully to create, organise, store, manipulate and retrieve digital content  **Unit 1.9 Technology outside school**  Recognise common uses of information technology beyond school. |
|  | Local Interests and Links (online museums, local places to visit etc) | | | |
| Y2 | Key stage 1 Pupils should be taught to:  Understand what algorithms are; how they are implemented as programs on digital devices; and that programs execute by following precise and unambiguous instructions  Create and debug simple programs  Use logical reasoning to predict the behaviour of simple programs  Use technology purposefully to create, organise, store, manipulate and retrieve digital content  Recognise common uses of information technology beyond school  Use technology safely and respectfully, keeping personal information private; identify where to go for help and support when they have concerns about content or contact on the internet or other online technologies | **Autumn**  **Unit 2.2 Online Safety**  **Unit 2.1 Coding**  **Unit 2.3 Spreadsheets**  **Spring**  **Unit 2.4 Questioning**  **Unit 2.5 Effective Searching**  **Unit 2.6 Creating Pictures**  **Summer**  **Unit 2.7 Making Music**  **Unit 2.8 Presenting Ideas** | Email digital footprint  Search  secure  Action  Algorithm  Background  Bug  Button  Command  Debugging  Execute  Cell column row  Data  Binary tree pictogram database  Browser network internet Domain  Clip art  Bars Beat Sound track  e-book node | **Unit 2.2 Online Safety**  Use technology safely and respectfully, keeping personal information private; identify where to go for help and support when they have concerns about content or contact on the internet or other online technologies.  **Unit 2.1 Coding**  Understand what algorithms are; how they are implemented as programs on digital devices; and that programs execute by following precise and unambiguous instructions.  Create and debug simple programs  Use logical reasoning to predict the behaviour of simple programs.  **Unit 2.3 Spreadsheets**  Use technology purposefully to create, organise, store, manipulate and retrieve digital content  **Unit 2.4 Questioning**  Use technology purposefully to create, organise, store, manipulate and retrieve digital content  **Unit 2.5 Effective Searching**  Use technology purposefully to create, organise, store, manipulate and retrieve digital content  Recognise common uses of information technology beyond school  **Unit 2.6 Creating Pictures (May run over to S1)**  Use technology purposefully to create, organise, store, manipulate and retrieve digital content  **Unit 2.7 Making Music**  Use technology purposefully to create, organise, store, manipulate and retrieve digital content  **Unit 2.8 Presenting Ideas**  Use technology purposefully to create, organise, store, manipulate and retrieve digital content |
| Local Interests and Links (online museums, local places to visit etc) | | | |
| Y3 | Key stage 2 Pupils should be taught to:  Design, write and debug programs that accomplish specific goals, including controlling or simulating physical systems; solve problems by decomposing them into smaller parts  Use sequence, selection, and repetition in programs; work with variables and various forms of input and output  Use logical reasoning to explain how some simple algorithms work and to detect and correct errors in algorithms and programs  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  Use search technologies effectively, appreciate how results are selected and ranked, and be discerning in evaluating digital content  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 | **Autumn**  **Unit 3.2 Online Safety**  **Unit 3.1 Coding**  **Unit 3.3 Spreadsheets**  **Spring**  **Unit 3.4 Touch-Typing**  **Unit 3.5 Email**  **Unit 3.6 Branching Databases**  **Summer**  **Unit 3.7 Simulations**  **Unit 3.8 Graphing** | Appropriate password  Reliable  Reputable  Spoof  Verify  Action  Algorithm  Code  Debugging  Event  Timer  Command  Advance mode  Cell address  Pie chart  Data  Keys  Posture  Spacebar  Typing  CC  BCC  Email  Attachment  Link  Inbox  Binary tree  Data  Database  Debugging  Advantages  Analysis  Modelling  Evaluating  Simulation  Axis  Chart  column  Sorting  Survey | **Unit 3.2 Online Safety**  Use technology safely, respectfully and responsibly; recognise acceptable/unacceptable behaviour; identify a range of ways to report concerns about content and contact.  **Unit 3.1 Coding**  Design, write and debug programs that accomplish specific goals, including controlling or simulating physical systems; solve problems by decomposing them into smaller parts  Use sequence, selection and repetition in programs; work with variables and various forms of input and output  Use logical reasoning to explain how some simple algorithms work and to detect and correct errors in algorithms and programs  **Unit 3.3 Spreadsheets**  Use search technologies effectively, appreciate how results are selected and ranked, and be discerning in evaluating digital content.  **Unit 3.4 Touch-Typing**  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.  **Unit 3.5 Email**  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.  **Unit 3.6 Branching Databases**  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.  **Unit 3.7 Simulations**  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.  **Unit 3.8 Graphing**  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. |
| Local Interests and Links (online museums, local places to visit etc) | | | |
| Y4 | Key stage 2 Pupils should be taught to:  Design, write and debug programs that accomplish specific goals, including controlling or simulating physical systems; solve problems by decomposing them into smaller parts  Use sequence, selection, and repetition in programs; work with variables and various forms of input and output  Use logical reasoning to explain how some simple algorithms work and to detect and correct errors in algorithms and programs  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  Use search technologies effectively, appreciate how results are selected and ranked, and be discerning in evaluating digital content  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 | **Autumn**  **Unit 4.2 Online Safety**  **Unit 4.1 Coding**  **Unit 4.3 Spreadsheets**  **Spring**  **Unit 4.4 Writing for Different Audiences**  **Unit 4.5 Logo**  **Summer**  **Unit 4.6 Animation**  **Unit 4.7 Effective Searching**  **Unit 4.8 Hardware Investigators** | Adfly  Attachment  Citation  Cookies  Copyright  Malware  Phishing  Plagiarism  Ransomware  Action  Algorithm  Code  Debugging  Event  Timer  Command  Average  Formula  Average  Format  Budget  Campaign  Format  Font  Genre  Opinion  Reporter  Debugging  Grid  Logo  Animation  Stop motion  Frame  Easter eggs  Balance view  Reliability  CPU  Components  Hardware  Motherboard  Peripherals  RAM | **Unit 4.2 Online Safety**  Use technology safely, respectfully and responsibly; recognise acceptable/unacceptable behaviour; identify a range of ways to report concerns about content and contact.  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.  **Unit 4.1 Coding**  Design, write and debug programs that accomplish specific goals, including controlling or simulating physical systems; solve problems by decomposing them into smaller parts.  Use sequence, selection and repetition in programs; work with variables and various forms of input and output.  Use logical reasoning to explain how some simple algorithms work and to detect and correct errors in algorithms and programs  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.  **Unit 4.3 Spreadsheets**  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.  **Unit 4.4 Writing for Different Audiences**  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.  **Unit 4.5 Logo**  Design, write and debug programs that accomplish specific goals, including controlling or simulating physical systems; solve problems by decomposing them into smaller parts.  Use sequence, selection and repetition in programs; work with variables and various forms of input and output.  Use logical reasoning to explain how some simple algorithms work and to detect and correct errors in algorithms and programs  **Unit 4.6 Animation**  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.  **Unit 4.7 Effective Searching**  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.  Use search technologies effectively, appreciate how results are selected and ranked, and be discerning in evaluating digital content.  **Unit 4.8 Hardware Investigators**  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 |
|  | Local Interests and Links | | | |
| Yr5 | Key stage 2 Pupils should be taught to:  Design, write and debug programs that accomplish specific goals, including controlling or simulating physical systems; solve problems by decomposing them into smaller parts  Use sequence, selection, and repetition in programs; work with variables and various forms of input and output  Use logical reasoning to explain how some simple algorithms work and to detect and correct errors in algorithms and programs  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  Use search technologies effectively, appreciate how results are selected and ranked, and be discerning in evaluating digital content  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 | **Autumn**  **Unit 5.2 Online Safety**  **Unit 5.1 Coding**  **Unit 5.3 Spreadsheets**  **Spring**  **Unit 5.4 Databases**  **Unit 5.5 Game Creator**  **Summer**  **Unit 5.6 3D Modelling**  **Unit 5.7 Concept Maps** | Appropriate  Bibliography  Copyright  Encrypt  Citation  Malware  Phishing  Reference  Validity  Abstraction  Efficiency  Function  Concatenation  Simulation  Formula  Budget  Column  Rows  Variable  Arrange  Data  Collaborative  Field  Record  Evaluation  Promotion  Quest  Screenshot  3D printing  CAD  Concept  Connection  Collaborate | **Unit 5.2 Online Safety**  Use technology safely, respectfully and responsibly; recognise acceptable/unacceptable behaviour; identify a range of ways to report concerns about content and contact.  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.  **Unit 5.1 Coding**  Design, write and debug programs that accomplish specific goals, including controlling or simulating physical systems; solve problems by decomposing them into smaller parts  Use sequence, selection and repetition in programs; work with variables and various forms of input and output.  Use logical reasoning to explain how some simple algorithms work and to detect and correct errors in algorithms and programs.  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.  **Unit 5.3 Spreadsheets**  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.  **Unit 5.4 Databases**  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.  **Unit 5.5 Game Creator**  Design, write and debug programs that accomplish specific goals, including controlling or simulating physical systems; solve problems by decomposing them into smaller parts  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  **Unit 5.6 3D Modelling**  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  **Unit 5.7 Concept Maps**  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 |
|  | Local Interests and Links – | | | |
| Yr6 | Key stage 2 Pupils should be taught to:  Design, write and debug programs that accomplish specific goals, including controlling or simulating physical systems; solve problems by decomposing them into smaller parts  Use sequence, selection, and repetition in programs; work with variables and various forms of input and output  Use logical reasoning to explain how some simple algorithms work and to detect and correct errors in algorithms and programs  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  Use search technologies effectively, appreciate how results are selected and ranked, and be discerning in evaluating digital content  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 | **Autumn**  **Unit 6.2 Online Safety**  **Unit 6.1 Coding**  **Unit 6.3 Spreadsheets**  **Spring**  **Unit 6.4 Blogging**  **Unit 6.5 Text Adventures**  **Summer**  **Unit 6.6 Networks**  **Unit 6.7 Quizzing** | Data analysis  Inappropriate  Phishing  Secure  Algorithm  Command  Concatenation  Debugging  Decomposition  Function  Procedure  Advance mode  Formula  Data  Column  Row  Approval  Archive  Commenting  Connections  Vlog  Debugging  Function  QR code  Variables  DNS  IP address  Ethernet  Router  WAN  LAN  Network  Audience  Selfie  Cloze  Clone | **Unit 6.2 Online Safety**  Use technology safely, respectfully and responsibly; recognise acceptable/unacceptable behaviour; identify a range of ways to report concerns about content and contact\*.  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  Use search technologies effectively, appreciate how results are selected and ranked, and be discerning in evaluating digital content.  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.  **Unit 6.1 Coding**  Design, write and debug programs that accomplish specific goals, including controlling or simulating physical systems; solve problems by decomposing them into smaller parts.  Use sequence, selection and repetition in programs; work with variables and various forms of input and output.  Use logical reasoning to explain how some simple algorithms work and to detect and correct errors in algorithms and programs  **Unit 6.3 Spreadsheets**  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.  **Unit 6.4 Blogging**  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\*.  **Unit 6.5 Text Adventures**  Design, write and debug programs that accomplish specific goals, including controlling or simulating physical systems; solve problems by decomposing them into smaller parts.  Use sequence, selection and repetition in programs; work with variables and various forms of input and output  Use logical reasoning to explain how some simple algorithms work and to detect and correct errors in algorithms and programs.  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  **Unit 6.6 Networks**  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.  **Unit 6.7 Quizzing**  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. |
|  | Local Interests and Links | | | |