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| --- |
| Nursery: Children have access to iPads once a week. Teachers work towards children having some awareness of key words such as the names and parts of devices (mouse, keyboard, logging on, scroll up/down, swipe, enter) and to becoming aware of the uses of this technology and other forms of technology around them. Some good practice is detailed here: <https://my.optimus-education.com/sites/optimus-education.com/files/attachments/articles/uw_technology.pdf> Online safety – children are aware what they would do if they saw a sad or scary video? Age-appropriate books and ThinkUKnow resources are used to facilitate this. |
| Reception: To aim to complete Kapow Primary’s EYFS units of work <https://www.kapowprimary.com/subjects/computing/eyfs/eyfs-years/using-a-computer/> and online safety lessons from <https://www.thinkuknow.co.uk/professionals/resources/jessie-and-friends/>. Children study 4 units covering:1. Using a Computer
2. All about Instructions
3. Exploring Hardware
4. Introduction to Data

Children work with Year 6 using Robot Mice and exploring software available on the PCs. |
| Year 1 |
| Autumn 1 | Autumn 2 | Spring 1 | Spring 2 | Summer 1 | Summer 2 |
| Getting Started & Digital Painting (NCCE)(7.5 weeks) | Word-processing(Twinkl)(7weeks) | Programming: Bee-bots (Kapow)(6 weeks) | Algorithms Unplugged(Kapow)(7 weeks) | Online safety(Twinkl)(6 weeks) | Introduction to Data(Kapow)(6.5) |
| Exploring basic computer skills through Paint.1. How can we paint using computers?
2. Using shapes and lines
3. Making careful choices
4. Why did I choose that?
5. Painting all by myself.

<https://drive.google.com/drive/folders/1T17Tcrrgjhd8dDie6iKPcA6yUf0Hzmci>1. Online Safety

<https://www.thinkuknow.co.uk/professionals/resources/jessie-and-friends/>1. Making a poster using Paint.
 | An introduction to Microsoft Word.1. Typing
2. Symbols
3. Editing
4. Undo and Redo
5. Select and Format
6. Formatting Text

<https://www.twinkl.com/resource/tp-i-001-new-planit-computing-year-1-word-processing-skills-unit-pack> | Exploring programming and algorithms with Bee-bots.1. Getting to know a Bee-bot
2. Making a Bee-bot Video
3. Precise Instructions
4. Bee-bot World
5. Three Little Pigs

<https://www.kapowprimary.com/subjects/computing/key-stage-1/year-1/programming-beebot/> | A series of unplugged activities to explore real life algorithms.1. What is an algorithm
2. Algorithm Pictures
3. Virtual Assistants
4. Step by step
5. Debugging directions.

<https://www.kapowprimary.com/subjects/computing/key-stage-1/year-1/algorithms-unplugged/> | Learning the basics of online safety.1. Owning your creative work
2. Safe image searching
3. Staying SMART online
4. My Personal Information
5. What is email?
6. Keeping Zibb Safe Online

<https://www.twinkl.co.uk/resource/tp-i-191-computing-online-safety-year-1-unit-pack> | Creating Pictograms using JIT5 with children collecting their own data from a mini beast hunt.1. Zoo Data
2. Picturing Data
3. Mini-beast hunt
4. Animal Guess Who
5. Inventions

<https://www.kapowprimary.com/subjects/computing/key-stage-1/year-1/introduction-to-data/> |
| Year 2 |
| Autumn 1 | Autumn 2 | Spring 1 | Spring 2 | Summer 1 | Summer 2 |
| Scratch Jr(Twinkl) | Digital Imagery(NCCE) | Drawing and Desktop Publishing(Twinkl) | Word processing(Kapow) | Preparing for Turtle Logo(Twinkl) | What is a computer?(Kapow) |
| 1. Cool Characters
2. Grow and shrink
3. Time to Move
4. Repeat
5. Sounds
6. Sequencing

<https://www.twinkl.com/resource/tp-i-0114-planit-computing-year-1-programming-with-scratchjr-unit-pack>1. Online safety

<https://www.thinkuknow.co.uk/professionals/resources/jessie-and-friends/> | Learning 1. Devices
2. Landscape or portrait
3. What makes a good photo?
4. Lighting and Focus
5. Effects
6. Is it real?

<https://drive.google.com/drive/folders/1Gdh3Zw0uKesSOyqAhCqE2M_-hC0ePG8m> | Developing our skills in Paint and taking our first steps in Microsoft Publisher.1. Objects
2. Ordering and Grouping
3. Manipulating Objects
4. Posters
5. Combining Text and Images
6. Effective Layout

<https://www.twinkl.com/resource/tp2-i-207-planit-computing-year-3-drawing-and-desktop-publishing-unit-pack> | Using Microsoft Word to re-cap word processing skills and to go further in producing different documents.1. Getting to know the keyboard
2. Getting started with Word processing.
3. Newspaper Writer
4. Poetry Book
5. Making friends online.

<https://www.kapowprimary.com/subjects/computing/key-stage-1/year-2/word-processing/> | Unplugged activities preparing children to use python coding language.1. Moving forward and making turns
2. Half and Quarter turns
3. Right 90 and Left 90
4. Completing Algorithms
5. Command abbreviations.
6. From here to there.

<https://www.twinkl.com/resource/tp-i-0092-new-planit-computing-year-2-preparing-for-turtle-logo-unit-pack> | [Children explore what a computer is, identify and learn how inputs and outputs work, how computers are used in the wider world and design their own computerised invention](https://www.kapowprimary.com/subjects/computing/key-stage-1/year-2/data-and-data-representation-hardware-and-processing/).1. Computer parts
2. Inputs
3. Technology Safari
4. Invention
5. Real World Role-Play

<https://www.kapowprimary.com/subjects/computing/key-stage-1/year-2/what-is-a-computer/> |
| Year 2/3 Cycle 1 |
| Journey Inside a Computer(Kapow) | Digital Imagery 2(Kapow) | Desktop Publishing(NCCE) | Programming: Turtle Logo & Scratch(Twinkl) | Presentation Skills (Year 2)(Twinkl) | Creating Media – Music(NCCE) |
| [Children learn about the different parts of a computer through role-play and develop their understanding of how they follow instructions](https://www.kapowprimary.com/subjects/computing/lower-key-stage-2/year-3/data-and-data-representation-hardware-and-processing/).1. Inputs and Outputs
2. Building a paper Laptop
3. Following Instructions
4. Computer Memory
5. Dismantling a tablet

<https://www.kapowprimary.com/subjects/computing/lower-key-stage-2/year-3/journey-inside-a-computer/> | [Taking and manipulating digital photographs, including adding images found via a search engine](https://www.kapowprimary.com/subjects/computing/key-stage-1/year-1/digital-imagery/).1. Taking a good quality photo
2. Taking a good quality photo

<https://drive.google.com/drive/folders/1Gdh3Zw0uKesSOyqAhCqE2M_-hC0ePG8m> (lessons 3&5)1. Planning a photo story
2. Taking Photos
3. Editing Photos
4. Searching for Images
5. Photo collage

<https://www.kapowprimary.com/subjects/computing/key-stage-1/year-1/digital-imagery/> | Using some of the more advanced features of Publisher to create publications.1. Words and Pictures.
2. Can you edit it?
3. Great template!
4. Can you add content?
5. Lay it out.
6. Why desktop Publishing?

<https://drive.google.com/drive/folders/1xsYvU5U9XnNyDTqpeufUHOplO8nibqVr> | Creating and debugging algorithms. The children use the basic commands in Logo to move and draw using the turtle, and further develop algorithms using “repeat” command. These skills are then developed by teaching children to create algorithms in Scratch.1. Backwards
2. Pen Up pen Down
3. Regular Polygons
4. Drawing
5. Regular Polygons in Scratch
6. Pens

<https://www.twinkl.com/resource/tp2-i-040-new-planit-computing-year-3-programming-turtle-logo-and-scratch-unit-pack> | An introduction to Microsoft PowerPoint and the skill of presenting.1. Folders
2. What is a presentation
3. New slide, Slide layout
4. Add and Format an Image
5. Reorder slides and present.
6. Searching and Printing

NB: If your class have already grasped Lessons 1 and 6 these can be replaced with time to share presentations.<https://www.twinkl.com/resource/tp-i-0022-new-planit-computing-year-2-presentation-skills-unit-pack> | This unit looks at how images can be connected music and how they might represent music and works towards using Chrome Music Lab to create music digitally.1. How music makes us feel
2. Rhythms and patterns
3. How music can be used.
4. Notes and Tempo.
5. Creating Digital Music
6. Reviewing and editing Music.

<https://drive.google.com/drive/folders/1R_Qxp-IxM1fkgxHzbdrMQfSrgO_Q-XoI> |
| Year 2/3 Cycle 2 |
| Autumn 1 | Autumn 2 | Spring 1 | Spring 2 | Summer 1 | Summer 2 |
| Computing Systems and Networks – Connecting Computers(NCCE) | Stop-Frame Animation Using iMovie(NCCE) | Top Trumps Data-bases (Kapow) | Online Safety(Twinkl) | Programming with Scratch(Kapow) | Presentation Skills Year 3(Twinkl) |
| Learners will look at IT at school and beyond, in settings such as shops, hospitals, and libraries. Learners will investigate how IT improves our world, and they will learn about using IT responsibly.1. What is IT?
2. Where have we seen IT in the home?
3. Where have we seen IT in the world?
4. How can IT improve our world?
5. Demonstrate safe use of IT
6. Using IT responsibly.

<https://drive.google.com/drive/folders/1Asbey_8YO0OsTt_HiCnizx6DoPBxRL9v> | During this unit, learners will create a stop frame animation using tablets and apply the skills learned in this process to create a story-based animation. This unit will conclude with learners adding other types of media to their animation, such as music and text.1. Can a picture Move?
2. Frame by Frame.
3. What’s the story?
4. Picture Perfect
5. Evaluate and make it great
6. Lights camera action.

<https://drive.google.com/drive/folders/1geBBfhxvE_r4D23sQ44VY5zdxnvmBBmi> | Developing their understanding of data and databases, children play with and create their own Top Trumps cards, learning how to interpret information by ordering and filtering.1. Records, Fields & Data
2. Race against the computer
3. Sorting and Filtering
4. Representing Data
5. Planning a Holiday

<https://www.kapowprimary.com/subjects/computing/lower-key-stage-2/year-3/top-trumps-databases/> | In this unit, children consider how to email safely, what their digital footprint might look like, the importance of privacy settings and how to identify cyber-bullying.1. What is Cyberbullying?
2. To Buy or Not To Buy?
3. Keep it to yourself.
4. E-mailing
5. Online Communication
6. Party Planners

<https://www.twinkl.co.uk/resource/tp2-i-920-computing-online-safety-year-3-unit-pack> | [Using Scratch, with its block-based approach to coding, pupils learn to tell stories and create simple games](https://www.kapowprimary.com/subjects/computing/lower-key-stage-2/year-3/programming-scratch/).1. Tinkering with Scratch.
2. Using Loops
3. Making an animation
4. Storytelling
5. Programming a game.

<https://www.kapowprimary.com/subjects/computing/lower-key-stage-2/year-3/programming-scratch/> | Developing children’s use of presentation software. The first 3 lessons teach new skills; setting the theme, slide transitions, animating objects, creating hyperlinks and adding audio and video.1. Planning a branching story.
2. Creating the slides.
3. Theme, transitions and animation
4. Action settings
5. Audio & Video
6. Completing the story.

<https://www.twinkl.co.uk/resource/tp2-i-179-planit-computing-year-3-presentation-skills-unit-pack> |
| No word processing unit has been included in cycle 2 however in cross-curricular computer work there could be opportunities to revise skills in MS Word and to learn further features of the tool bar and keyboard, such as; print screen, snipping tool, inserting pictures and tables and changing the case of letters in a text. |
| Year 4/5 Cycle 1 |
| How the Internet Works (Kapow) | Online Safety(Stop Frame Animation)(Kapow) | Creating media – photo editing(NCCE) | Turtle Logo(Twinkl) | Computational Thinking (Kapow) | Controlling Devices using Flowol(Twinkl) |
| In this topic, children learn what the Internet is and how it works. Acting out different processes, children gain a deeper understanding of how data is transferred and how this enables us to view and interact with different websites.1. Networks (Recap)
2. What is the internet?
3. A website’s journey.
4. Routers
5. Understanding Packets

<https://www.kapowprimary.com/subjects/computing/lower-key-stage-2/year-4/the-internet/>1. Can I believe what I read?

<https://drive.google.com/drive/folders/1kTJRBcJgpIwMPzu57V8cBAvk3nmt1auo> (lesson 6)1. Online safety

Too much information.<https://www.twinkl.co.uk/resource/tp2-i-911-computing-online-safety-year-4-unit-pack> (lesson 4) | [Pupils create an online safety resource for younger children using tools such as presentation software, video tools or a simple stop-motion animation](https://www.kapowprimary.com/subjects/computing/upper-key-stage-2/year-5/online-safety/).1. Staying safe online
2. Understanding Stop Motion
3. Starting my Stop Motion Project
4. Edit the Animation
5. Film Review

<https://www.kapowprimary.com/subjects/computing/upper-key-stage-2/year-5/online-safety/> | In this unit, learners will develop their understanding of how digital images can be changed and edited, and how they can then be resaved and reused. They will consider the impact that editing images can have, and evaluate the effectiveness of their choices.1. Changing digital Images
2. Changing the composition of digital images
3. Changing Images for different uses.
4. Retouching images.
5. Fake images.
6. Making and evaluating a publication.

<https://drive.google.com/drive/folders/1z8vf_42NAYv0QdW5E6ldcfgKV5w4voyi> | Children will create an algorithm to program a procedure. The children then program their own procedures, use colour and set the position of the turtle using coordinates. They use the arc command to create patterns using different shapes and randomly selected colours.1. Procedures
2. Setpos
3. Colours
4. Fill
5. Label
6. Arc

<https://www.twinkl.co.uk/resource/tp2-i-060-planit-computing-year-4-programming-turtle-logo-unit-pack> | This unit teaches the four skill areas needed to solve problems effectively: abstraction, algorithm design, decomposition & pattern recognition. Pupils explore and apply these skills in a range of plugged & unplugged activities & complete an independent programming challenge.1. What is Computational Thinking?
2. Decomposition
3. Abstraction & Pattern Recognition
4. Algorithm design.
5. Applying Computational Thinking

<https://www.kapowprimary.com/subjects/computing/lower-key-stage-2/year-4/computational-thinking/> | This unit introduces children to flowcharts and how they are used to program and control devices using Flowol software. Children are taught to build sequences of instructions, control multiple outputs and structure algorithms with decisions and inputs. 1. What is a flowchart
2. Programming outputs
3. Multiple outputs
4. Inputs and decisions
5. Subroutines
6. Combining skills

<https://www.twinkl.co.uk/resource/tp2-i-074-planit-computing-year-5-controlling-devices-flowol-unit-pack> |
| Year 4/5 Cycle 2 |
| Autumn 1 | Autumn 2 | Spring 1 | Spring 2 | Summer 1 | Summer 2 |
| Online SafetyYear 5 (Twinkl) | Creating Media – Audio Editing (NCCE) | Scratch: Questions & Quizzes (Twinkl) | Word Processing (Twinkl) | Computing Systems and Networks – The Internet (NCCE) | Creating Media – Vector Drawing(NCCE Yr5) |
| In this unit, children will learn about email safety & preventing and dealing with spam. They will consider the importance of strong passwords and learn how to create them. Children will build on their knowledge of plagiarism and fair use of people’s work by learning how to write citations and references for websites they may use. They will scrutinise photographs that they see online and learn how easy it is to manipulate pictures and present them as reality.1. Spam
2. Sites to Cite
3. Powerful Passwords
4. False Photography
5. Online Safety Story
6. Online Safety Comics

<https://www.twinkl.co.uk/resource/computing-online-safety-unit-pack-year-5-tp2-i-936> | Learners will identify devices using audio including their input and output. They will discuss the ownership of digital audio. In order to record audio themselves, learners will use Audacity to produce a podcast, which will include editing their work, adding multiple tracks, and opening and saving the audio files. Finally, learners will evaluate their work and give feedback to their peers.1. Digital Recording
2. Recording Sound
3. Creating a podcast
4. Editing Digital Recordings
5. Combining Audio
6. Evaluating Podcasts

<https://drive.google.com/drive/folders/1p0Z-Zo_Lck09qHrXypG1FaWnOM_OxVg0> | In this unit the children write quizzes by combining questions. While specific skills in Scratch are taught, the unit aims to teach children the wider programming skills of solving problems, testing, debugging, improving and evaluating.1. Questions and Answers
2. A short quiz
3. Changing the sprite
4. Additional effects
5. Scoring
6. Create your own quiz

<https://www.twinkl.co.uk/resource/tp2-i-018-planit-computing-year-4-scratch-questions-and-quizzes-unit-pack> | In this unit children will learn about formatting images and organising content into and effective layout.Children will create a range of different word documents (posters, letters to parents, job rotas, recipe cards and e-vouchers) which they will use during the cake sale project.1. Ingenious Images
2. Learn the Layout
3. Super Spelling
4. Time for Tables
5. Transform a Layout
6. Hyperlinks

<https://www.twinkl.co.uk/resource/t2-i-146-computing-word-processing-year-4-unit-pack> | Learners apply their knowledge and understanding of networks, to appreciate the internet as a network of networks. They will learn that the World Wide Web is part of the internet, and learn about who owns content and what they can access, add, and create. Finally they will evaluate online content to deciding how accurate, or reliable it is & understand the consequences of false information.1. Connecting Networks
2. What is the Internet Made of
3. Sharing Information
4. What is a website
5. Who owns the web?
6. Can I believe what I read?

<https://drive.google.com/drive/folders/1kTJRBcJgpIwMPzu57V8cBAvk3nmt1auo> | In this unit learners will find out that vector images are made up of shapes. They will learn how to use the different drawing tools and how images are created in layers. They will explore the ways in which images can be grouped and duplicated to support them in creating more complex pieces of work. This unit is planned using the Google Drawings app other alternative pieces of software are available.1. The Drawing Tools
2. Create a Vector Drawing
3. Being effective
4. Layers and Objects
5. Manipulating Objects
6. Get designing

<https://drive.google.com/drive/folders/17kl6zpgsPxFyL7f5oEgQE8YjLL_IKkIo> |
| Year 5/6 Cycle 1 |
| Computing Systems and Networks – Sharing information(NCCE Yr 5) | Sketchup(Twinkl) | Website Design(Kapow) | [Sonic Pi](https://www.kapowprimary.com/subjects/computing/upper-key-stage-2/year-5/sonic-pi/)(Kapow Yr5) | Search Engines(Kapow) | Spreadsheets(Twinkl) |
| In this unit, learners develop their understanding of computer systems & how information is transferred between systems & devices. Learners will consider small-scale and large-scale systems. They will explain the input, output, and process aspects of different real-world systems. They will also take part in a collaborative online project.1. Systems
2. Computer Systems and Us
3. Transferring information
4. Working together
5. Better working together
6. Shared Working

[https://docs.google.com/document/d/1jw9qpnlcf9uofE3\_YbSRfZwEL8q8c-LIeKDtYImj0vk/edit#](https://docs.google.com/document/d/1jw9qpnlcf9uofE3_YbSRfZwEL8q8c-LIeKDtYImj0vk/edit) | In this unit the children extend their drawing skills to create 3D models based on using the software SketchUp Make. This is a free application available for download on Windows or OSX (Mac). Children will learn how to create simple and complex 3D models. They will be able to add detail and manipulate 3D models using a variety of tools.1. 2D – 3D
2. Detail
3. Inside
4. Furniture
5. A Table
6. Your Room

<https://www.twinkl.co.uk/resource/tp2-i-108-planit-computing-year-5-3d-modelling-sketchup-unit-pack> | In this topic children develop their research, word processing, and collaborative working skills whilst learning how web pages and web sites are created, exploring how to change layouts, embed images and videos and link between pages.1. Google Sites Skills
2. Book Review Webpage
3. Creating a webpage
4. Planning my website
5. Creating my website

<https://www.kapowprimary.com/subjects/computing/lower-key-stage-2/year-4/website-design/> | [Composing music using code through Sonic Pi, pupils can import samples, add drum beats and compose simple tunes culminating in a ‘battle of the bands’ using live loops of music](https://www.kapowprimary.com/subjects/computing/upper-key-stage-2/year-5/sonic-pi/).1. Tinkering with Sonic Pi
2. Sonic Soundtracks
3. Musical Storytelling
4. Live Loops
5. Battle of the Bands

<https://www.kapowprimary.com/subjects/computing/upper-key-stage-2/year-5/sonic-pi/> | [To enable children to quickly and accurately find information and become independent learners, they need to develop their searching skills and learn how to identify trustworthy sources](https://www.kapowprimary.com/subjects/computing/upper-key-stage-2/year-5/search-engines/).1. Searching Basics
2. Inaccurate Information
3. WebQuest
4. Information Poster
5. Web Crawlers

<https://www.kapowprimary.com/subjects/computing/upper-key-stage-2/year-5/search-engines/> | Children learn skills in formatting and entering specific formulas. Lessons 4 and 5 include investigative skills in using the spreadsheet to solve specific problems. Examples include number calculations, sports league tables, test scores, and budget planning. The final lesson allows an open-ended task for pupils to design their own spreadsheet. 1. Number operations
2. Ordering and Presenting Data
3. Add, Edit and Calculate Data
4. Solving Problems
5. Party Plan Budget
6. Design your Own.

<https://www.twinkl.co.uk/resource/tp2-i-041-new-planit-computing-year-6-spreadsheets-unit-pack> |
| Year 5/6 Cycle 2 |
| Computing Systems and Networks – Communication(NCCE Yr6) | Micro:bit(Kapow) | Html(Kapow Yr 4) | Creating Media – 3D Modelling(NCCE Year 6) | Big Data 1(Kapow Year 6) | Big Data 2(Kapow Year 6) |
| In this unit, the class will learn about the World Wide Web as a communication tool. First, they will learn how we find information on the World Wide Web, through learning how search engines work. They will investigate different methods of communication, before focusing on internet-based communication. 1. Searching the Web
2. Selecting search results
3. How Search Results are Ranked
4. How are Searches Influenced?
5. How we commuinicate
6. Communicating Responsibly

<https://drive.google.com/drive/folders/1L1xvqs9HniXj1IOOwafEs92RllxdvugY> | [Programming a small device called a micro:bit to display animations or messages on its simple LED display using block coding](https://www.kapowprimary.com/subjects/computing/upper-key-stage-2/year-5/programming/).1. Tinkering with BBC micro:bit
2. Prgramming an Animation
3. Polling Programme
4. Programming a pedometer
5. Programming a Scoreboard

<https://www.kapowprimary.com/subjects/computing/upper-key-stage-2/year-5/microbit/> | [Pupils explore the language behind well known websites, while developing their understanding of how to change the core characteristics of a website using HTML and CSS](https://www.kapowprimary.com/subjects/computing/lower-key-stage-2/year-4/html/).1. Introduction to HTML
2. Remixing HTML
3. Changing HTML & CSS
4. Website Hacking
5. Replacing Images

<https://www.kapowprimary.com/subjects/computing/lower-key-stage-2/year-4/html/> | During this unit, learners will develop their knowledge and understanding of using a computer to produce 3D models. Learners will initially familiarise themselves with working in a 3D space, including combining 3D objects to make a house and examining the differences between working digitally with 2D and 3D graphics. Learners will progress to making accurate 3D models of physical objects, such as a pencil holder, which include using 3D objects as placeholders. Finally, learners will examine the need to group 3D objects, then go on to plan, develop, and evaluate their own 3D model of a photo frame.1. What is 3D modelling?
2. 2D or not 2D?
3. Rotation and Postitioning
4. Making Holes
5. Planning my own 3D Model
6. Making my own 3D Model

<https://drive.google.com/drive/folders/1VJq38c90n87EGOmFHVHwOGZC8diw60q3> | [Children learn how data is collected and stored by exploring barcodes, QR codes and RFID chips, and investigate how collecting big data can be used to help people in a variety of different scenarios.](https://www.kapowprimary.com/subjects/computing/upper-key-stage-2/year-6/data-and-data-representation-hardware-and-processing-big-data/) 1. Barcodes
2. Transmitting Data
3. RFID
4. Using RFID
5. Mobile Data

<https://www.kapowprimary.com/subjects/computing/upper-key-stage-2/year-6/big-data-1/> | [Children learn the difference between mobile data and WiFi and how data is transferred and use their understanding of big data to design their own smart school](https://www.kapowprimary.com/subjects/computing/upper-key-stage-2/year-6/big-data-2/).1. Transferring Data
2. Data Usage
3. The internet of Things
4. Designing a Smart School
5. Smart School Presentation

<https://www.kapowprimary.com/subjects/computing/upper-key-stage-2/year-6/big-data-2/> |