



Curriculum Coherence – Year 3 Computing

| Term 3 | Spreadsheets/Branching databases | Programming with Scratch |
|--|---|---|
| INTENT | IMPLEMENTATION | IMPACT |
| <p>KNOWLEDGE Spreadsheets/Branching Databases <i>-How spreadsheets are structured and how they can be used to organise data</i> <i>-Know how cells are referenced and that this can be used in formulae to perform calculations</i> <i>-How to create a variety of graphs and charts using a spreadsheet program (2Calculate)</i> <i>-Know how branching databases can be used to identify or classify data</i></p> <p>Programming with Scratch <i>-How inputs can control when code runs</i> <i>-How blocks can be sequenced to achieve an outcome</i> <i>-How repetition loops can be used to simplify code</i></p> | <p>ACTIVITIES Spreadsheets unit 3.3 - (Unplugged) organise class into rows and columns, identify rows, columns, cells. -Tinker with 2Calculate. Empty sheet challenges: typing in and navigating around cells (arrow keys), save, reopen, insert images, highlight cells. Investigate move and lock tools. Try out a new tool and show someone else what it does. -Collect data as a class. empty sheet (fx), input data. Try different types of chart/graph. <i>Which do they think is best for their data and why?</i> Edit headers and axis labels. -Calculate costs for something using some simple formulae: +,-,/,*, =sum(:_) (relate to topic?).</p> <p>Branching Databases unit 3.6 -(unplugged) Play Guess Who as a class. Note questions, cross out characters as they go to show how each yes/no question helps to <i>identify</i> the piece of data needed. -(unplugged) use a branching database to identify data e.g. animal/tree etc. <i>How is it structured?</i> -create a class database for fruits using 2Question. -create their own branching databases characters/superheroes etc by <i>classifying</i> the data until each branch ends in one possibility. <i>What data are you sorting? What yes/no questions can you ask to split them into roughly 2 equal groups each time?</i></p> <p>Programming with Scratch -Tinker with Scratch. Challenges: change <i>costumes</i> and the colour of items of clothing or accessories; change <i>sprite</i>; import a <i>background</i> to change when clicked. -(unplugged) Play Programmer Says with simple instructions, chn complete activity only upon “Run program” command. -Whole class decompose features (in THREAD books) https://scratch.mit.edu/projects/13165886/ : background, car, direction keys, move key, pen up, pen down, clear. -Individual challenges: change sprite to a car; add blocks to make it move when a key is pressed; add direction blocks; create a background. Extension: write instructions (separate sprite). -(unplugged in books) Introduce <i>loops</i>: repeat 5 (wake up, go to school, go home). Add weekend/half term to make own code. -Music Machine project. Paint sound buttons; code to make sounds; include loops. Share and evaluate Scratch animations. <i>What do they like? Why? How could it be made even better?</i> -(unplugged) What code blocks would be needed to create a simple conversation between 2 characters?</p> | <p>OUTCOMES Spreadsheets/Branching Databases PUPILS will know -What is data? -What is the structure of spreadsheets? -What are the advantages of using spreadsheets? -What is a branching database and how can they be used to classify and identify objects?</p> <p>will be able to -Tinker with different programs that can be used to organise and analyse data -Use a spreadsheet to collect and organise data - Use formulae to perform simple calculations -Create a variety of graphs and charts to present data and information; analyse and evaluate these. -Make a branching database -Use a branching database to classify/identify data. -Use an appropriate tool to share my work online</p> <p>will understand I can talk about the different ways data can be organised. I can search a ready-made database to answer questions. I can collect data help me answer a question. I can add to a database.</p> <p>Programming with Scratch PUPILS will know -how can we create a simple sequence in block programming? -what do different blocks do and how are they organised? -how can events blocks can be used to signal when code will run? -how can control blocks affect how a sequence runs?</p> <p>Will be able to -tinker with Scratch -design and create their own themed project -evaluate their own and others’ projects - keep testing their program, recognise when to debug it. - use repeat commands. -describe the algorithm for a simple task. -evaluate their work and improve its effectiveness</p> <p>will understand I can break an open-ended problem up into smaller parts. I can put programming commands into a sequence to achieve a specific outcome.</p> |
| <p>VOCABULARY Spreadsheets Symbols, values, formulae, references, copy and paste, columns, rows, cells, equals tool, move cell, spreadsheet, data, clipart, calculations, select, highlight</p> <p>Branching Databases Data, database, classify, identify, closed questions, binary trees, answer card, choice button</p> <p>Scratch Tinker, app, coding language, algorithm, sequence, project, stage, sprite, background, scripts, costumes, run, motion, looks, event, control, blocks, edit, debug, repeat, selection, input, loops, decomposing</p> | <p>SKILLS Spreadsheets To navigate around a spreadsheet To find and add clipart images to a spreadsheet To use tools ‘move’ and ‘lock’ Save and open sheets To enter data into cells</p> <p>Branching Databases Using a branching database to identify something Creating Yes/No questions to split data sets roughly in half Designing their own branching database</p> <p>Scratch Saving into a networked folder, appropriate file name; retrieving saved file. Decomposing features Adding appropriate blocks</p> | <p>will be able to I can break an open-ended problem up into smaller parts. I can put programming commands into a sequence to achieve a specific outcome.</p> <p>NEXT STEPS IN LEARNING Scratch (Year 4, Autumn 2)</p> |

| | | |
|--|---|--|
| <p>Create a project with loops Use wait blocks in a sequence Evaluate their animations</p> | <p>(e.g. Knock Knock joke). Introduce <i>wait</i> control block (for turn taking). Plan their own joke in pairs. -Import 2 sprites and create their conversation on Scratch. Share and evaluate. <i>Does their conversation make sense? Do their sprites talk at different times? Is there the right amount of time to read their speech bubbles?</i></p> | <p>Logo programming (Year 4, Summer 2)</p> |
| <p><u>LINKS</u> Maths/Science – Data handling Science - classification</p> | | |