Ashwell Primary School
Computing Curriculum
Spreadsheets Progression – Knowledge & Skills Organiser

Spreadsheets

Year 1 – Spreadsheets

Core Knowledge / skills to be acquired: (Unit 1.8)	**Key Vocabulary:**
- To know what a spreadsheet program looks like. - To locate 2Calculate in Purple Mash. - To enter data into spreadsheet cells. - To use 2Calculate image tools to add clipart to cells. - To use 2Calculate control tools: lock, move cell, speak and count.	**Spreadsheet -** A computer program that represents information in a grid of rows and columns. **Cells -** An individual section of a spreadsheet grid. It contains data or calculations. **Lock tool -** This tool prevents cell values being changed. **Move cell tool -** This tool makes a cell's contents moveable. **Rows -** Vertical reference points for the cells in a spreadsheet. **Columns -** Vertical reference points for the cells in a spreadsheet. **Cursor -** An indicator on a computer screen identifying the point that will be affected by input from the user. **Count Tool -** In 2Calculate, this counts the number of cells with a value that matches the value of the cell to the left of the tool.

Curriculum Enrichment / Cultural Capital Opportunities / Key Questions
- What does a spreadsheet look like?
- How could you use a spreadsheet to add up values?
- How could you use the count and speak tools?

Prior knowledge / skills this builds on:	**What comes next: (Unit 2.3)**
EYFS Framework - Solve real world mathematical problems with numbers up to 5. - Explore and represent patterns within numbers up to 10, including evens and odds, double facts and how quantities can be distributed evenly. - Experiment with their own symbols and marks, as well as numerals.	- To use 2Calculate image, lock, move cell, speak and count tools to make a counting machine. - To learn how to copy and paste in 2Calculate. - To use the totalling tools. - To use a spreadsheet for money calculations. - To use the 2Calculate equals tool to check calculations. - To use 2Calculate to collect data and produce a graph.

Year 2 – Spreadsheets

Core Knowledge / skills to be acquired: (Unit 2.3)

- To use 2Calculate image, lock, move cell, speak and count tools to make a counting machine.
- To learn how to copy and paste in 2Calculate.
- To use the totalling tools.
- To use a spreadsheet for money calculations.
- To use the 2Calculate equals tool to check calculations.
- To use 2Calculate to collect data and produce a graph.

Key Vocabulary:

Spreadsheet - A computer program that represents information in a grid of rows and columns.
Cells - An individual section of a spreadsheet grid. It contains data or calculations.
Lock tool - This tool prevents cell values being changed.
Move cell tool - This tool makes a cell's contents moveable.
Equals tool - Tests whether the entered calculation in the cells to the left of the tool has the correct answer in the cell to the right of the tool.
Rows - Vertical reference points for the cells in a spreadsheet.
Columns - Vertical reference points for the cells in a spreadsheet.
Cursor - An indicator on a computer screen identifying the point that will be affected by input from the user.
Count Tool - In 2Calculate, this counts the number of cells with a value that matches the value of the cell to the left of the tool.
Copy and Paste - A way to copy information from the screen into the computer's memory and paste it elsewhere without re-typing.

Curriculum Enrichment / Cultural Capital Opportunities / Key Questions
- Why would you copy and paste when using a spreadsheet?
- How could a spreadsheet help you when you are planning some shopping?

Prior knowledge / skills this builds on: (Unit 1.8)

- To know what a spreadsheet program looks like.
- To locate 2Calculate in Purple Mash.
- To enter data into spreadsheet cells.
- To use 2Calculate image tools to add clipart to cells.
- To use 2Calculate control tools: lock, move cell, speak and count.

What comes next:

- To use the symbols more than, less than and equal to, to compare values.
- To use 2Calculate to collect data and produce a variety of graphs.
- To use the advanced mode of 2Calculate to learn about cell references.

Year 3 – Spreadsheets

Core Knowledge / skills to be acquired: (Unit 3.3)

- To use the symbols more than, less than and equal to, to compare values.

- To use 2Calculate to collect data and produce a variety of graphs.

- To use the advanced mode of 2Calculate to learn about cell references.

Key Vocabulary:

< > = Symbols used to represent comparing two values. a < b means 'a is less than b'. a > b means 'a is greater than b'. a = b means 'a is equal to b'. These can be combined, for example a =< b means 'a is equal to or less than b'.

Cells - An individual section of a spreadsheet grid. It contains data or calculations.

Equals tool - Tests whether the entered calculation in the cells to the left of the tool has the correct answer in the cell to the right of the tool.

Rows - Vertical reference points for the cells in a spreadsheet.

Columns - Vertical reference points for the cells in a spreadsheet.

Count Tool - In 2Calculate, this counts the number of cells with a value that matches the value of the cell to the left of the tool.

Advance mode - A mode of 2Calculate in which the cells have references and can include formulae.

Curriculum Enrichment / Cultural Capital Opportunities / Key Questions

- Explain how you would collect data to find out children's favourite school subjects. What sort of graph would you create?
- How can you make a 3 times table machine using the spin tool? Could you use the equals tool to check your answer?
- Explain how you would locate a cell in the advanced mode?

Prior knowledge / skills this builds on: (Unit 2.3)

- To use 2Calculate image, lock, move cell, speak and count tools to make a counting machine.
- To learn how to copy and paste in 2Calculate.
- To use the totalling tools.
- To use a spreadsheet for money calculations.
- To use the 2Calculate equals tool to check calculations.
- To use 2Calculate to collect data and produce a graph.

What comes next: (Unit 4.3)

- To format cells as currency, percentage, decimal to different decimal places or fraction.
- To use the formula wizard to calculate averages.
- To combine tools to make spreadsheet activities such as timed times tables tests.
- To use a spreadsheet to model a real-life situation.
- To add a formula to a cell to automatically make a calculation in that cell.

Year 4 – Spreadsheets

Core Knowledge / skills to be acquired: (Unit 4.3)

- To format cells as currency, percentage, decimal to different decimal places or fraction.
- To use the formula wizard to calculate averages.
- To combine tools to make spreadsheet activities such as timed times tables tests.
- To use a spreadsheet to model a real-life situation.
- To add a formula to a cell to automatically make a calculation in that cell.

Key Vocabulary:

Cells - An individual section of a spreadsheet grid. It contains data or calculations.
Equals tool - Tests whether the entered calculation in the cells to the left of the tool has the correct answer in the cell to the right of the tool.
Rows - Vertical reference points for the cells in a spreadsheet.
Columns - Vertical reference points for the cells in a spreadsheet.
Advance mode - A mode of 2Calculate in which the cells have references and can include formulae.
Average Symbols used to represent comparing two values.
Charts - Use this button to create a variety of graph types for the data in the spreadsheet.
Formula - Use the formula wizard or type into the formula bar to create a formula in a cell, this will calculate the value for the cells based upon the value of other cells in the spreadsheet.
Formula Wizard - The wizard guides you in creating a variety of formulae for a cell such as calculations, totals, averages, minimum and maximum for the selected cells.

Curriculum Enrichment / Cultural Capital Opportunities / Key Questions

- How would you add a formula so that the cell shows the percentage score for a test?
- Give an example of the data that could be best represented by a line graph.
- Explain what a spreadsheet model of a real-life situation is and what it can be used for?
- Which tools would you use to create a timed times tables test in 2Calculate?

Prior knowledge / skills this builds on: (Unit 3.3)

- To use the symbols more than, less than and equal to, to compare values.
- To use 2Calculate to collect data and produce a variety of graphs.
- To use the advanced mode of 2Calculate to learn about cell references.

What comes next: (Unit 5.3)

- To use formulae within a spreadsheet to convert measurements of length and distance.
- To use the count tool to answer hypotheses about common letters in use.
- To use a spreadsheet to model a real-life problem.
- To use formulae to calculate area and perimeter of shapes.
- To create formulae that use text variables.
- To use a spreadsheet to help plan a school cake sale.

Year 5 – Spreadsheets

Core Knowledge / skills to be acquired: (Unit 5.3)

- To use formulae within a spreadsheet to convert measurements of length and distance.
- To use the count tool to answer hypotheses about common letters in use.
- To use a spreadsheet to model a real-life problem.
- To use formulae to calculate area and perimeter of shapes.
- To create formulae that use text variables.
- To use a spreadsheet to help plan a school cake sale.

Key Vocabulary:

Cells - An individual section of a spreadsheet grid. It contains data or calculations.
Equals tool - Tests whether the entered calculation in the cells to the left of the tool has the correct answer in the cell to the right of the tool.
Advance mode - A mode of 2Calculate in which the cells have references and can include formulae.
Average Symbols used to represent comparing two values.
Charts - Use this button to create a variety of graph types for the data in the spreadsheet.
Formula - Use the formula wizard or type into the formula bar to create a formula in a cell, this will calculate the value for the cells based upon the value of other cells in the spreadsheet.
Formula Wizard - The wizard guides you in creating a variety of formulae for a cell such as calculations, totals, averages, minimum and maximum for the selected cells.

Curriculum Enrichment / Cultural Capital Opportunities / Key Questions

- How would you add a formula so that the cell shows the product of two other cells?
- What would you use in 2Calculate to have a cell that automatically calculates the number of days since a certain date?
- Explain what a spreadsheet model of a real-life situation is and what it can be used for?

Prior knowledge / skills this builds on: (Unit 4.3)

- To format cells as currency, percentage, decimal to different decimal places or fraction.
- To use the formula wizard to calculate averages.
- To combine tools to make spreadsheet activities such as timed times tables tests.
- To use a spreadsheet to model a real-life situation.
- To add a formula to a cell to automatically make a calculation in that cell.

What comes next:

(Unit 6.3)

- To use a spreadsheet to:
  - Investigate the probability of the results of throwing many dice.
  - Calculate the discount and final prices in a sale.
  - Plan how to spend pocket money and the effect of saving money.
  - Plan a school charity day.

Unit (6.9)
- To know what a spreadsheet looks like, navigate and enter data into cells.
- To introduce some basic data formulae for percentages and averages.
- To demonstrate how the use of spreadsheets can save time when performing calculations.
- To use a spreadsheet to model a situation.
- To demonstrate how a spreadsheet can make complex data clear by manipulating the way it is presented.
- To create a variety of graphs in sheets.
- To apply spreadsheet skills to solving problems.

Year 6 – Spreadsheets

Core Knowledge / skills to be acquired:

(Unit 6.3)
- To use a spreadsheet to:
  - Investigate the probability of the results of throwing many dice.
  - Calculate the discount and final prices in a sale.
  - Plan how to spend pocket money and the effect of saving money.
  - Plan a school charity day.

Unit (6.9)
- To know what a spreadsheet looks like, navigate and enter data into cells.
- To introduce some basic data formulae for percentages and averages.
- To demonstrate how the use of spreadsheets can save time when performing calculations.
- To use a spreadsheet to model a situation.
- To demonstrate how a spreadsheet can make complex data clear by manipulating the way it is presented.
- To create a variety of graphs in sheets/excel.
- To apply spreadsheet skills to solving problems.

Key Vocabulary:

Count (how many) tool - Counts the number of whatever value object is in the cell to its immediate left and puts the answer in the cell to its immediate right.
Formula - A group of letters, numbers, or other symbols which represent a mathematical rule. It allows a spreadsheet to carry out calculations.
Formula Wizard - The wizard guides you in creating a variety of formulae for a cell such as calculations, totals, averages, minimum and maximum for the selected cells.
Equals tool - tests whether the entered calculation in the cells to the left of the tool has the correct answer in the cell to the right of the tool.
Value - What the data in a cell represents. This could be certain text e.g. blue/green, a date, or a number.
Range - A collection of selected cells: all the numbers you want to appear in a calculation. For example, A1:A12 includes all the cells from A1 to A12.
Function - Ready-made mathematical formulae which help you quickly carry out calculations.
Cell reference - The letter and number combination, which shows a cells location on the page.
Workbook - A file can contain more than one 'sheet'. The complete file is called a spreadsheet workbook.

Curriculum Enrichment / Cultural Capital Opportunities / Key Questions

- How would you add a formula so that the cell shows the total of a column of cells?
- What is a computational model and what it can be used for?
- If you were going to use a spreadsheet to plan your dream holiday. What data would you collect to cost the trip?
- How does using the SUM function save time?

Prior knowledge / skills this builds on: (Unit 5.3)

- To use formulae within a spreadsheet to convert measurements of length and distance.
- To use the count tool to answer hypotheses about common letters in use.
- To use a spreadsheet to model a real-life problem.
- To use formulae to calculate area and perimeter of shapes.
- To create formulae that use text variables.
- To use a spreadsheet to help plan a school cake sale.

What comes next:

Key Stage 3
- Understand how to write formulae to calculate the total, average, lowest and highest values from a range of numbers.
- Know how to show formulae in a spreadsheet.
- Be able to print and annotate a spreadsheet to explain what you have done.