

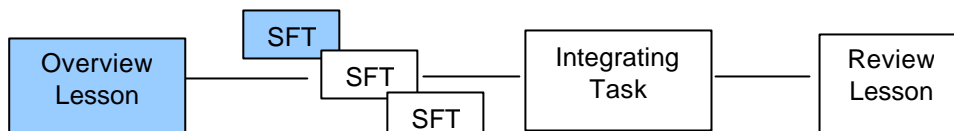
Formula 1

Learning objective: *I can.....*

PoS 2b, 3d

Use formulae in a spreadsheet

QCA Ref: 6b



Resources

A grid (drawn on the board or even distributed as photocopies to the children) laid out in the following fashion:

	A	B	C	D
1	Rectangles			
2				
3	Length (cm)	Width (cm)	Area (cm²)	Perimeter
4	10	2	20	24
5	10	3	30	26
6	10	4	40	28
7	10	5	50	30
8	10	6	60	32

Software you could use:

Excel / Number Magic / Number box

Support File(s): rectangles.nb2

URL:

Introduction/context: (15 mins)

Remind the children about their earlier work with spreadsheets and discuss mathematical investigations they have carried out. Tell them they are going to use a spreadsheet to explore a mathematical problem.

Away from the computer

Demonstrate how we might notate a mathematical investigation by listing results for a rectangles area vs it's perimeter as the above spreadsheet but without gridlines. Now add the gridlines and cell references and comment on how we could achieve this in a spreadsheet. Remind the class of the formula for working out the area of a rectangle. Can any of them translate this into cell references for a spreadsheet formula contained in cell C4? (=A4*B4) What about for the Perimeter? Once a formula is suggested, proceed to the computer to test it out.

At the computer

Have some children model creating the titles and layout for the above spreadsheet. Demonstrate how to enter a formula into C4 using the "=" sign and note the result. Can a child enter in the formula in C5 for the perimeter? Demonstrate how the formula can then be cut and pasted down the cells and how it amends the cell references as it guesses what you want. (A4*B4 becomes A5*B5 and so on.) Always check your formula is doing what you expect it to before trusting the results.

Vocabulary/functions:

Cell, grid, formula, perimeter, area, cell reference

Short Focused Task: (10 mins per child)

Can they create a spreadsheet that will work out the given perimeter and area of any given rectangle based on it's width and length?

Teaching Points:

Ask the children to explore what happens when the data in the two cells is changed. Children who find the work difficult could be given a prompt sheet showing cell references. Children needing to be stretched could create a fifth column showing the difference between the area and the perimeter values.

Review / Assessment (10 mins)

Do they understand that spreadsheets can be used to explore mathematical models?

Key Questions:

What is the main benefit of using a spreadsheet for investigations in this way?

How can you check a formula is correct?

What comes next:

Using formulae to generate number sequences.