Busy Plotting

Developing Ideas

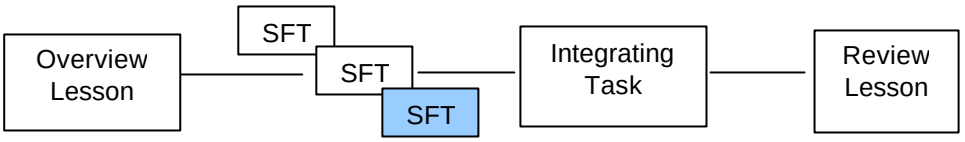
Year 6

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

use graphs to explore equations in a spreadsheet

PoS 2b, 3d

QCA Ref: 6b



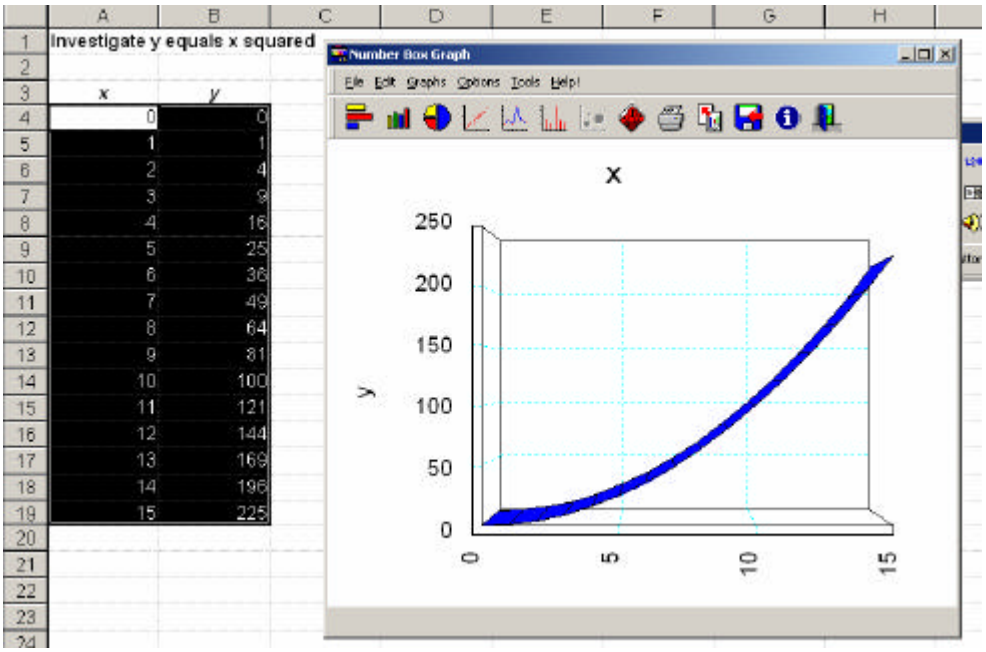
Resources
A board for notation.

Software you could use:
Excel / Number Magic / Number box
Support File(s):equations.nb2
URL:

Introduction/context: (15 mins)
Drawing Graphs can be slow work, let's get the spreadsheet to explore some patterns generated by equations.

Away from the computer
On the board, write the 2x table and plot it as a rough graph. Explain that we will be learning how to use a spreadsheet to enable us to plot graphs of equations more quickly and with a greater range.
Brainstorm the cell formula for the 2x table or for squared numbers.

At the computer
Revise how to create a number sequence and enter a formula. Create a spreadsheet to represent the equation y=x2. (cell B4 =A4*A4). Remind the class how to create graphs using the spreadsheet. Create a graph of the equations results. Undo certain parts of the spreadsheet and have a child model the process of repairing them.



Vocabulary/functions:
graphs, charts, equations

Short Focused Task: (20 mins per pair)
Ask the children to investigate graphs such as $y = x^2$, $y = 2x$, $y = x + 3$ using a spreadsheet.

Teaching Points:
This is a more open ended task than before, allow pairs to share ideas and more time for the task than usual. Ensure that the children change positions halfway through and begin a new equation so that they each have to manipulate the spreadsheet at some stage.

Review / Assessment (10 mins)
Can they appreciate how easy it is in a spreadsheet to create graphs of number patterns?

Key Questions:
Does the graph change if you extend the sequence?
Can you compare the graphs of two different equations?
Why is using a bar graph for this inappropriate?

What comes next:
Being able to create a model in a spreadsheet using a variety of skills in order to solve a more open ended problem.