Kemnal Technology College – Computer Science Kemnal Key – Year 9 Term 4

Spreadsheets are used to store information and data. Once we have our information in a spreadsheet we can run powerful calculations, make graphs and charts and analyse patterns.

A Spreadsheets appears as a grid, each row has its own number and each column its own letter.

This labelling of rows and columns is used to give each cell a cell address or reference, for example, C5 means column C, row 5.

Simulations

Simulations are a type of computer model. A simulation imitates a particular environment. It can be used for research or training.

Pilots are initially trained using a flight simulator. The simulator consists of a cockpit that is identical to the cockpit in a real plane.

The windows are replaced with computer screens that show a simulation of the outside world.
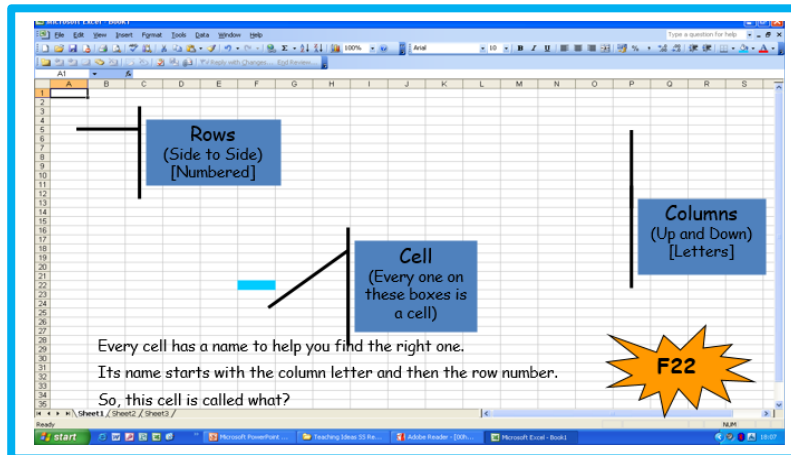

Modelling and simulation

In computing, modelling is used to look at large amounts of data to help with scientific or engineering projects. Simulations are used to graphically represent how things might look and feel.

A computer model is a representation of a real-life system or situation, such as the workings of a nuclear reactor or the evacuation of a football stadium.

A spreadsheet model could be used to plan a school prom. To make sure it came in on budget the spending on food, drinks, entertainment, and the price of tickets could be varied.

Kemnal Key Questions

1. What is a Spreadsheet?
2. What are they used for?
3. What can a spreadsheet do?
4. What is meant by the term 'Computer Model'
5. What is the difference between a model and a simulation?

Formulas and functions

Formulas and functions are extremely useful features. They make automatic calculations that update when the data does.

Formulas are usually simple calculations, eg adding two or more numbers together. They always start with an equals sign (=).
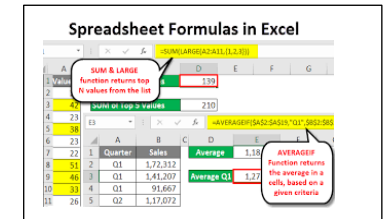
PUT THE = FIRST!

If you don't it won't work.

Symbols used in formulas

There are a number of symbols used in formulas or calculations. These are the most common ones:

- '+' add
- '-' subtract
- '*' multiply
- '/' divide

Functions make more complex calculations. Simple and regularly used functions include:

- SUM – adds values in selected cells
- MIN – finds smallest value
- MAX – finds largest value
- AVERAGE – finds the average value
- COUNT – counts how many of the selected cells have numbers in them