

Technology Lesson – Excel Introduction

Class/ Topic	11 th Grade Technology: Introduction to Excel
Aim	How do we use computer software (Excel) to record and analyze data?
Objectives	SWBAT: Enter recorded data; Describe spreadsheet software, identify main components of Excel, Use Sum, Min, Max & Average Functions
Standards	MST2 Information Systems <ul style="list-style-type: none"> MST2.1.IS1B: Students use spreadsheets and database software to collect, process, display, and analyze information.
Prerequisite	None
Materials Vocabulary	Computers with installed spreadsheet software; 6-7 bags of colored candies such as M&M's or Skittles, LCD projector Spreadsheet Program, Column, Row, Cell, Data
Opening	In science lab, you observe, record and analyze information. How can computers help you do that better?" Elicit and discuss responses. "Today we're going to do our own 'experiment.' We're going to find out how many candies are in each of these bags, how many colors there are, and how many of each color. We want to know what the average is for our sample."
Activities/ Procedure	<ol style="list-style-type: none"> In groups of 2-3, students open packages containing colored candies (M&Ms or Skittles) and record their finding in a table on paper. Teacher (or student) aggregates information on board. "We could continue doing this by hand or with calculators, but today we're going to use Excel." Teacher projects Excel worksheet. "Excel is a type of software program called a spreadsheet." Define software. "It is a tool (computer software application) for working with and analyzing numerical data. It consists of a grid made from columns and rows. How many of you have ever used a spreadsheet program/Excel before?" Direct students to start program on computer and to watch each step and then do it on their own. Procedure: <ol style="list-style-type: none"> Open Excel. EQ? How does it resemble MS Word or PowerPoint? Enter data recorded from observations. Save your document (as M-MYourName in class folder). Identify main parts of spreadsheet: Each Excel file is called a workbook, and each tab is called a worksheet. Just like a table, each worksheet is a giant grid made up of columns (vertical-letters) and rows (horizontal-numbers). Each cell has an address or reference name. EQ: What's the address for this cell? What kind of data can we enter into the cells? [text, numbers]. There's something else – formulas. Using the computer to do mathematical formulas is one of the main benefits of using Excel. Several formulas are available at the push of a button.

- e. Use Sum function to add totals.
- f. Use MIN function to calculate minimum number of color.
- g. Use MAX function to calculate maximum number of color.
- h. Use border function to add grid lines.
- i. Use AVERAGE function to calculate average of each color.
The finished chart should look like something like this:

	Red	Brown	Yellow	Orange	Blue	Green	Total
Chet & Chris	7	2	6	19	12	10	56
Rich & Gordon	10	5	6	11	17	7	56
Archie & Manny	3	6	13	12	11	11	56
Victor & John	8	6	14	11	10	7	56
Elvis & Sarah	7	7	8	11	9	13	55
Jazmine-Devon-Chris	6	6	8	18	12	6	56
Minimum	3	2	6	11	9	6	55
Maximum	10	7	14	19	17	13	56
Average	6.833333	5.333333	9.166667	13.66667	11.83333	9	55.75
Percent							

- 6. Teacher assists individual students as needed. Students who finish early assist their group partner and/or further enhance tables by filling in rows with color and altering text color. Students who finish early can also go to <http://www.leeds.ac.uk/iss/documentation/beg/beg40/beg40-1.html> and <http://www.leeds.ac.uk/iss/documentation/beg/beg40/beg40-2.html> to read about Excel and <http://www.leeds.ac.uk/iss/documentation/beg/beg40/beg40-t1.html> for simple task exercise
- 7. It time, calculate percentages of each color as well.

Summary Essential Questions	<ul style="list-style-type: none"> • What is Excel used for? How is it structured? (grid, columns, rows) • What kinds of data can we enter into a cell? (text, numbers, formulas – also images) • What symbol is used to start every cell with a formula? What is the tool bar? (=) • How is Excel similar to other MS Office applications? • What is the menu bar? • What is the formula bar?
Assessment	General Class Rubric: Do Now, Participation, Activity (worksheet)
Differentiated Learning	Students are paired by teacher to complement student abilities.

Spreadsheet	A spreadsheet is a tool (computer software application) for working with and analyzing numerical data. It is the computer equivalent of a paper ledger sheet. It consists of a grid made from columns and rows.
Column	In a spreadsheet the COLUMN is defined as the vertical space that is going up and down the window. Letters are used to designate each COLUMN'S location.
Row	In a spreadsheet the ROW is defined as the horizontal space that is going across the window. Numbers are used to designate each ROW'S location
Cell	In a spreadsheet the CELL is defined as the space where a specified row and column intersect. Each CELL is assigned a name according to its COLUMN letter and ROW number . Text, numbers and formulas are entered into the cells of a spreadsheet.