

Cell References and Autofill

60 minutes

ICT2: Introduction to other software packages and applications

Outcome M2.U1.2

WHAT THIS LESSON DOES

Learn to lock cell references so formulas fill correctly down a column, use the fill handle to copy locked formulas, and add a percentage of total column to see how each budget item contributes to the overall spend.

CURRICULUM OUTCOMES

Outcome	What the specification asks for
M2.U1.2	Create a spreadsheet and enter numeric and character data, apply formulas while understanding their purpose to generate results, format cells and generate a chart and print it.

WHAT STUDENTS SHOULD BE ABLE TO DO

- Distinguish relative and absolute references and fix broken fill-down formulas
- Use the fill handle to copy a locked % of Total formula down a column
- Build a percentage-of-total column with an absolute total reference
- Fill the % of Total column correctly across all budget items on the project budget

BEFORE THE BELL

- Prepare printed copies of the sample budget and the three-row key concepts table for students who prefer paper references.
- Ensure any matching worksheets are printed and ready for optional distribution.
- Have a messy demo sheet ready (total on a non-C7 row) for the transfer bridge before portfolio build.
- Students need cloud access to Project_Portfolio/05_budget/05_project_budget. Plan two minutes at the start to fix missing SUM totals before key concepts.
- Optional: print the matching worksheet. Project Aoife's sample live rather than relying on students reading every cell on screen.
- Spreadsheet access (Excel Online or Google Sheets). Students may work in a new practice sheet for the demo, then switch to 05_project_budget for the portfolio build. Have one messy total row example ready to model transfer.
- No prep needed beyond board space for the two pinned fixes.
- Confirm each student can open 05_project_budget with a working Cost total before independent work. Plan a quick locked-cell check per student before fill-down.

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HOW THE LESSON RUNS

5 min	introduction	Introduction
6 min	content	Key concepts
15 min	activity	Step-by-step task
4 min	content	Common issues
20 min	activity	Portfolio build: your Something Real budget
5 min	content	Reflection
5 min	summary	Lesson summary

TEACHING MOVES

- Model the broken fill-down on a projected spreadsheet and ask students to predict the result before revealing it.
- Pin #DIV/0! and \$C\$7 guidance on the board while students work the step-by-step task.
- Lead with typing dollar signs; treat F4 as optional only.
- Before independent work, model locking a volunteer's real total address (not C7).
- Check each locked total cell before students fill down on their project budget.

WHAT TO WATCH FOR

- Students see #DIV/0! errors after filling, direct them to check the formula bar and lock the total cell with dollar signs on both column and row.
- Formulas reference the wrong total row or still use \$C\$7 from the practice sheet, remind students to select their own total cell.
- Total typed as the number 320 instead of =SUM, replace with a real SUM so live recalculation works.

DIFFERENTIATION

- Support: Provide a pre-filled sample budget for students who struggle with data entry.
- Support: Pair students for the portfolio build to discuss formula locks.
- Extension: Date autofill column or optional IF over-25% flag (full pattern in the lesson summary).