

Calculating expressions with Excel – My Shop



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This is the first unit in a project-based lesson around the idea of creating a virtual shop. As I am teaching in Germany, I introduced this project in grade 7 as part of working with algebra, specifically calculating expressions, and solving equations.

In this unit, the students will learn the following skills.

- Formulating problems as expressions
- Deciphering and elaborating on these expressions
- Calculating expressions
- Formulating instructions for calculating expressions in a spreadsheet
- Arranging data sets in a table with the aid of a spreadsheet

In my lessons, I used this unit as an entry unit around the use of spreadsheets. The idea behind it is, that this project can be expanded as needed, but stick with the main idea of running a virtual shop. For instance, the students can later use the same spreadsheet and add calculations for percentages when they give discounts, make budgets for their shop, or even do calculations for surfaces and volumes when they renovate or expand their shop.

A fundamental skill in math is the ability to work with expressions. The students should learn how to formulate real-world problems as expressions or even equations to be calculated and solved. Similarly, they should also become able to look at given expressions and translate these into a real-world context.

Designing the lessons around a concrete, Real-world scenario can help create more immersion for the students, which, in turn, enhances the perceived relevance.

I recommend giving the students a great deal of freedom around the shop design, e.g. what products to sell, the pricing, how much they have in stock of each item, how many items they sell, etc.

Lesson materials for the unit

As always, you are welcome to copy, adapt and adjust the proposed lesson to suit your needs. I am always happy to receive feedback if you have used the lesson with success or have suggestions for improvement. Enjoy the lesson.

- [Worksheet – PDF](#)
- [Reference spreadsheet – xls](#)