

Data handling	Making enough biscuits	Design and Technology 5D
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Objectives

- to enter information into a spreadsheet
- to enter formula into spreadsheet
- to change data in a spreadsheet
- to answer 'what if ...?' questions and check predictions

Task

Create and use a spreadsheet to calculate the quantities needed to make varying numbers of biscuits as part of the year 5 task in Design and Technology unit 5D. Find out how much the biscuits will cost. Creating this spreadsheet will encourage prediction of numbers and costs. This is a modeling activity

Resources

DataCalc is the software tool to use here. It is easy to enter text and numbers and the Create Formula box enables children easily and successfully to enter formula

Use a data projector with wireless mouse and keyboard present clearly to the whole group.

For teachers reference only there are two files **Biscuits1**, **Biscuits2**, ,

In the classroom

The children may have designed biscuits and adapted the basic biscuit recipe to create their own recipe. They will have estimated the number of biscuits they could produce.

Tell the class that they are going to use a spreadsheet to calculate the different quantities of ingredients required for varying numbers of biscuits.

Explain that the spreadsheet is going to calculate the quantities needed for every child in the class to make a specific number of biscuits, e.g. five

Show the children how to enter the data for their recipe ingredients into the spreadsheet. The recipe makes 20 biscuits. Discuss how many biscuits will be made in total.

For each ingredient, enter a formula to divide the quantity by 20, to calculate what is needed for one biscuit. Enter another formula to multiply by the number of children, and multiply again by the number of biscuits each child is going to make. Ask the children to estimate the results.

Before entering each formula discuss with the children what the formula might be.

Children could then observe the effect of varying the number of biscuits made by each individual or the number of children in the class.

Extension

The spreadsheet could be extended to include a column showing the ingredient costs. Children could then be asked to predict how many biscuits they could make for XXX and if sold at xxx how much profit

Preparation

The sample files illustrate one way of presenting the information and the cell addresses in the following instructions relate to those examples. If setting the spreadsheet out in another way change the cell addresses to match the presentation

Show how to enter data and formula into a database using a biscuit recipe - example file Biscuit1

Set up a sheet ready with the ingredients almost entered and finish it off in front of the children adding the amounts alongside each

Show how to enter a formula to find out how much is needed to make one biscuit

Click on Cell D4 in the Margarine row- this is where the formula will be placed

Click on the formula icon and the **Create Formula** box opens



Enter the formula **C4/20**:

Click on cell **C4** - the address is inserted into the formula box

Select the division sign and then enter **20**

Click OK, then enter and the result can be seen in the cell

Demonstrate again in the cell below before letting the children set up their own spreadsheet. Do not show the copy facility at this stage. Give children time to understand how and why to enter a formula and to look for the number patterns produced.

Extension

Show how to enter many formula using the copy facility – example file Biscuit2

Set up a sheet with the ingredients and quantities for 20 biscuits.

Remind children how to enter costs for 20 biscuits from information provided

Remind how to enter a formula in cell **I4**

Demonstrate how to save time by copying the formula down the list.

Select the formula to be copied then select the **Copy Icon**



Click on cell **I5** (the first cell to copy into)

Then click on **I7** (the last cell in the column to be copied into)

The cell addresses appear in the box

Click OK

The formula will be copied into the required cells

Children can then use this copy facility in their work to save time