

## WHAT ARE WE EATING?

**To collect and practise inputting data into a spreadsheet. To use the sort facility to draw conclusions.**

†† *Individuals (to collect data) and pairs (at the computer).*

⌚ *40 minutes at the computer; 15 minutes demonstration.*

### Previous skills/knowledge needed

The children should be able to enter information into a spreadsheet and save it. Doing the previous activity 'Looking at spreadsheets' (on page 82) will help to prepare the children.

### Key background information

Information held within a spreadsheet column may be sorted in alphabetical or numerical order. For example, data listing the children's heights (from the previous activity) could be sorted so that the name of the tallest child rises to the top of the column and the shortest goes to the bottom. All the data connected to every pupil across the spreadsheet follows the sort sequence.

Most spreadsheets also contain a facility for finding the maximum and minimum values within a column. This is easy to use and provides a useful feature for helping the children draw conclusions from their data. This activity will be most appropriate for work on nutrition, growth or farming.

### Preparation

Ask the children to bring in nutritional information from the backs of cereal packets. Ensure that a good range of cereals is covered; try to obtain details from at least a dozen different ones. Set up a spreadsheet with the appropriate headings for nutritional values including protein, carbohydrate, fat, fibre, iron, calories, vitamins, and so on. Make one copy for each child of the cereal questionnaire on photocopiable page 145, or devise your own if a more differentiated approach is required. These questionnaires should encourage the children to draw graphs and sort the data to form conclusions.

### Vocabulary

Maximum, minimum, cell, entry, value, numerical sort, alphabetical sort.

### Resources needed

A computer, spreadsheet software including sort, graph and minimum/maximum value facilities, a printer (preferably colour), paper, pens, data collected from cereal packets (see Preparation), photocopiable page 145 or your own cereal questionnaire for the children to use.

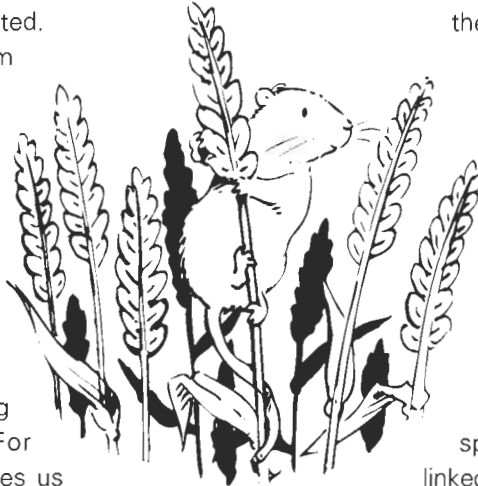
### What to do

The aim of this task is to provide the children with further practice in entering data into a spreadsheet and then to sort the data to make comparisons and draw conclusions from any patterns identified. The children should bring in the nutritional details printed on the packets of cereals (see



# Handling information

Preparation). These details all follow a similar pattern, but care needs to be taken over whether the values given are per 100g or some other weight. Keeping to nutritional values based on 100g will make comparing the data much more straightforward. Allow the children to work on their own or in pairs to enter into the spreadsheet the nutritional values they have collected. Alternatively, you could use the data from the spreadsheet on photocopiable page 145 to speed up the data collection process.



Once all the data has been keyed into the spreadsheet, give each of the children a copy of photocopiable page 145 or your own cereal questionnaire. Then provide a whole class or large group demonstration of how to answer such questions by sorting within the appropriate column. For example, finding out which cereal gives us the most energy, which cereal provides us with the most fibre and so on, can all be solved by sorting within the relevant column. To carry out a sort on a particular column, usually the column is first highlighted and then the sort option clicked with the mouse pointer. Some spreadsheets offer alphabetical sorts either from A to Z or in reverse order Z to A. The routine is similar with a numerical sort and again, the option of a reverse numerical sort is offered so the column can be in ascending (largest at the top) or descending order (smallest at the top). Next, show the children how to produce graphs to illustrate the total values within a particular column. Sorting a column will bring the biggest value to the top and the smallest value to the bottom of the column, so immediately the children can see these values within a column. This process will enable them to draw conclusions quickly. For example, in the photocopiable data, the cereal containing the most fibre can be identified easily by sorting on the fibre column with values in ascending order and, in this case, finding that Brantime contains the most fibre and Sugared Rice the least.

### Suggestion(s) for extension

Devise a questionnaire to offer more able children an appropriately challenging range of questions. They could be asked to work out the costs of each cereal per 100g, for example, or perhaps compare the nutritional value of cereals with other foods such as biscuits.

### Suggestion(s) for support

You may have to help less confident children to enter their data or pair them up with a more able child. Devising appropriate questions to match their ability closely will help to ensure that they experience success with the activity.

### Assessment opportunities

This activity will enable you to assess how well the children use IT to organise and analyse information. Look to see with what level of confidence the children use the spreadsheet tools, such as the sorting facility, to make decisions and draw conclusions. Also, how well they prepare information for IT processing and whether they check for accuracy; are they aware that the computer will not check for any mistakes?

### Display ideas

The children could use their findings from the questionnaires to create banner headlines for displaying alongside other work they have completed on food or nutrition.

Using an enlarged printout of the cereal spreadsheet, along with coloured cottons linked to captions, will add to the instructional aspect. Add questions printed in large type, such as 'Can you find ...?', 'In which column is the ...?', to make the display more interactive.

### Reference to photocopiable sheet

Photocopiable page 145 provides a spreadsheet layout of the nutritional values of a range of imaginary breakfast cereals. The children can key in this data to find the answers to the questions, or they can try it as a pen and paper exercise first to appreciate how much easier it is to do the same task on screen. The questions can also be used to analyse data keyed in from the nutritional panels of a number of real breakfast cereals or other foods.

**Eating our breakfast**

Name \_\_\_\_\_ Date \_\_\_\_\_

▲ Look at the spreadsheet below. It shows the nutritional values of a range of different breakfast cereals.

	A	B	C	D	E	F	G	H
1	Cereal	Energy (kJ)	Protein (g)	Carbohydrate (g)	Fat (g)	Sodium (mg)	Fibre (g)	Cost per 100g (p)
2	Brantime	1150	15.0	45.0	3.0	1.00	25.0	16
3	Teamsters	1300	9.2	65.5	2.6	0.65	17.5	20
4	Galaxy	1400	12.0	60.0	0.0	0.0	14.5	8
5	Freddies	1410	9.8	72.8	2.1	0.0	10.5	17
6	Wheaties	1450	9.2	72.8	2.4	0.0	10.5	25
7	Wheaties	1500	10.5	69.8	2.7	0.30	9.4	21
8	Raisin Bran	1450	9.6	71.0	2.9	0.01	9.6	28
9	Muesli	1490	12.0	65.6	5.0	0.0	8.4	18
10	Toppers	1500	9.6	74.0	2.0	0.01	8.5	26
11	Sugared Clusters	1554	6.0	88.0	0.0	0.0	7.0	26
12	Starburst	1550	8.0	77.0	1.2	0.0	6.5	29
13	Wheaties	1610	6.1	78.4	4.0	0.30	6.0	23
14	Porridge	1514	9.2	63.6	5.4	0.0	5.8	7
15	Frosted Flakes	1680	3.0	89.0	0.0	0.00	2.2	23
16	Core Twists	1600	6.4	92.2	1.4	0.00	2.2	17
17	Malted Slices	1600	15.0	76.0	1.0	1.00	2.0	20
18	Cocoa Chips	1600	5.0	87.0	1.0	0.00	1.0	30
19	Gummy Rice	1650	4.0	90.0	0.5	0.00	0.4	31

▲ Now answer these questions on the back of this sheet:

- Which cereal contains the most fibre? How much fibre per 100g?
- Which cereal contains the least fibre and how much is it per 100g?
- Which is the most expensive cereal?
- Which is the cheapest cereal?
- Which cereal give you the most energy? How much energy is that?
- Which cereal gives you the least energy?
- Which is the fattest cereal?
- Can you spot any connection between energy and carbohydrate?

# Eating our breakfast

Name \_\_\_\_\_

Date \_\_\_\_\_

▲ Look at the spreadsheet below. It shows the nutritional values of a range of different breakfast cereals.

	A	B	C	D	E	F	G	H
1	Cereal	Energy (kJ)	Protein (g)	Carbohydrate (g)	Fat (g)	Sodium (g)	Fibre (g)	Cost per 100g (p)
2	Brantime	1150	15.0	45.0	3.0	1.00	24.0	16
3	Teamsters	1300	9.2	65.5	2.6	0.60	17.5	20
4	Oaties	1460	12.0	60.0	8.0		14.0	8
5	Freddies	1410	9.8	72.8	2.1		10.5	17
6	Vitalise	1456	9.2	72.3	2.4		10.5	25
7	Wheaties	1510	10.5	69.8	2.7	0.30	9.4	21
8	Raisin Bix	1450	9.0	71.0	2.0	0.01	9.0	28
9	Muesli	1537	12.0	65.6	5.0		8.4	18
10	Toppers	1506	9.0	74.0	2.0	0.01	8.0	26
11	Sugared Clouds	1554	6.0	88.0	1.2	9.00	7.0	26
12	Starter	1550	8.0	77.0	2.0	0.50	6.0	29
13	Wheeties	1615	6.1	78.4	4.0	0.30	6.0	23
14	Porridge	1014	8.2	43.6	5.4		3.8	7
15	Frosted Flakes	1650	5.0	89.0	0.4	0.80	2.2	23
16	Corn Twists	1600	6.4	82.2	1.4	0.80	2.2	17
17	Malted Slims	1600	15.0	76.0	1.0	1.00	2.0	29
18	Cocoa Chips	1600	5.0	87.0	1.0	0.80	1.0	31
19	Sugary Rice	1650	4.0	90.0	0.5	0.80	0.4	31

▲ Now answer these questions on the back of this sheet:

- 1 Which cereal contains the most fibre? How much fibre per 100g?
- 2 Which cereal contains the least fibre and how much is it per 100g?
- 3 Which is the most expensive cereal?
- 4 Which is the cheapest cereal?
- 5 Which cereal give you the most energy? How much energy is that?
- 6 Which cereal gives you the least energy?
- 7 Which is the fattiest cereal?
- 8 Can you spot any connection between energy and carbohydrate?

