

FREE STANDING MATHS QUALIFICATION

Making Sense of Data Foundation level

Body Mass Index

The table below gives some data collected by students.

Weight and height results

Weight		Height	
st	lbs	ft	ins
9		5	6
11	4	5	10
9	13	6	1
8	1	5	7
10	7	5	10
8	5	5	6
9	7	5	5
6	5	5	3
11	6	6	2
11	2	5	9
10	3	5	10
10	3	5	2
8		5	5
8	4	5	7
10	7	5	6
10	6	5	2
7	5	5	4
9	6	6	
9	2	5	8
8	7	5	6
10	7	5	9
7	7	5	10

Weight		Height	
st	lbs	ft	ins
12		5	10
11		6	
8	5	5	9
8	4	5	9
10	7	5	11
12	7	5	9
10	13	5	11
12		5	11.5
10		5	10
10	7	5	10
9	7	5	6
10		5	4
6	7	5	7
9		5	9
12		5	10
7	4	5	6
7	4	5	2
9	2	5	7
10	7	6	

Use a spreadsheet to help you complete the following:

- Convert the weights and heights into metric units.
- Find each student's BMI using the formula $BMI = \frac{\text{weight in kilograms}}{(\text{height in metres})^2}$
- Calculate the mean BMI.
- Find the median BMI.
- Find the BMI range.
- Print a copy of the spreadsheet containing your calculations and also one showing the formulae that you have used.
- Produce suitable charts to illustrate the results.
- Comment on your charts.
- Check your work wherever possible.
- Write up your work, explaining what you have done and why.



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Teacher Notes

Unit Foundation Level, Making sense of data

Notes on the Activity

The data in this activity was contributed by Margaret Pickersgill of Bradford College. Margaret's students made measurements themselves and used them to help satisfy the following Coursework Portfolio requirements.

What you need to produce:	You must:
<p>1</p> <p>Two tables of data that you have drawn up arising from two different situations</p> <p>One of your tables should be drawn using a spreadsheet, the other by hand.</p>	<ul style="list-style-type: none"> • select which data to put in your table • decide on the table headings to use • complete your table accurately using <i>all relevant</i> data • use methods of checking to make sure that you have included all data
<p>2</p> <p>Two different types of statistical diagrams and two different statistical measures that illustrate data from up to two different situations.</p> <p>The data you use can be the result of your work towards 1 above, or can be taken from another source such as a newspaper article, book or the internet.</p> <p>At least one of your diagrams should be drawn and one of your measures should be calculated using a spreadsheet.</p>	<ul style="list-style-type: none"> • use only diagrams that are relevant • present diagrams that are clear, accurate and fully labelled • show the calculations you carry out • include calculations you have carried out by hand
<p>6</p> <p>Print outs from a spreadsheet that involves formulae that you have input yourself.</p> <p>You should include two print outs:</p> <p>(i) showing the results of your work;</p> <p>(ii) showing the formulae you have used.</p> <p>This work may be the result of your work towards 1, 2 or 3 above.</p>	

