Calculating BMI

The formula for calculating BMI is:

\[
\text{BMI (kg} \div \text{m}^2) = \frac{\text{Weight (kg)}}{\text{Height (m)}^2}
\]

To complete the calculation you divide the weight in kilograms by the height in metres twice:

\[
\text{Weight (kg) ÷ height (m) ÷ height (m) = BMI}
\]

Calculation checklist
The following is a checklist for the correct calculation of BMI

- Weight is in kilograms and recorded to the nearest 0.1kg
- Height is in metres, accurate to the nearest mm (or 0.1cm or 0.001m)
- Weight is divided by the height twice
- The BMI result is rounded to one decimal place

Steps in plotting BMI
Plotting BMI is very similar to plotting height and weight on a centile chart. The instructions below provide the main steps in plotting BMI:

1. Select the correct BMI chart (i.e. Girls’ chart or Boys’ chart)
2. Have the child’s calculated BMI and exact age ready
3. On the BMI chart, track along the X axis (bottom line) to find the age of the child
4. Track up the Y axis (side line) to find the BMI for the child
5. Make a cross or dot at the point at which the age and BMI lines meet
6. Make a note of the BMI percentile as you would for height or weight, such as:
   - “On the 75th percentile”
   - “Just below the 50th percentile”
   - “Between the 85th and 95th percentile”

Things to watch out for when plotting BMI
The main points to look out for when plotting BMI are:

- The BMI is correct
- The correct chart is being used (BMI is gender specific)
- The child is 2 or more years of age
- The BMI is plotted against the correct age
### Interpreting BMI

<table>
<thead>
<tr>
<th>BMI Percentile</th>
<th>Interpretation</th>
<th>Comments</th>
</tr>
</thead>
<tbody>
<tr>
<td>Below 5th</td>
<td>Low weight</td>
<td>Some children are naturally thin and healthy, whereas others may be failing to thrive, use clinical judgement</td>
</tr>
<tr>
<td>5th to 85th</td>
<td>Healthy weight</td>
<td>This is the healthy weight range</td>
</tr>
<tr>
<td>85th to 95th</td>
<td>Overweight</td>
<td>Overweight, may benefit from some simple diet and lifestyle changes</td>
</tr>
<tr>
<td>95th and over</td>
<td>Very overweight / obese</td>
<td>Generally obese children should be referred to as being overweight when talking to parents (obese is an unacceptable word to use). Children in this group would benefit from some diet and lifestyle changes</td>
</tr>
</tbody>
</table>

**Website for BMI charts – boy and girl**