



## Taking body rate measurements



Health care professionals often take measurements of various functions of the body. They then use this data to compare to what is considered to be 'normal'. In this task, you will work together to record a range of different body rates, you will then find out about the health and lifestyle of the people whose body rates you record, and interpret the data by comparing it to the normal values.

You will present your results in a form suitable to be used in a display at a local health centre.

MB1: 1 - 6 marks	MB2: 7 - 11 marks	MB3: 12 - 15 marks
Demonstrates <b>limited</b> confidence in measuring body rates.	Demonstrates <b>some</b> confidence measuring body rates.	Demonstrates <b>confidence and competency</b> measuring body rates.
A <b>limited</b> interpretation of data obtained from measuring body rates and comparing against the norms making <b>limited</b> reference to the functioning of healthy body systems.	A <b>reasonable</b> interpretation of data obtained from measuring body rates and comparing against the norms making <b>some</b> reference to the functioning of healthy body systems.	A <b>thorough</b> interpretation of data obtained from measuring body rates and comparing against the norms making <b>detailed</b> reference to the functioning of healthy body systems.
There will be <b>some</b> errors in spelling, punctuation and grammar.	There will be <b>minor</b> errors in spelling, punctuation and grammar.	There will be <b>few</b> , if any, errors in spelling, punctuation and grammar.
Draws upon <b>limited</b> skills/knowledge/understanding from other units in the specification.	Draws upon <b>some relevant</b> skills/knowledge/understanding from other units in the specification.	<b>Clearly</b> draws upon <b>relevant</b> skills/knowledge/understanding from other units in the specification.
[1 2 3 4 5 6]	[7 8 9 10 11]	[12 13 14 15]



Make sure you know how you will be marked

## Body Mass Index (BMI)

1: Work in groups of 3 or 4. There must be at least one person in your group who is willing to be weighed and measured, and to discuss their lifestyle. Make notes as you go.

2: Take the weight in Kg of your person.

3: Measure the height in metres of your person.

4: Use the formula below to calculate the BMI.

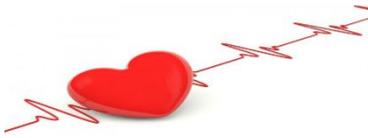
$$\text{BMI} = \frac{\text{Weight in Kilograms}}{\text{Height in Meters} \times \text{Height in Meters}}$$

5: Now interview your person. You need to find out about their diet, eating habits, and exercise levels. Make notes. Share your results with the rest of the group.

6: Now find out what the range of BMI values mean. You will find charts on the internet; make sure you use one from a reliable source.

7: Now you have gathered your data, you need to present your results as a poster (it will be more than one page). Include the following:

- Explain what BMI is.
- Show the normal values and explain what they mean.
- Discuss any limitations of using BMI as a measurement.
- You need to clearly show you understand the relationship between lifestyle, diet and BMI, and how this compares to the norms. Give at least three different examples.



## Pulse rate

Follow the steps below and record your pulse rates in the table.

1. Take your resting pulse rate by counting the beats for 30 seconds. Multiply by two to get the beats per minute (BPM)
2. Do some exercise suitable for your level of fitness.
3. Take your pulse rate again after exercise.
4. Wait two minutes and take your pulse rate again.
5. Calculate your recovery rate by subtracting the second pulse rate from the first.
6. Look at the table below to see what your resting pulse rate says about your fitness!!



Now gather some data about two other people and fill in the chart below.

Resting pulse rate	Immediately after exercise	Two minutes after exercise	Recovery rate number	Lifestyle factors

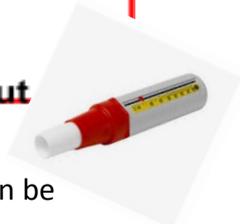
### What does the data mean?

Recovery rate number	Body age indicator	Fitness level
Less than 22	Slightly older than actual age	Below average – unfit
22-52	About the same as actual age	Average level of fitness
53-58	Slightly younger than actual age	Slightly above average
59-65	Moderately younger than actual age	Good level of fitness
66 or more	A lot younger than actual age	Excellent level of fitness

7. Now you have gathered your data, you need to present your results as a poster (it will be more than one page). Include the following:

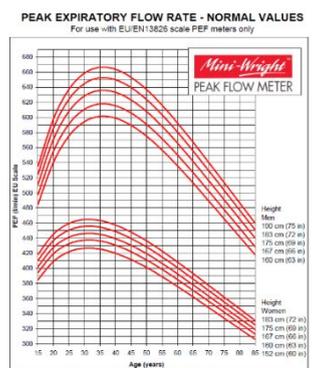
- Explain what pulse rate is and explain how to take it.
- Give at least three examples of recovery rates from different people. Explain what they mean, and how their lifestyle can affect the ability of the pulse rate to recover.
- Explain how this compares to how a healthy body should function – for example if someone is very unfit, it could put them at risk of certain diseases later in life.

**Peak flow**



Your next task is to create a poster to inform people what peak flow is, and how it can be used as a measure of lung and airway health.

Follow the steps below and record your peak flow readings in the table:



1. Make sure the peak flow metre is set up properly with the red indicator at 0.
2. Sit comfortably. Take a breath and blow as hard as you can into the metre.
3. Record the value in the table.
4. Repeat this for two other people in your group.
5. You will also need to know their height and age, and any lifestyle factors that may affect the reading, such as their level of fitness or if they have asthma.
6. Use the chart to read of the normal values for a person of the same height and age as yourself and the others in your group. Now discuss the reasons for any variations in the readings, for example is anyone very athletic, or asthmatic?

Name	Age	Height	Peak flow	Normal value from chart	Lifestyle factors

Now you have gathered your data, you need to present your results as a poster (it will be more than one page). Include the following:

- Explain what peak flow is and explain how to take it, and how to read the normal values from the chart.
- Give at least three examples of peak flow values from different people. Explain what they mean, and any factors that might affect these results, like asthma.