

# A02 : Interpret health indicators

# WHAT IS A HEALTH INDICATOR?

- SOMETHING THAT LOOKS AT YOUR PHYSIOLOGICAL HEALTH
- OFTEN USING EQUIPMENT
- A WAY OF ASSESSING YOUR HEALTH AND WELLBEING

# WHAT IS HEALTH MONITORING AND ILLNESS PREVENTION?

- REGULARLY CHECKING THAT EVERYTHING IS AS IT SHOULD BE
- ANY PROBLEMS CAN BE DETECTED AND THEN MONITORED AND SUPPORT GIVEN TO COPE WITH PROBLEM
- SERVICES AIMED AT PREVENTING PEOPLE GETTING ILL
  - NATIONAL HEALTHY SCHOOLS PROGRAMME: KNOWLEDGE TO CHILDREN
  - HEALTH SCREENING: DENTAL, EYE CHECK UPS, BREAST SCREENING
  - VACCINATIONS: FLU, TETANUS, POLIO

ASPECTS OF  
HEALTH THAT  
CAN BE  
MEASURED

- TEMPERATURE
- HEIGHT/WEIGHT
- BLOOD PRESSURE
- PEAK FLOW
- WAIST TO HIP RATIO
- CHOLESTEROL LEVELS
- BLOOD GLUCOSE
- LIVER FUNCTION
- RESTING AND RECOVERY PULSE

# ASPECTS OF LIFESTYLE

## POSITIVE

- ✓ REGULAR EXERCISE
- ✓ PERSONAL HYGIENE
- ✓ SUPPORTIVE RELATIONSHIPS
- ✓ ADEQUATE FINANCIAL RESOURCES
- ✓ STIMULATING WORK
- ✓ USE OF HEALTH MONITORING AND ILLNESS PREVENTION RESOURCES
- ✓ USE OF SERVICES
- ✓ RISK MANAGEMENT TO PREVENT ACCIDENTS
- ✓ EDUCATION
- ✓ LEISURE ACTIVITIES
- ✓ BALANCED DIET
- ✓ ENOUGH SLEEP

## NEGATIVE

- GENETIC INHERITANCE
- EXISTING CHRONIC CONDITIONS
- SUBSTANCE ABUSE
- SOCIAL ISOLATION
- STRESS
- RELUCTANCE TO SEEK HELP OR ACCESS SERVICE
- POOR HOUSING
- ENVIRONMENTAL POLLUTION
- POVERTY
- UNEMPLOYMENT
- UNPROTECTED SEX

# INDICATORS

## PHYSIOLOGICAL

- Pulse
- Blood pressure
- Peak flow
- Body mass index (BMI)
- Using published guidance to interpret data
- The potential significance of abnormal readings: risk to physical health

## LIFESTYLE

- Smoking
- Alcohol consumption
- Inactive lifestyles

# Pulse Rate...

- **Resting Pulse Rate**

The average resting pulse rate for an adult is 60 – 100 bpm. The average for an athlete is lower, about 40 – 60 bpm. In other words, the fitter you are the lower your resting pulse rate.

- **Recovery After Exercise**

Your pulse rate increases after exercises and then returns to normal, but this can happen at different rates.

Measuring your pulse rate before and after exercise and seeing how many minutes it takes to return to normal is a good way of measuring how fit you are.

A healthy pulse rate during or just after exercise is 60 – 80% of your maximum heart rate.

Look at the table. What does this information tell you?

	Before 6 months of regular exercise	After 6 months of regular exercise
Pulse rate (bpm)	84	69
Breathing rates (breaths per minute)	18	16
Heart volume (cm <sup>3</sup> )	128	141
Volume of blood pumped out of the heart by each beat (cm <sup>3</sup> )	64	76

TASK –

Discussion – what does the above table show us?



# Task...

Look at the below scenarios;

- Is there working pulse rate healthy? (is it between 60 – 80% max. HR)
- What would the effects be on their health and wellbeing (short and/or long term)?
- **Research some of these effects**

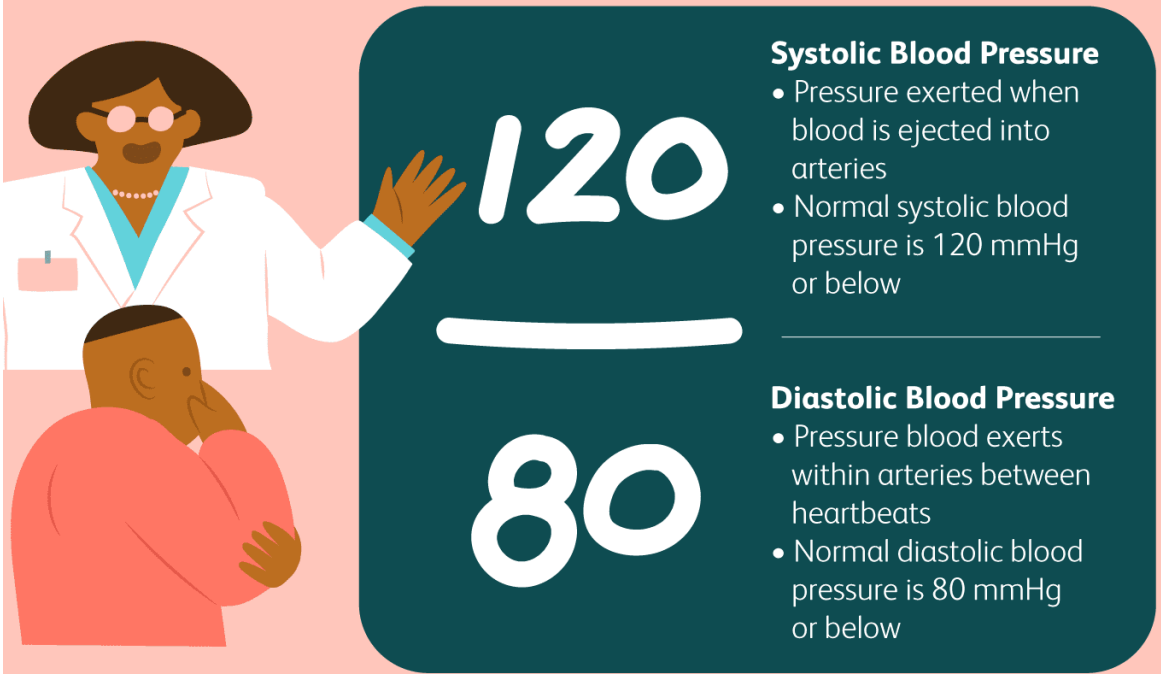
Fred – 45 years old – working pulse rate – 155bpm

Sally – 32 years old – working pulse rate – 132bpm

Tim – 15 years old – working pulse rate – 180bpm

# Blood Pressure...

- Blood pressure is the pressure exerted by your blood against the walls of your arteries. Measured in millimetres of mercury (mmHg) as two numbers shown as one over the other.
- Normal healthy blood pressure is between 90/60 and 120/80 mmHg.



The illustration shows a female doctor in a white lab coat with a stethoscope around her neck, pointing towards a large dark green graphic. The graphic displays the numbers '120' over a horizontal line, with '80' below it, representing a blood pressure reading. To the right of the graphic, there are two sections of text explaining the components of the reading.

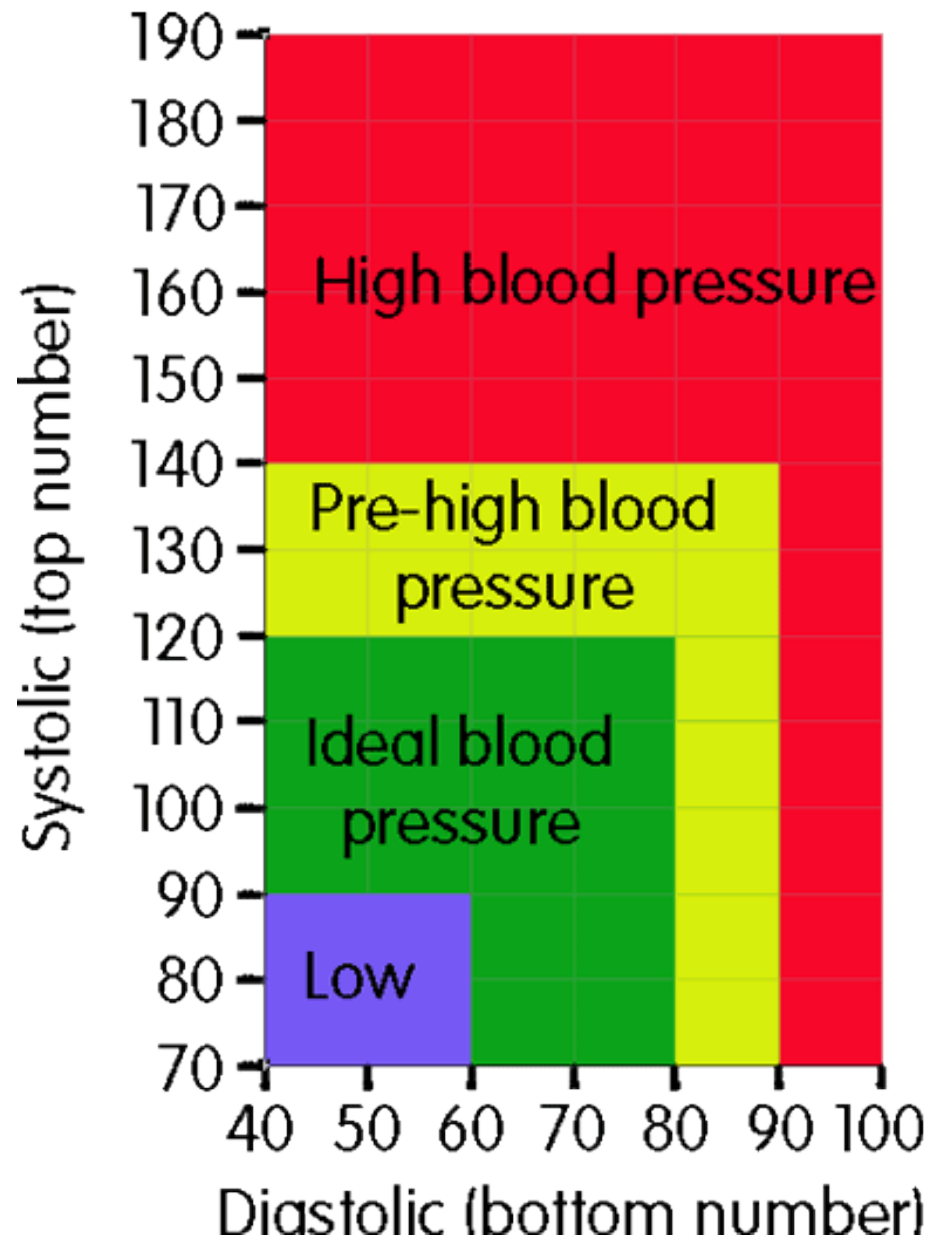
**Systolic Blood Pressure**

- Pressure exerted when blood is ejected into arteries
- Normal systolic blood pressure is 120 mmHg or below

**Diastolic Blood Pressure**

- Pressure blood exerts within arteries between heartbeats
- Normal diastolic blood pressure is 80 mmHg or below

# Blood Pressure...



Plot the blood pressure of each person below on the chart – what does it tell you about the person?

Can you identify some short and long term effects?

Sarah – 110/80

John – 150/90

Michael – 80/50

Megan – 130/100

# Peak Flow...

- Peak flow is the measurement of how quickly you can blow air out of your lungs.
- It is measured in litres per minute (L/min), using a peak flow metre.
- The most common reason for taking and recording peak flow readings is to monitor a person's asthma, caused by narrow airways.

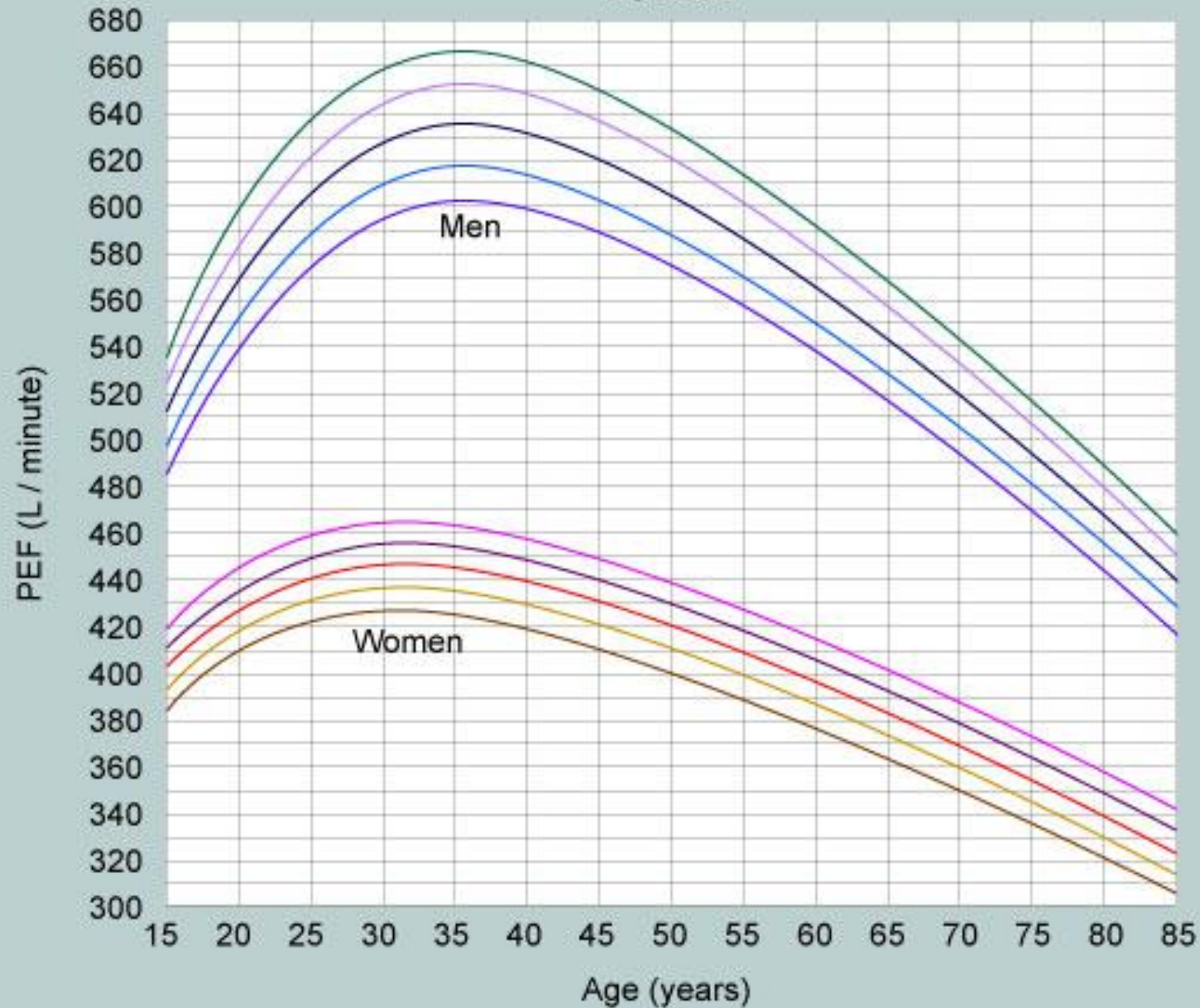
## Task

Record a peak flow reading, then plot it on the graph.

Volunteers??

# Peak Expiratory Flow (PEF) - normal values

EU scale



Height	
<b>Men</b>	
190cm / 75"	Dark Green
183cm / 72"	Light Purple
175cm / 69"	Dark Blue
167cm / 66"	Blue
160cm / 63"	Purple
<b>Women</b>	
183cm or 72"	Magenta
175cm or 69"	Dark Purple
167cm or 66"	Red
160cm or 63"	Gold
152cm or 60"	Brown

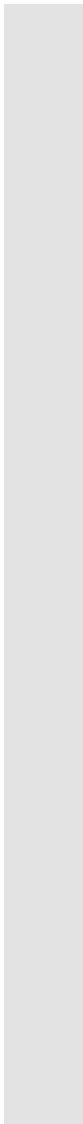
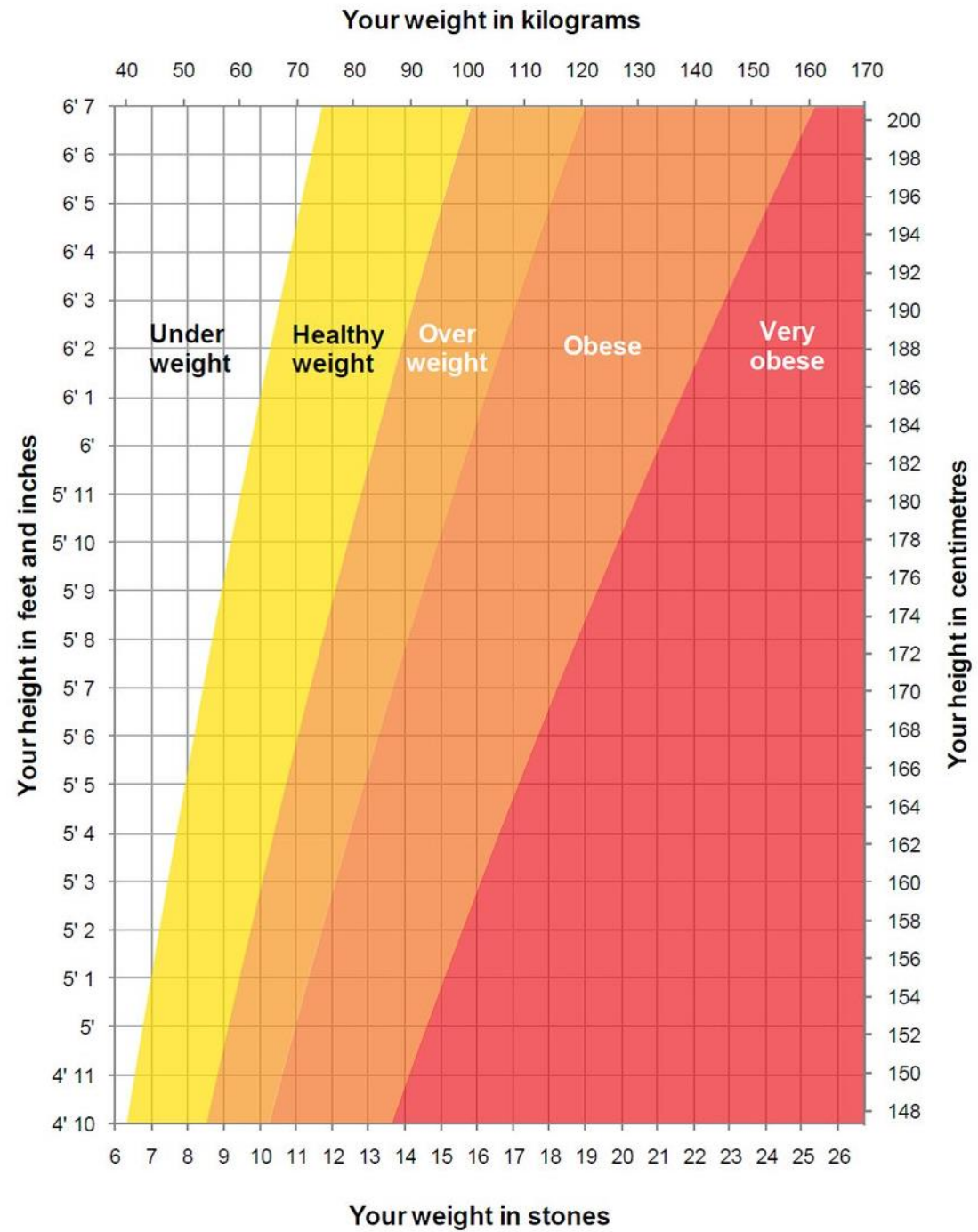
# Body Mass Index...

- **BMI is a measure of the amount of fat on your body in relation to your height to tell you if your weight is healthy...**
- **To calculate BMI, you divide an adult's weight in kilograms by their height in metres squared.**
- BMI is calculated into different categories;
- Underweight - **<18.5**
- Healthy weight - **18.5 and 24.9**
- Overweight – **25 – 29.9**
- Obese – **30 – 34.9**
- Severely Obese – **35 – 39.9**
- Morbidly Obese – **40>**

Example –

Ali weighs 76kg and is 1.89m tall. Try calculating his BMI.

Now create some scenarios of your own – use celebrities if you wish – plotting their height and weight on the chart.



## Using published guidelines to interpret health indicators

- Think of some of the health indicators you have already learned about, you will have been told what is normal or healthy based on age or gender.
- These normal measurements, or published guidelines, are called baseline measurements.
- By comparing a person's health indicators against these baselines we can say whether or not there is a problem.



## Limitations...

Health indicators are vital in diagnosing risks to health but they should never be used in isolation.

- For example –

BMI is a good way to assess a person's weight in relation to their height. But, BMI cannot tell the difference between excess fat, muscle or bone or whether you are a man or woman.

- A very muscular person may fall into overweight or obese
- Older adults may fall into the healthy category even if they are carrying excess fat around their middle, because they lose muscle as they age.
- Women, who generally have more total body fat than men, are measured against the same BMI ranges as men.

## Risks to physical health of abnormal readings

- The word abnormal can sound worrying. Abnormal test readings might mean a risk to health. In fact, abnormal readings may indicate potential significance.

To think about when taking readings...

- All readings must be accurate and precise (and carried out multiple times)
- Collected together – no one test is used in isolation
- Situation you are in
- Sexual maturity and age when testing younger people

# Task....

**Using I pads research Short and Long Term effects of the different health indicators –**

- **Pulse Rate – High and Low**
- **Blood Pressure – High and Low**
- **Peak Flow - Low**
- **BMI – Underweight, Overweight, Obese**

## Research – Interpreting lifestyle data...

Smoking  
Alcohol  
Inactivity

Research the following for each of the topic areas – Smoking, Alcohol and Inactivity;

1. Examples of who collects the data
2. What data is collected
3. How the information is then used
4. What are the risks to physical health (short and long term)

# Assessment Practice...

Using the Learning Aim B booklet practice question (after you have completed the booklet) –

Look at Norman's lifestyle and physiological data, using the guidance given interpret the data.

You will explain what the data suggests about;

Norman's current physical health

Risks to his future physical health