WHAT IS HEALTH AND TECHNOLOGY?

The meaning of health

- Health doesn't just mean not being ill.
- It means physical, mental and social well being.

The Health Triangle

- Physical health means the health of the body
- Mental health means the health of the mind.
- Social health means forming good relationships.

If you take any of these away - the triangle collapses

A healthy lifestyle -

- A balanced diet
- Regular exercise
- Healthy activities
- Relaxation
- Cut out harmful activities like smoking

Measuring temperature

- A high body temperature might mean the person has an **infection**.
- A low body temperature can be dangerous too.
- Temperature can be measured with a **CLINICAL** or a **DIGITAL THERMOMETER** or a **fever strip** on your forehead.

Measuring heart rate (pulse rate)

- A slow resting pulse rate can be a sign of fitness.
- A high resting pulse rate can lead to heart disease.
- Heart rate can be measured with a **FINGER** and a **STOPCLOCK** or a digital **HEART RATE MONITOR**

Measuring body fat

- Too much body fat can lead to serious health problems.
- Too little might mean a person is dangerously thin, or ill.
- Body fat can be measured with **SKINFOLD CALIPERS** or **A BODY FAT SENSOR**.

Low-tech vs high-tech

- Low-tech: cheap, slower to get results, open to human mistakes.

- High-tech: expensive, high maintenance, can be connected to a computer, faster to get results.

Blood Pressure

- BLOOD PRESSURE is the pressure of blood in the blood vessels
- .It can be measured using a stethoscope and mercury manometer or with a **digital sphygmomanometer**.
- Normal value: 120/80 (High figure - when heart is pumping. Low figure - when heart is relaxed.)

High Blood Pressure

- High blood pressure is blood pressure that measures more than 160/90.
- It can damage the inside of the arteries and block them.
- This can lead to heart disease and stroke.

Causes of high blood pressure

- Stress
- Being overweight
- Smoking
- Lack of exercise.
- Too much alcohol or salt in diet

Measuring Peak flow

Peak flow is the **maximum rate at which air can be breathed out**.
It can be measured with a **PEAK FLOW METER**.
People with **asthma** measure peak flow to check their condition: in an asthma attack, airways get narrower so peak flow goes down.

Measuring body fat

- How much fat a person is carrying can be measured using skin fold callipers or body fat sensors.
- Both show what percentage of the body is made of fat.

Skin fold callipers

- These measure the thickness of a skin fold at different places on the body.

- These places are usually above the hip, below the shoulder blade and the front and back of the arms.
- The total thickness is read off against a table to give a % body fat.

Body fat sensor

- These may look like ordinary bathroom scales.
- They pass a weak electric current through a person.
- The fatter you are, the more resistance to the current there is…
- The sensor converts this resistance reading into a % body fat figure

You can also calculate your **body mass index (BMI)** as a measure of how much fat is in the body. This is calculated from your height and weight.

Health risks

- Being overweight or obese greatly increases your risk of heart disease and stroke, arthritis (joint trouble), diabetes, kidney failure and, in women, infertility.
- Being underweight can show that there is a serious disease like cancer or an eating disorder like anorexia.

Body temperature.

Body temperature can be measured with different thermometers:

- Digital thermometer (high tech)
- Clinical thermometer (low tech)
- Fever strip

Normal human body temperature

- Normal human body temperature is 37°C.
- The body tries to always stay at this temperature.

If you get too cold:

- You shiver, so your muscles produce heat.
- Blood goes away from the skin and your hands and feet to the organs of the body - so you get pale and your hands don't work as well.

If you don't warm up:

- If body temperature goes below 35°C, a person has **hypothermia**.
- They must be warmed up, or unconsciousness and death can result.
- Young children and the elderly are especially at risk - they aren't good at controlling their own temperature.

- Mountaineers and kayakers must also be aware of the dangers of hypothermia.

If you get too hot:

- You sweat, and your body cools down when it evaporates.
- Blood goes to the skin away from the organs, so you look red and lose more heat from your skin.

If you don't cool down:

- If body temperature goes above 40°C a person has **heatstroke**.
- This may happen in very hot, humid conditions.
- A person with heatstroke must be cooled down quickly.
- Otherwise they may suffer fits, fall into a coma and die.
- Some infections may also cause a high body temperature. These are called **fevers**.