**Year 9, Lesson 1**

**Do Now**:

Three components of PHYSICAL fitness are…

Three components of SKILL RELATED fitness are…

The most important component of fitness for a swimmer is…. This is because…

The least important component of fitness for a long jumper is…

Resting Heart rate is defined as…

**Exercise Intensity**:

Exercise intensity is determined by your heart rate unless working with weights. Heart rate is defined as ‘the number of times the heart beats in a minute (BPM)’.

There are two methods used to measure our heart rate other than checking your pulse manually, they are;

**i) Heart rate monitors:**

 

**Advantage: Highly accurate** **Disadvantage: Can be expensive**

**ii) Borg Scale:**



Method to use the Borg scale;

**Step 1**: Rate your levels of effort on the scale from 6 to 20.

**Step 2**: Multiply to perceived score by 10 to estimate HR.

**Advantages**: Quick, easy and free to use.

**Disadvantages**: Based on the individual’s opinion which compromises its validity. Therefore it isn’t 100% accurate.

As we use our heart rate to determine our exercise intensity, it is important we know our maximum heart rate to enable us to calculate our **training thresholds**.

Maximum heart rate is calculated using the following equation: **220 – Age (Years).**

**Training zones**:

There are two key **training zones** we need to know;

**i) Aerobic** (60 – 85% of our HR max) Requires the presence of oxygen in energy production process.

**(Key characteristics:** Prolonged periods of steady state exercise. E.G. Marathon running)

**ii) Anaerobic** (85 – 100% of or HR max) Doesn’t require the presence of

**(Key characteristics:** Short bursts of maximal intensity exercise. E.G. Long jump)

**Calculating training thresholds -** To calculate your thresholds you take the following steps;

i) Multiply Max HR by the desired training zone percentage.

ii) Divide the outcome of the multiplication by 100.

**E.G Mr Huggins (30 years old)**

**i) 60% = 190 x 60**

**ii) 11400 / 100 = 114.**

Please watch the video on the following link [**https://www.youtube.com/watch?v=0EemXPwV1vM**](https://www.youtube.com/watch?v=0EemXPwV1vM)

**Application of knowledge:**

1. Calculate your maximum heart rate.

2. Calculate your aerobic training thresholds.

3. Which training zone is best suited to a long distance cyclist? Justify your answer.

4. Calculate the training zones for Mr Spocchia (39) & Your oldest relative / guardian.

**Exam style questions:**

1) Select which training programme best suits the athlete and justify why. (4 marks)

* Athlete – 20 Years old / Marathon runner. Wants to improve her race time.

Programme 1; Programme 2:

3 sessions a week 4 sessions a week

2 hour sessions 3 hour sessions

Target HR – 120 BPM. Target HR – 170 BPM

**Points to consider:**

**- Which HR is best for a marathon runner?**

**- How long does a marathon roughly last?**

2) Would you suggest the athlete uses the Borg scale or a HR monitor during their training programme to determine their exercise intensity? (4 marks)

**Points to consider:**

**- Advantages and disadvantages of the methods used to measure exercise intensity.**