# UNIT 1: Fitness for sport and exercise- Learning aim A

| Components of Physical fitness (FBSAMM) | |
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| **1. Aerobic Endurance** | The ability of the cardiorespiratory system to work efficiently, supplying nutrients and oxygen to working muscles during sustained physical activity. |
| **2. Muscular Endurance** | The ability of the muscular system to work efficiently, where a muscle can continue contracting over a period of time against a light to moderate fixed resistance. |
| **3. Flexibility** | Having an adequate range of motion in all joints of the body; the ability to move a joint fluidly through its complete range of movement. |
| **4. Speed** | Distance divided by the time taken. Measured in metres per second (m/s). |
| **5. Muscular Strength** | The maximum force (in kg or N) that can be generated by a muscle or muscle group |
| **6. Body Composition** | The relative ratio of fat mass to fat-free mass (vital organs, muscle, bone) in the body. |

| Components of Skillrelated fitness (BCRAP) | |
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| **7. Balance** | The ability to maintain centre of gravity. |
| **8. Agility** | Being able to move quickly and change direction without losing balance or time. |
| **9. Co-ordination** | A smooth flow of movement needed to perform a movement efficiently and accurately. |
| **10. Power** | The product of strength and speed and is expressed as the work done in a unit of time. |
| **11. Reacton time** | The time taken for a sports performer to respond to a stimulus and initiate a response. |


| Exercise intensity and training zones | |
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| **12. Intensity** | How hard you work. Measured in Heart rate |
| **13. Training zone** | A target range of heart rate percentage to work in. |
| **14. Training threshold** | The minimum heart rate value a person has to work in to be in a training zone. |
| **15. Maximum heart rate** | 220- age= Max Heart rate |
| **16. Aerobic training zone** | 60-85% of maximum heart rate |
| **17. Anaerobic training zone** | 85% -100% of maximum heart rate |
| **18. Borg Scale/Rating of perceived exertion (RPE)** | Scale of intensity ranges based on how hard the performer thinks they are working. (6-20). You multiply the level by 10 to get target BPM. |

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| Basic principles of training (FITT) | |
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| **19. Frequency** | Number of training sessions (How often you train) |
| **20. Intensity** | How hard you train |
| **21. Time** | How long you train |
| **22. Type** | How you train. Training types used to be specific |

| Additional principles of training (RVPARIS) | |
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| **23. Specificity** | Making training specific to activity or goals to ensure appropriate fitness gains. |
| **24. Progressive Overload** | When an athlete gradually keeps working harder than they have before so that fitness improves. |
| **25. Individual differences** | Making sure training is designed to meet personal needs. |
| **26. Adaptation** | When the body changes to cope with extra load. Happens in the rest and recovery periods. |
| **27. Reversibility** | When adaptations reverse due to lack of training or training intensity being too low. |
| **28. Variation** | Including variety in training regime to prevent boredom. |
| **29. Rest & Recovery** | These are required so that the body can recover from the training and to allow adaptation to occur. |