

## Subject Knowledge Organiser

### HRF – Health, Fitness and Exercise, Consequences of a SL, Lifestyle choices & CoF

#### Health, Fitness and Exercise

Health can be defined as 'complete physical, mental and social wellbeing and not only the absence of illness or infirmity'. Fitness can be defined as 'the ability to meet the demands of the environment'. Exercise can be defined as 'a form of physical exercise done to improve health or fitness or both'. *Adults* - five sessions of thirty minutes activity per week. The activity should be physical enough to cause the adult to breathe more deeply and to begin to sweat. *Children and young people* - seven sessions of sixty minutes per week. At least two of these sessions should be of high intensity exercise such as running, jumping or cardiovascular based sports.

#### Consequences of a sedentary lifestyle

If a person does not take part in regular physical activity, exercise or sport then they are at risk of a number of illnesses and negative effects such as weight gain or obesity; heart disease; hypertension (high blood pressure); diabetes; depression; increased risk of osteoporosis and loss of muscle tone.

#### Lifestyle choices

Other lifestyle choices can affect a person's health in either a positive or negative way. For example, eating a balanced diet means a person is less likely to become ill or put on excess body fat; getting enough sleep is important for the body to rest and brain to function optimally; not smoking as this causes illnesses such as bronchitis and lung cancer and not taking recreational drugs such as alcohol as in the short term it can lead to disorientation and poor decision-making and in the long term can lead to disease.

#### Component of Fitness

	Definition	Example
Body composition	The percentage of body weight which is fat, muscle and bone	The gymnast has a lean body composition to allow them to propel themselves through the air when performing on the asymmetrical bars
Cardiovascular fitness	The ability of the heart, lungs and blood to transport oxygen	Completing a half marathon with consistent split times across all parts of the run
Flexibility	The range of motion (ROM) at a joint	A gymnast training to increase hip mobility to improve the quality of their split leap on the beam
Muscular endurance	The ability to use voluntary muscles repeatedly without tiring	A rower repeatedly pulling their oar against the water to propel the boat towards the line
Strength	The amount of force a muscle can exert against a resistance	Pushing with all one's force in a rugby scrum against the resistance of the opposition pack
Agility	The ability to change the position of the body quickly and control the movement	A badminton player moving around the court from back to front and side to side at high speed and efficiency
Balance	The ability to maintain the body's centre of mass above the base of support	A sprinter holds a perfectly still sprint start position and is ready to go into action as soon as the gun sounds
Coordination	The ability to use two or more body parts together	A trampolinist timing their arm and leg movements to perform the perfect tuck somersault
Power	The ability to perform strength performances quickly	A javelin thrower applies great force to the spear while moving their arm rapidly forward
Reaction time	The time taken to respond to a stimulus	A boxer perceives a punch from their left and rapidly moves their head to avoid being struck
Speed	The ability to put body parts into motion quickly	A tennis player moving forward from the baseline quickly to reach a drop shot close to the net

## Subject Knowledge Organiser

### HRF – Training Methods, Advantages/Disadvantages of TM & Training Zones

#### Training Methods

Training can be aerobic or anaerobic. In aerobic exercise, which is steady and not too fast, the heart is able to supply enough oxygen to the muscles. Aerobic training improves cardiovascular fitness. Anaerobic exercise is performed in short, fast bursts where the heart cannot supply enough oxygen to the muscles. Anaerobic training improves the ability of the muscles to work without enough oxygen when lactic acid is produced.

Specific training methods can be used to improve each fitness factor. Circuit training involves performing a series of exercises in a special order called a circuit. Each activity takes place at a 'station'. It can be designed to improve speed, agility, coordination, balance and muscular endurance. Continuous training involves working for a sustained period of time without rest. It improves cardiovascular fitness. Cross training involves using another sport or activity to improve your fitness. It happens when an athlete trains in a different environment. For example a volleyball player uses the power training for that sport to help with fitness for long jump. Fartlek training or 'speed play' training involves varying your speed and the type of terrain over which you run, walk, cycle or ski. It improves aerobic and anaerobic fitness. Interval training involves alternating between periods of hard exercise and rest. It improves speed and muscular endurance. Weight training uses weights to provide resistance to the muscles. It improves muscular strength (high weight, low reps), muscular endurance (low weight, high reps, many sets) and power (medium weight and reps performed quickly).

#### Advantages and Disadvantages of Training Methods

##### Continuous Training

Good for aerobic fitness, lose weight accessible, health benefits, good for beginners of all ages, little equipment Boring, not always sport specific, risk of injury does not improve anaerobic fitness

##### Fartlek Training

Good for team sports, less boredom, easy to use, can mimic the sport, god for team sports Too easy to cheat, can be difficult

##### Circuit Training

Less boring, easily adapted for fitness/skill, easily adapted to sports, stations can target specific muscle groups Take time to set up, requires equipment

##### Interval Training

Can be both aerobic and anaerobic, less technical, can mimic a sport, good for sports that require a change of pace Can be boring, easy to cheat hard aspects,

##### Free weights

Full range of sporting movement, large muscle groups can be worked Risk of injury, need a spotter, more suitable for advance performers, requires good knowledge

##### Resistance machines

Safer, good for beginners, good for injury rehabilitation Expensive, no functional everyday movements, only focuses on one muscle group

#### Training Zones

**Anaerobic Threshold**  
 80-100%  
**Peak Performance**  
 80-90%  
**Aerobic Fitness**  
 70-80%  
**Aerobic**  
 60-80%  
**Fat Burning**  
 60-70%  
**Active Recovery**  
 60%  
**Warm-up Cool-down**  
 50%