Competition season (peak): playing season; taking part every week. Includes... the competition season to recuperate but maintain general level of fitness. Fully dividing the year up into sectional parts for pre-determined benefits. Adaptation of the muscles. Weight training fitness. Improve different components of Circuit training. A series of exercise stations whereby periods of work are interspersed with periods of rest. The content/demand of the circuit can be altered in order to improve different components of fitness. Weight training. The use of weights/resistance to cause adaptation of the muscles. Chose appropriate weight/exercise depending on fitness aim, eg strength/power training or muscular endurance. Types of training

- **Circuit training**
- **Continuous training**
- **Fartlek training**
- **Interval training**
- **Plyometric training**

Warming up should include:
- gradual pulse raising activity
- stretching
- skill based practices/familiarisation
- mental preparation
- increase amount of oxygen to the working muscles. Cooling down should include:
- maintain elevated breathing and heart rate, eg walk, jog
- gradual reduction in intensity
- stretching

**The benefits of warming up:**
- effect on body temperature
- range of movement increased
- gradual increase of effort to full pace
- psychological preparation
- practice of movement skills through the whole range of movement
- injury prevention.

**The benefits of cooling down:**
- allowing the body to recover
- the removal of lactic acid/CO2/waste products
- prevent delayed onset of muscle soreness (DOMS) - the pain felt in the muscles the day after exercise.

### Seasonal aspects of training

**Training**
- A well-planned programme which uses scientific principles to improve performance, skill, game ability, motor and physical fitness.

**Altitude training**
- A geographical area (of land) which is over 2,000 m above sea level.

**Altitude training (traditional)**
- A form of aerobic training.
  - Training at high altitude where there is less oxygen in the air and oxygen carrying capacity is reduced.
  - The body adapts by making more red blood cells to carry oxygen.
  - The additional oxygen carrying red blood cells is an advantage for endurance athletes returning to sea level to compete.

**Aerobic training zone**
- The aerobic training zone allows the aerobic system to be trained. To define aerobic training zone:
  1. Calculate maximum heart rate (220 bpm) - age.
  2. Work at 60-80% of maximum heart rate.

**Training thresholds**
- The actual boundaries of the target zone.

**Training zone**
- The range within which athletes need to work for aerobic training to take place (60-80% of maximum heart rate).

**Aerobic**
- With oxygen. When exercise is not too fast and is steady, the heart can supply all the oxygen that the working muscles need. Summarised as: glucose + oxygen → energy + carbon dioxide + water.

**Anaerobic**
- Without oxygen. When exercise duration is short and at high intensity, the heart and lungs cannot supply blood and oxygen to muscles as fast as the respiring cells need them. Summarised as: glucose → energy + lactic acid. Excess post-exercise oxygen consumption (EPOC): the amount of oxygen needed to recover after exercise. EPOC enables lactic acid to be converted to glucose, carbon dioxide and water (using oxygen). It explains why we continue to breathe deeply and quickly after exercise.