Knowledge Organiser: PE Year 9 Athletics

Running Events

<table>
<tr><th>Key Words</th><th>Coaching Points</th><th>Rules and Tactics</th></tr>
<tr><td>Sprinting

100m, 200m,</td><td>Types of strength for sprinting
Strength endurance, means you can keep up with muscle-pumping activities for extended periods of time
Explosive strength, is maximum force over minimal time
Starting strength is your ability to speed up instantly from a stationary position
Speed strength is the capability to exert a lot of force in a short period of time.</td><td>The time is registered when the runner's torso (chest) passes the finish line.
That is the reason why most athletes lunge forward when they approach the finish line</td></tr>
<tr><td>Middle distance running
800m ,1500m</td><td>There are three energy systems I

Phosphagen system used for short burst of intense activity about 5 seconds

Anaerobic/lactate system used for intense activity lasting 1-3 minutes

Aerobic system used for lower intensity activity lasting longer term

<table><tr><td>Distance</td><td>Aerobic</td><td>Anaerobic</td></tr><tr><td>200m</td><td>29%</td><td>71%</td></tr><tr><td>400m</td><td>43%</td><td>57%</td></tr><tr><td>800m</td><td>66%</td><td>34%</td></tr><tr><td>1500m</td><td>84%</td><td>16%</td></tr></table></td><td>In the 1500m, tenacity and a well-developed sense of strategy are important assets besides speed and endurance.
The third lap becomes the most critical lap and any error from here on may be hard to rectify.</td></tr>
<tr><td>Relay

4x100
4x 400</td><td>4 x 400m

Here you will be jostling for position ,there is no reason to get as explosive a start as in a 4x100m race.

To receive the baton you will stand facing the inside of the track with your left arm out-stretched to receive the baton. Hold the hand nice and high so your tired team mate has a good target to aim at. It is important you take the baton in your LEFT hand as it significantly reduces the chances of it getting knocked out of your hand as you go into the first bend. It is okay to</td><td>Runners have a 20 m box in which to transfer the baton. The first transfer is made within the staggered lane lines; for the second and third transfers, runners typically line up across the track despite the fact that runners are usually running in line on the inside of the track.</td></tr>
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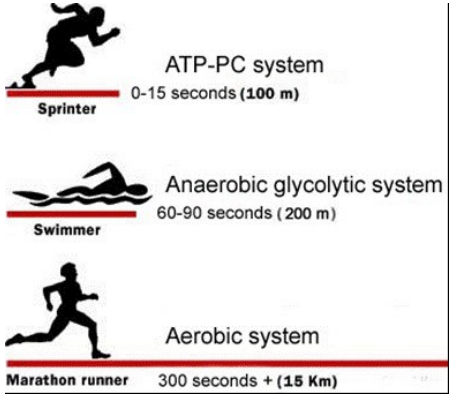
Components of fitness

Component of fitness	Definition	Example of use in the game
Body composition	The percentage of body weight which is fat, muscle and bone	The body composition of a 1500m runner will differ greatly from that of a shot putter
Balance	The ability to maintain the body's centre of mass above the base of support.	To ensure that throwers do not come out the front of the circle
Flexibility	Range of movement (ROM) at a joint	High jumpers need a lot of flexibility in their backs

Energy Systems



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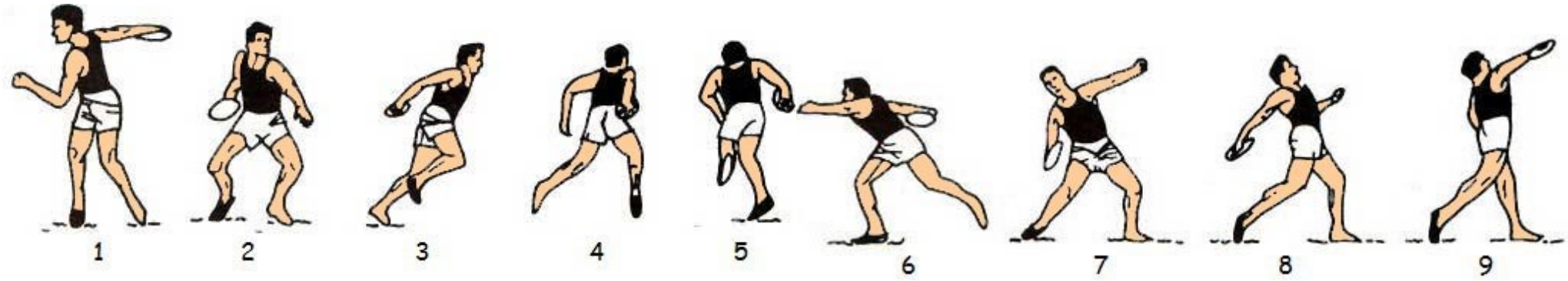
Throwing Events

Key Words	Coaching Points	Rules and Tactics
Shot put	Spin Technique **Static Start**: The athlete should go into a slight squat straddling in the center of the ring at the rear of the circle, with the flat feet about shoulder width apart **The Wind up:** The wind up should be with the upper body turning to the right, with little weight shift of the lower body. The athlete executes the wind up with the feet flat or slightly up on the toes. **Out of the back**: At the back of the circle the thrower's weight is shifted to left leg, then the right leg is picked up. As the right leg is picked, the thrower sinks or drops onto the left leg.	Fouls A player does not pause within the circle before throwing motion A player allows the shot to drop below the shoulder The shot lands outside the boundaries of the sector or touches the sector line A player leaves the circle before the shot has landed or the competitor fails to leave the circle from the back half The player touches the top/end of stop board, the top of the iron ring, or steps or touches on/ outside of the line of the circle
Javelin	Achieving greater velocity Run straight during the approach Hold body weight over the rear leg Keep a straight throwing arm during the pull phase with an upward facing palm Keep elbow along the line of throwing direction Keep the javelin pointing in the direction of the throw	The javelin must be thrown with an over-the-shoulder motion. The competitor can't turn his back to the throwing area until the javelin is airborne
Discus	Spin Phases 1. Grip 2. Stance 3. Wind up 4. Starting the throw 5. Beginning to turn to the centre of the ring 6. Completing the turn to the centre of the ring 7. turn to power position 8. power position 9. Release	During the course of throw, the athletes are prohibited from touching the top of the rim. However, they can touch the inner part of the rim.

Discus Spin



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Jumping Events

Key Words	Coaching Points	Rules and Tactics
Long jump	Hitch Kick Following take-off, the free leg is straightened and swung back and down as the take-off leg folds up beneath the hips and comes forward bent. The take-off leg then continues forward, straightening for landing. The free leg completes its backward swing behind	Even if the athlete takes off from behind the foul line, the starting point is still considered to be the front edge of the foul line, rather than the athlete's actual point of take off. **Somersaults are not permitted** during the jump.
High jump	**The approach**: Important factors of the approach are acceleration, maximum velocity, and curve running. Athletes run on a curve to lean away from the bar by creating pressure against the ground. The last 2 steps of the approach are the most important. The penultimate step must land flat, and on the imaginary curve line, with the hips and torso moving over this foot as quickly as possible. **Takeoff**: The takeoff action is also known as a push-through-and-pull action. The push-through is the hip moving over the penultimate foot. The pull is the hip of the free leg coming through because of the active negative motion of the takeoff leg. On takeoff the foot should be pointing roughly towards the far corner of the landing area. **Bar rotation**: The Fosbury Flop ends with the athlete landing on their upper back. To clear the bar an athlete will need to arch and then un-arch the body.	In case there is a tie, following two conditions may be applied to decide the winner. The player who has fewer misses at the height at which the tie has occurred, is declared as winner. The player who has fewest misses in the overall tournament is declared as winner.
Triple jump	**The 3 Phases:** **Hop** The main point of the hop is to takeoff and land on the same foot, whilst gaining distance, maintaining horizontal velocity and making sure the body is in a position to complete the next phase. **Step** The main point of the step phase is to land on the other foot to which was used to takeoff from the board and during the hop phase. **Jump** The final phase is the jump where the athlete should still attempt to gain distance, maintain horizontal velocity and prepare the body for the landing. **The Landing** When the athlete lands they need to continue the forward movement by flexing the hips and knees. This will allow the athlete's bum to reach their heels. As this happens the athlete must kick their feet out of the sand, so their bum can land in the footprints, to maintain the distance	Jumpers take off in the "hop" phase and land on the takeoff leg. They take one step onto the other foot (step phase), then jump. Otherwise, triple jump rules are identical to those of the long jump

Effects of exercise

Short term
Rise in muscle temperature
Blood temperature rises
The blood vessels near the skin open to allow heat to be lost

Long term
Muscles get bigger (Hypertrophy)
Increased number of capillaries in muscles
Increased oxygen delivered to and carbon dioxide removed from the body

Long jump Hitch kick