Paper 1: Short and long term effects of exercise

Immediate effects of exercise:
These are the effects that happen during exercise

Immediate effects of exercise	Explanation
Getting hot	Heat is a by-product of energy production, the harder we train the hotter we get
Getting sweaty	Sweat glands produce sweat to cool you down, sweat evaporating from the surface of your skin removes some body heat
Having red skin	Blood vessels dilate close the surface of the skin to help you lose heat, this makes you look red
Increased depth and rate of breathing	This allows more gaseous exchange to occur more quickly. More oxygen can be delivered to the working muscles and more carbon dioxide can be removed
Increased heart rate	This allows gases to be transported around the body. Oxygen can be delivered to the working muscles and carbon dioxide can be removed

Short term effects of exercise:
These are the effects that happen 24 to 36 hours after exercise

Short-term effects of exercise	Explanation
Tiredness and fatigue	When we are exercising energy, stores are being use up this will lead to tiredness and fatigue
Light headedness or nausea	When we exercise, we lose fluids, this can lead to dehydration, Light headedness and nausea are symptoms of being dehydrated
Aching muscles	Blood vessels dilate close the surface of the skin to help you lose heat, this makes you look red
Cramp	Cramp is an involuntary muscular contraction. A cause of cramp is a depletion of energy stores or dehydration and a lack of electrolytes due to sweating
DOMS	DOMS can occur due to micro tears in the muscles from vigorous activity

Long term effects of exercise and improvements in specific components of fitness:
These are the effects that happen months or years after training

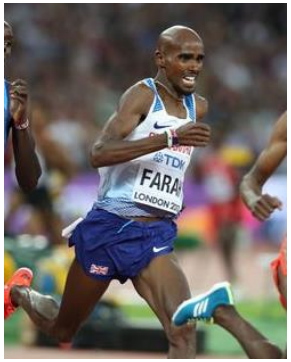
Long-term effects of exercise	Explanation
Change in body shape	A change in body shape can improve performance. An increase in muscle mass will assist in strength and power sports such as sprinting and rugby. A reduction of body fat will assist a long-distance runner
Improved stamina	Improved stamina will allow performers to last longer in an activity without getting tired. For example, performing to a high standard for 90 minutes in football
Increase in size of the heart (cardiac hypertrophy)	An increase in the size of the heart will allow more blood pumped per beat (stroke volume) when exercising. This will allow more oxygen to be delivered to the working muscles
Lower resting heart rate (bradycardia)	Because the heart can pump more blood per beat it will not have to work as hard at rest therefore resting heart rate will be lower

Strength allows us to provide a force applied by a muscle group to overcome a resistance

Muscular endurance allows repeated contractions and avoid fatigue

Suppleness/flexibility allows a greater range of movement at a joint

Speed allows us to perform movements quickly



Cardiovascular endurance allows oxygen to be supplied to the working muscle so you can perform for a long time without getting tired