

# GCSE PE

## PERSONAL EXERCISE PROGRAM



Aim:

The aim of this personal exercise program is to improve my high jump performance. Before I start training, I must complete a PARQ to ensure that I am physically capable of completing I safely.

### Pre PEP Fitness Tests:

Fitness Test	Score	
30m Sprint	4.2	Above average
Vertical Jump	43cm	average
Standing Broad Jump	2.22m	average
1 minute Push up test	45	good
1 minute sit up test	41	Above average
Bleep test	8.6	average
Hand grip dynamometer	57	good
Illinois agility test	15	excellent
Sit and reach test	18	Average

### COMPONENTS OF FITNESS:

The most important components of fitness for high jump are speed, flexibility and Power these are all. I am going to mainly focus on power and my score right now is below average, improving my power will allow me to generate more force allowing me to jump higher. Speed is important for Power as it allows me to create momentum during my jump this will improve my type iix muscle fibers which are fast explosive movement, for example box jumps. It is important to improve my range of motion leading to a higher vertical. This is important to build momentum before jumping over the bar, flexibility is used when jumping over the bar so you can arch your body to make it easier to get over. I will be focusing my training program on power.

### TRAINING METHODS:

The training methods that are important for my sport are Plyometric and Circuit training. I will mainly focus on Plyometric training, this is effective as through this training method the contraction of the antagonistic muscle groups is reduced, which allows for greater coordination in these muscles which results me increasing the power of my type lix which is important for generating and producing a more explosive vertical jump.

Circuit training is important for me to achieve my goal through involving resistance exercises that work multiple muscle groups an example of this would be weighted squats and squat Jumps which involve explosive movements focusing on my typeII muscle fibers, this will help me improve my strength, muscular endurance and power in my legs

## PRINCIPLES OF TRAINING

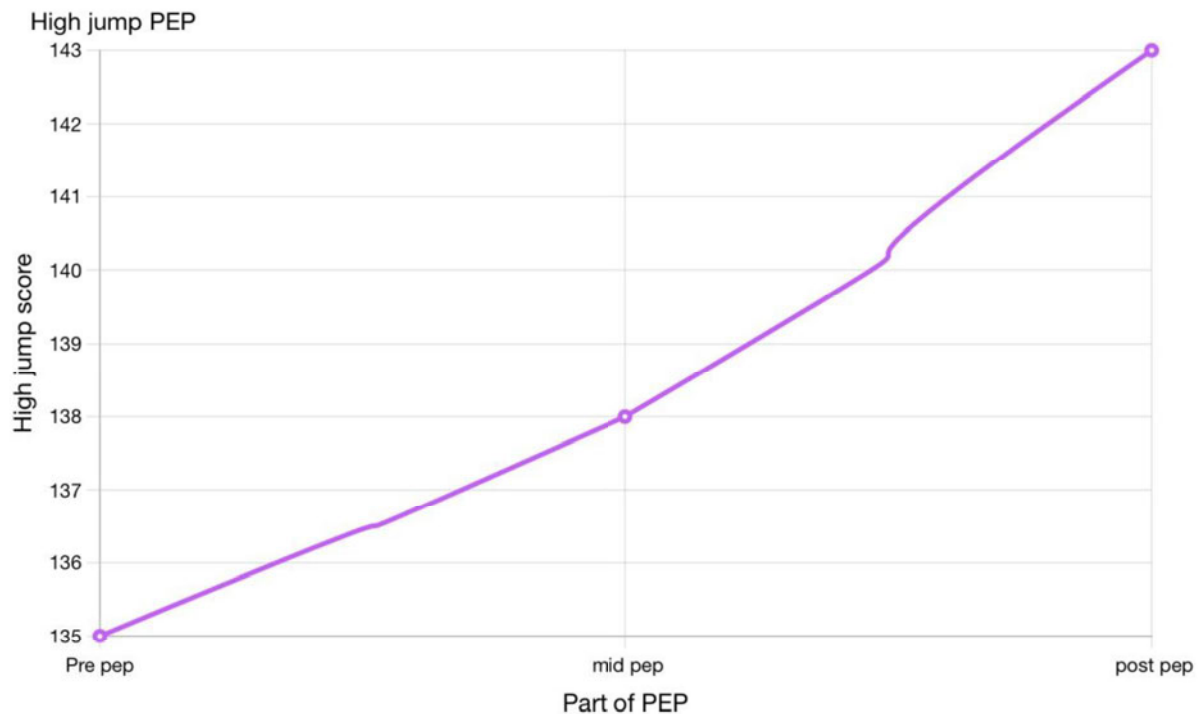
I can apply a variety of training principles to make sure that my program is successful and that I advance. For example, I will utilize the principle of specificity to make sure that my training regime and training techniques are tailored to my needs and those of my sport. In addition to applying a warm-up and cool-down to minimize overtraining, which will lower the likelihood of injury and reversibility, I will schedule appropriate rest and recovery sessions. I'll make sure to use the FITT principles and progressive overload to make sure I keep improving. I shall gradually up the difficulty and intensity of my training sessions throughout my program to allow for physiological adjustments.

## SMART TARGET:

My smart target is increasing my high jump score by 5cm and my vertical jump score from 43cm to 50cm in a period of 6 weeks by training plyometrics and circuit training. I have easy access to the gym at my home and using the schools facilities. These will help me build muscle in my quadriceps, hamstrings, gastrocnemius, and tibialis anterior. Plyometrics will also improve my explosiveness which will result in me being able to generate more power through my legs I will be able to examine my progress through testing my standing broad jump score across the 6 week period.

## Analysis of results:

FITNESS TESTS	PRE-PEP	MID-PEP	POST-PEP
High Jump	135cm	139cm	143cm
VERTICAL JUMP	43cm	45cm	47cm
STANDING BROADJUMP	2.22M	2.24M	2.25M
SIT AND REACH	18cm	20cm	23cm



Over the course of my PEP I improved my high jump score consistently from 135cm to 143cm as shown in the graph above. I was also able to improve mt vertical jump score (43cm-47cm) and standing broad jump score (2.22m-2.25m).

It may be concluded that this is a result of my effective plyometric and resistance training. These two training methods specifically targeted the muscles that are important for high jump and enabled me to develop the strength and power within them, this improving my performance. Resistance training causes the muscle fibers to grow (muscle hypertrophy) and therefore be capable of creating more force. Plyometric training allows me to develop my Type II muscle fibers, allowing for more explosive contractions and therefore develop more power, again improving my performance.



## **Evaluation**

In conclusion, my training program has proven to be very effective as shown in my improved results, and by achieving my smart targets.

I utilized my knowledge of the principles of training to make sure that I was able to achieve my targets. I used progressive overload and in week 3 increased my vertical and standing broad jump score. It is evident that this was true as my high jump score increased during this time period going from 137cm in week two to 141 in week three. In plyometric training if I decreased my resting time in week three instead of week five I could have made more effective progress which would've allowed me to increase my score even more as it would've helped condition my muscles and increase my type II muscle fibers further. During plyometric training I switched out my squat jumps for weighted squat jumps as it was more of a challenge and helped increase my explosiveness and it applied more strain on the muscles I was focusing on and helped target my individual needs. I applied rest and recovery efficiently giving time for my muscles to grow and repair before each training session. My recovery involved ice baths and foam rolling to loosen any tight muscles.

In conclusion the biggest reason my exercise program was successful was due to the changes and training methods I used. This helped me switch out exercises that weren't beneficial to my high jump score overall and applying principles of training to my program.

If I were to complete this program again, I would focus on another component of fitness to improve further. I could focus on improving my speed, allowing for a better run up. This would enable me to jump higher and use more momentum to travel over the bar.

## Appendices

ParQ:

### Data Collection Sheet

NAME:xxxxxx

HEIGHT. 178 cm

WEIGHT: 82kg

AGE: 15

#### PHYSICAL ACTIVITY READINESS QUESTIONNAIRE (PAR-Q)

	Questions	Yes	No
1	Has your doctor ever said that you have a heart condition and that you should only perform physical activity recommended by a doctor?		No
2	Do you feel pain in your chest when you perform physical activity?		No
3	In the past month, have you had chest pain when you were not performing any physical activity?		No
4	Do you lose your balance because of dizziness or do you ever lose consciousness?		No
5	Do you have a bone or joint problem that could be made worse by a change in your physical activity?		No
6	Is your doctor currently prescribing any medication for your blood pressure or for a heart condition?		No
7	Do you know of <u>any</u> other reason why you should not engage in physical activity?		No

#### GENERAL & MEDICAL QUESTIONNAIRE

Occupational Questions	
1	What is your current occupation? Student
2	Does your occupation require extended periods of sitting? No
3	Does your occupation require extended periods of repetitive movements? (If yes, please explain.) No
4	Does your occupation require you to wear shoes with a heel (dress shoes)? No
5	Does your occupation cause you anxiety (mental stress)? No
Medical Questions	

6	Have you ever had any pain or injuries (ankle, knee, hip, back, shoulder, etc.)? (If yes, please explain.) No
7	Have you ever had any surgeries? (If yes, please explain.) No
8	Has a medical doctor ever diagnosed you with a chronic disease, such as coronary heart disease, coronary artery disease, hypertension (high blood pressure), high cholesterol or diabetes? (If yes, please explain.) No
9	Are you currently taking any medication? (If yes, please list.) No



Training methods	Description	Component of fitness	Positives	Negatives
Interval training	Training with short breaks between exercises, can be done in higher intensity	Cardiovascular endurance, muscular Endurance	-Exercise that can be repeated which increases the heart rate. -Anaerobic	-Could be boring -Very intense so needs full commitment and motivation
Continuous training	Training with no breaks between exercises, low intensity	Cardiovascular endurance, Muscular endurance	Improves aerobic fitness, inexpensive, flexible	Not anaerobic, outdoor training, can be boring
S.A.Q	Speed, agility and quickness training. This method of training aims to improve the athletes multi-directional movement	Speed, agility, reaction time and coordination.	Improves your acceleration, deceleration, enhances Athletic performance, improves directional change	High-impact: Risk of acute injury. Not appropriate for all ages and populations. Not appropriate for athletes with chronic injury's
Plyometric	Explosive movements- rapid engthening followed by shortening	Power, strength and speed	-improves power -does not need expensive equipment -exercises can be used for specific performance	It's very demanding on the muscles used – you need to be very fit to do it otherwise there is a risk of injury
Fartlek training	-fartlek training involves varying the speed or intensity of your run to improve fitness and endurance	Speed, reaction time, agility, balance, coordination, power	Highly adaptable and flexible, helps improve endurance and speed, improves fast twitch muscle response.	Difficult to track progress, increases the risk of injury for beginners, difficult to keep metrics
Weight training	Strength training also known as weight or resistance training is physical activity designed to improve muscular strength or fitness exercising a certain muscle or muscle group.	Muscular endurance, muscular strength, flexibility, body composition, cardiovascular endurance	Strengthens targeted muscle groups could be adapted to suit different sports	Muscle soreness after Excess because of high stress levels if exercise is mot completed with the correct technique
Circuit training	Circuit training is a combination of 6 or more exercises preformed with short	Cardiovascular endurance, muscular endurance, Power	Not expensive as it requires little to no equipment quick and easy to set up can be	Requires the athlete to be motivated and have drive to



	rest periods between them for either a set number of repetitions or prescribed amount of time		adjusted to be made specific for certain sports improves muscular endurance	complete the set amount of repetitions and sets
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<b>Specificity</b>	The training needs to be specific for the requirements of the athlete and their sport, for example, gymnasts must focus on strength and flexibility in their training but do not need to train for endurance
<b>Progressive Overload</b>	This describes how athletes must overload themselves by pushing themselves harder than their 'comfortable' level, however, they must do this progressively over time, gradually pushing themselves harder and harder at a manageable rate
<b>Reversibility</b>	Changes to the body and fitness level are reversed if training ceases.
<b>Threshold of Training</b>	Working in a certain percentage of my max heartrate dependent on the type of activity. Highjump = Anaerobic Threshold  80-90% MHR

<b>Frequency</b>	<b>How often</b> the training takes place
<b>Intensity</b>	How intense the training is in terms of <b>how hard the athlete pushes themselves</b> e.g. speed, strength, endurance
<b>Time</b>	<b>How long</b> the training session is
<b>Type</b>	<b>Type of training</b> the person participates in e.g. circuit training, continuous training

## Training Plan

	Monday	Tuesday	Wednesday	Thursday
Week 1	<b>Plyometric</b> -Box jumps -Pogo hops Single leg\ double leg	<b>Resistance</b> -Dumbbell push press -Dumbbell squats	<b>Football</b> 6:45-8:00 Rest day	<b>Plyometric</b> -box jumps -pogo hops -skipping
Week 2	<b>Plyometric</b> -Box jumps -Depth jumps -squat jumps	<b>Resistance</b> - weighted Bulgarian split squat	<b>Football</b> 6:45-8:00 rest day	<b>Plyometric</b> -box jumps -Depth jumps
Week 3	<b>Plyometric</b> -box jumps -depth jumps -squat jumps	<b>Resistance</b> -weighted Bulgarian split squat	<b>Football</b> 6:45-8:00 rest day	<b>Plyometric</b> -box jumps -pogo hops -skipping
Week 4	<b>Plyometric</b> -box jumps -depth jumps -squat jumps	<b>Resistance</b> -weighted Bulgarian split squat	<b>Football</b> 6:45-8:00 rest day	<b>Plyometric</b> -box jumps -pogo hops -skipping
Week 5	<b>Plyometric</b> -box jumps -depth jumps - weighted Squat jumps	<b>Resistance</b> -weighted Bulgarian split squat	<b>Football</b> 6:45-8:00 rest day	<b>Plyometric</b> -box jumps -pogo hops -skipping
Week 6	<b>Plyometric</b> -box jumps -depth jumps -weighted squat jumps	<b>Resistance</b> -weighted Bulgarian split squat	<b>Football</b> 6:45-8:00 rest day	<b>Plyometric</b> -box jumps -pogo hops -skipping

	Friday	Saturday	Sunday
Week 1	Rest day	<b>Resistance</b> -dead lift -weighted lung - Bulgarian split squat	Rest day
Week 2	Rest day	<b>Resistance</b> -dead lift -weighted lung	Rest day

		- Bulgarian split squat	
Week 3	Rest day	Resistance -dead lift -weighted lung - Bulgarian split squat	Rest day
Week 4	Rest day	Resistance -dead lift -weighted lung - Bulgarian split squat	Rest day
Week 5	Rest day	Resistance -dead lift -weighted lung - Bulgarian split squat	Rest day
Week 6	Rest day	Resistance -dead lift -weighted lung - Bulgarian split squat	Rest day

