

Revision Series 2023

Edexcel GCSE Physical Education Paper 1

◆ Notes pages ◆



The EverLearner

How to use this revision session and notes

- Complete this document when doing the live or on-demand revision shows.
- Have the National Mock Exam to hand and, ideally, your completed, marked version of it.
- Have the [exam infographics](#) to hand. These will be referred to throughout the show.
- Focus on the skills that James is presenting as much as the content. In most cases, students have a knowledge of the topic but struggle to respond to the command in the question. This is a focus of our revision.
- Complete the notes spaces as extensively as possible and, if necessary, return to the show to complete it more than once in order to make the fullest notes possible.

My ticklist:

- Notes pages
- Exam infographics
- Exam paper
- Exam mark scheme
- Exam model answers

Performer profiles

Use these performer profiles when making examples and developing your A02 skill. The list is not exhaustive and you are encouraged to use your own examples as well as these ones.



Josh

Basic Details
Age: 19
Sport: 100m Sprint
Level: Olympic Podium Potential



Tom

Basic Details
Age: 43
Sport: Tennis (singles and doubles)
Level: Novice



Kate

Basic Details
Age: 17
Sport: Triathlon
Level: Club



Laura

Basic Details
Age: 15
Sport: Gymnastics (Artistic)
Level: National



Julie

Basic Details
Age: 26
Sport: Netball (GD, GK)
Level: Semi-professional/National



Carlos

Basic Details
Age: 35
Sport: Wheelchair basketball
Level: Ex-national team

Material covered in the National Mock Exam

- Green denotes content to be covered in this session.
- (#) denotes the number of marks on Paper 1 since 2018.
- Yellow denotes skills that will be covered in the session and that are also covered in the mock exam and model answers.

Topic 1: Applied anatomy & physiology

- Bone classification (6)
- Structure of bones (2)
- Classification of joints (10)
- Joint movements (4)
- Muscle types (4)
- Antagonistic muscle pairs (21)
- Structure of blood vessels (1)
- Functions of blood (5)
- Structure of the respiratory system (11)
- Gas exchange (3)
- Aerobic and anaerobic respiration (9)
- Energy sources (2)
- Long term effects of exercise (20)
- Graphical representation of HR, SV and Q (2)

Topic 2: Movement analysis

- Lever systems (14)

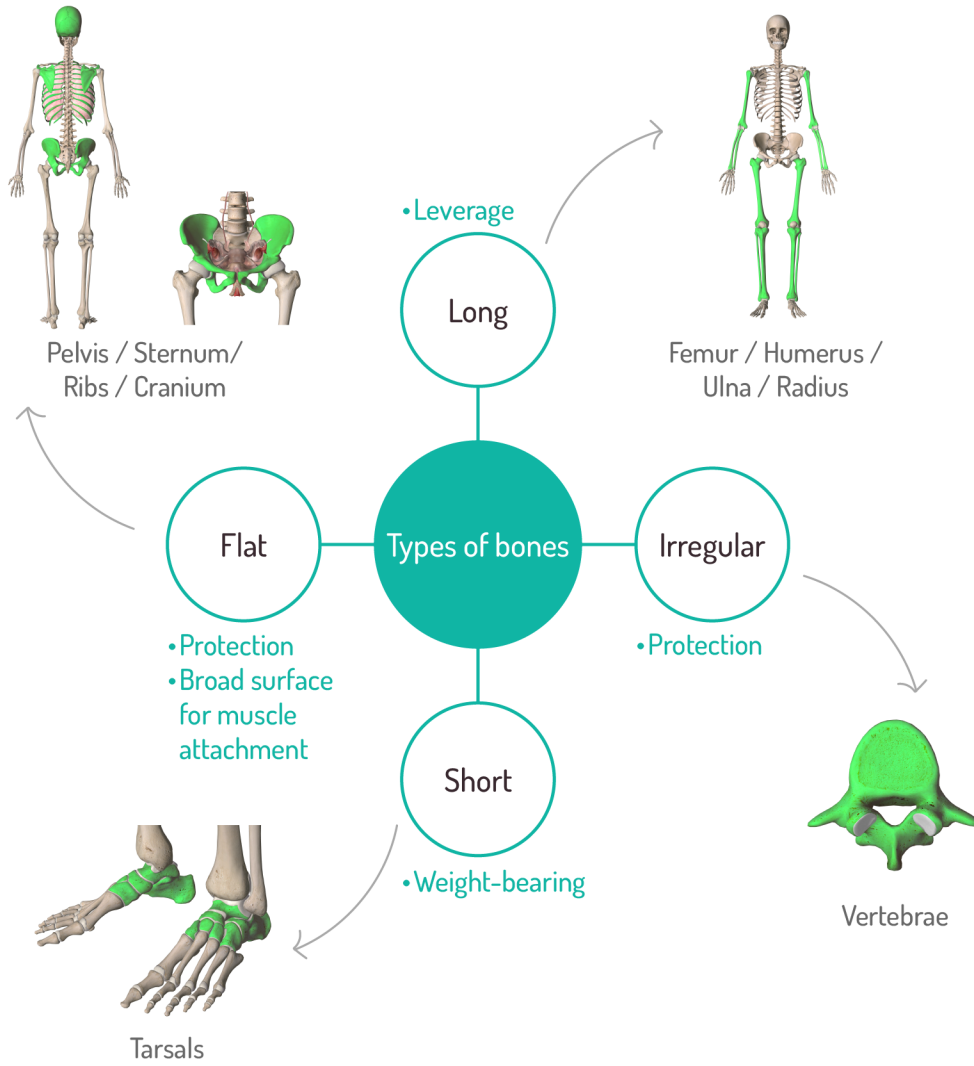
Topic 3: Physical training

- Definitions of health and fitness (6)
- Components of fitness (27)
- Fitness tests (38)
- FITT (0)
- Thresholds of training (2)
- Training methods (47)
- PAR-Q (1)
- Injury prevention (10)
- PEDS (14)
- Importance of a warm up and cool down (5)

Topic 4: Use of data

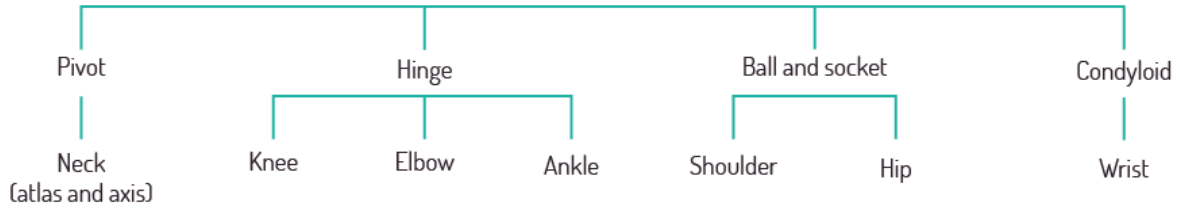
- Use of data (16)

Section 1: Bone classification

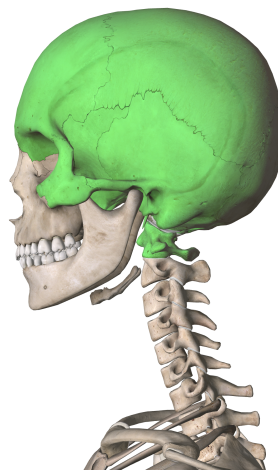


Notes

Section 2: Classification of joints

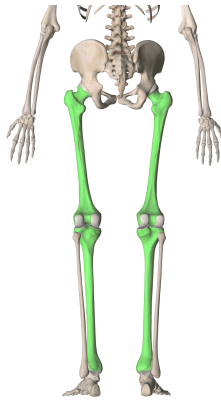


Pivot



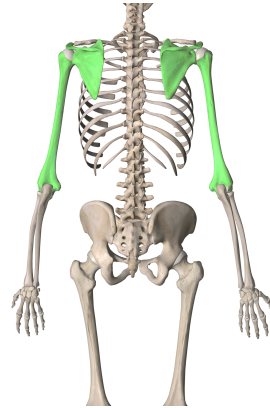
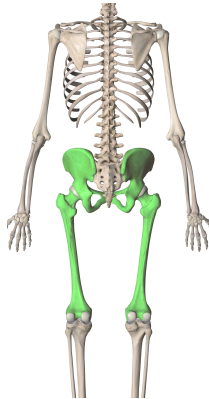
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Hinge



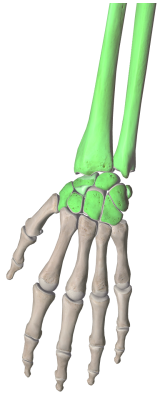
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Ball-and-socket



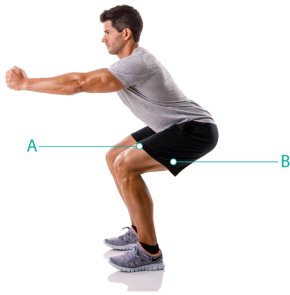
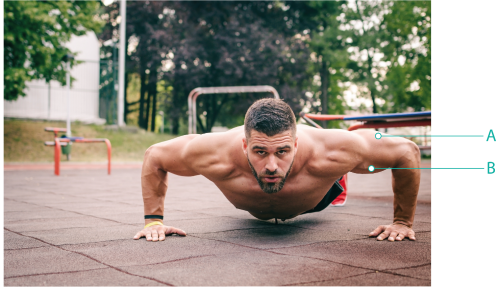
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Condyloid



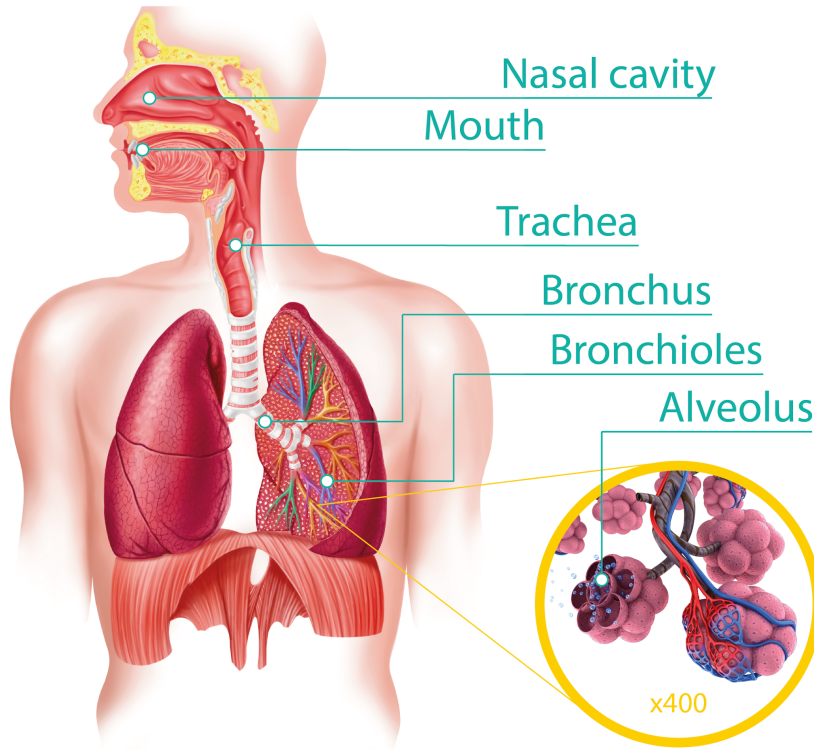
Notes

Section 3: Antagonistic muscle pairs



Notes

Section 4: Structure of the respiratory system



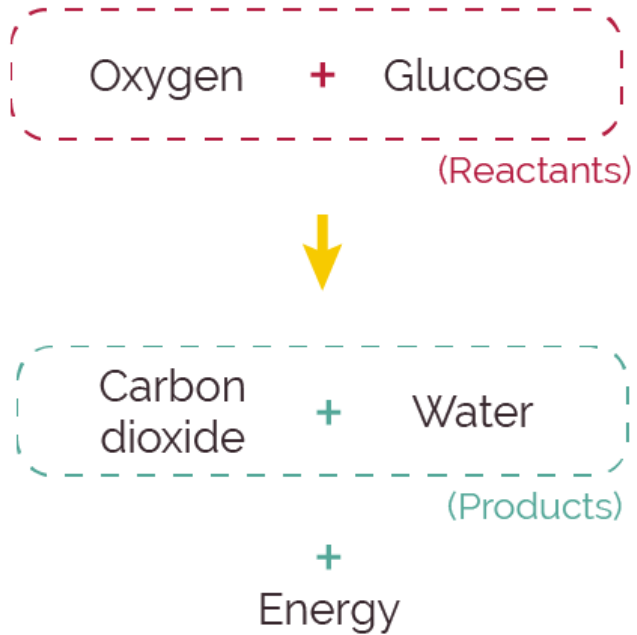
Notes

Location of the main components of the respiratory system	Mouth/nose	_____ / _____ points
	Trachea	_____ rings
	Bronchi	_____ air into left and right channel.
	Bronchioles	Sub-branches leading to the _____
	Alveoli	Air sacs, one-_____ thick, site of _____
	Diaphragm	_____ during inhalation.
_____ during exhalation.		

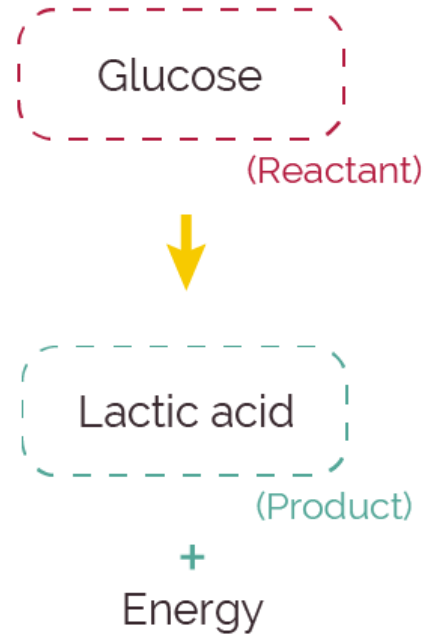
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Section 5: Aerobic and anaerobic exercise

Aerobic respiration

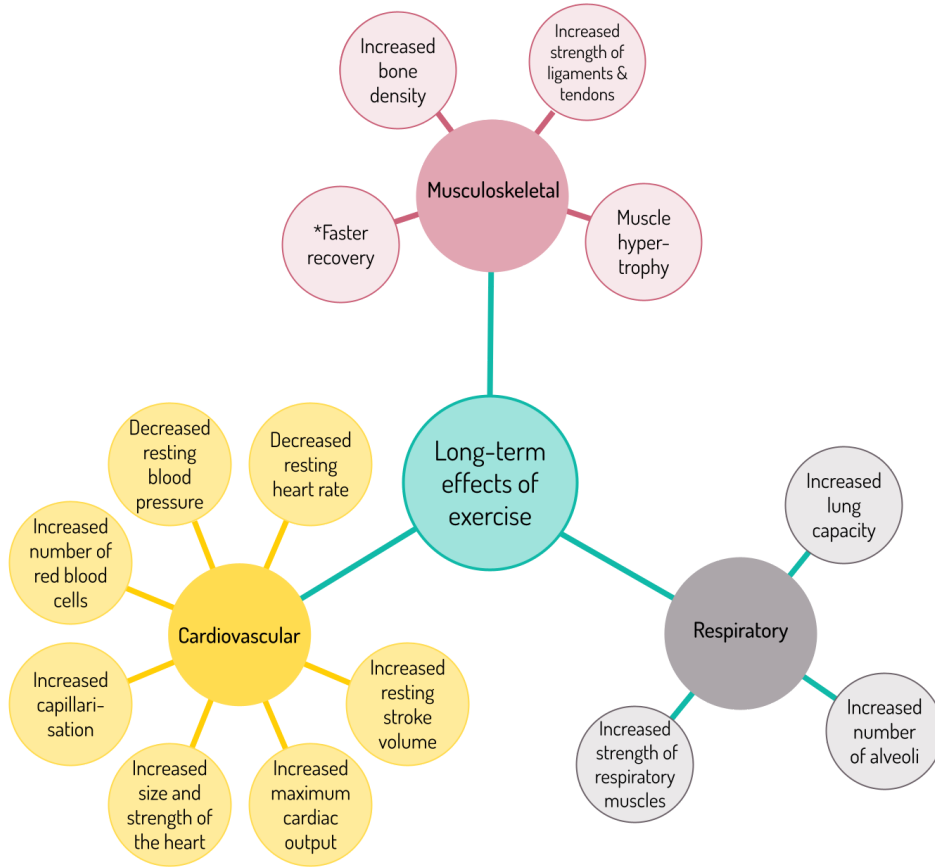


Anaerobic respiration



Notes

Section 6: Long-term effects of exercise

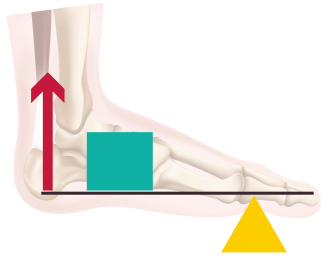


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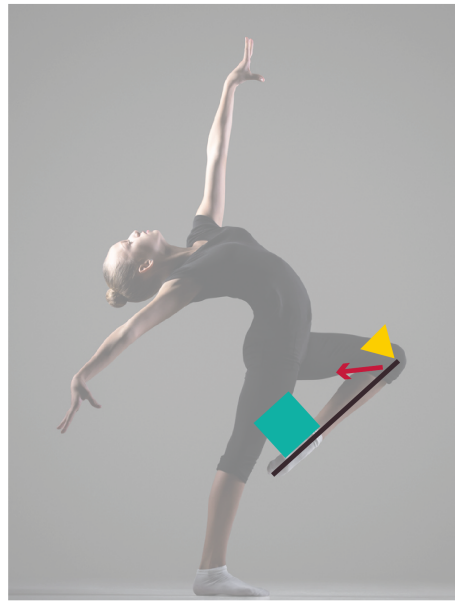
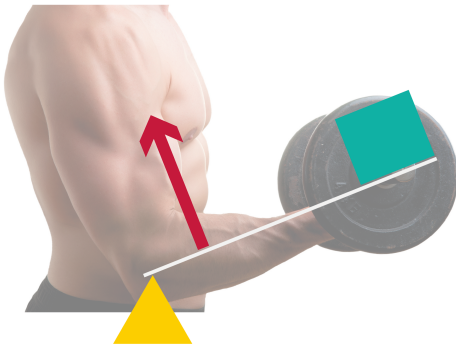
Section 7: Levers



Notes	Notes

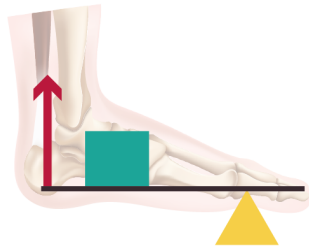


Notes



Notes

Notes



$$\text{Mechanical advantage} = \frac{\text{Effort arm}}{\text{Load arm}}$$

Notes

Section 8: Components of fitness

From definitions to examples

You must be prepared to provide specific examples of the importance of components of fitness to different activities. Complete this table with the EIO model of examples James describes in the session.

Component	Definition (A01)	Performer 1 (A02)	Performer 2 (A02)	Your level of confidence with this component
		Laura/Josh/Julie/ Tom/Kate	Laura/Josh/Julie/ Tom/Kate	
Agility	Ability to change the position of the body quickly whilst maintaining control of the movement	(Julie) Ability to dodge an opponent in netball to get free and receive a pass.		😊 😐 😞
Balance	Ability to maintain the body's centre of mass over the base of support.			😊 😐 😞
Body composition	The percentage of body weight that is muscle, fat or bone			😊 😐 😞
Cardiovascular fitness/Aerobic endurance	The ability to exercise the entire body for long periods of time without tiring.			😊 😐 😞
Coordination	The ability to use different parts of the body together		(Laura) Ability to perform a split leap with a wide RoM at the hip.	😊 😐 😞

Flexibility	The range of motion of your joints			😊 😐 😞
Muscular endurance	The ability to use voluntary muscles repeatedly without getting tired			😊 😐 😞
Power	Product of strength and speed			😊 😐 😞
Reaction time	Time taken to initiate response to a stimulus			😊 😐 😞
Strength	Ability to lift heavy weights			😊 😐 😞
Speed	Maximum rate at which an individual is able to perform a movement or cover a distance in a period of time			😊 😐 😞

From examples to impact

Try completing answers to this question over and over again:

Justify the importance of [insert component of fitness here] to a [insert performer/activity here]

For example:

- “Justify the importance of speed to a marathon runner.”
- “Justify the importance of flexibility to a hockey goalkeeper.”

You can use the performer profiles provided to get you started or use your own examples.

	CoF		Performer/Activity	Answer (A03)
Justify the importance of	strength	to	sprinting (Josh).	“Maximal strength causes large amounts of force to be applied to the block to cause an explosive start. It also allows the sprinter to apply more force to the ground when striding, which propels the sprinter forward faster. Finally, maximal strength in the arms and shoulders allows the sprinter to pump their arms causing greater forward motion.”
Justify the importance of		to		
Justify the importance of		to		
Justify the importance of		to		
Justify the importance of		to		

Notice that in “Justify” questions, there are typically no marks for definitions (A01) or even examples (A02). Marks are awarded for stating the impact of the performance.

Section 9: Fitness tests

(Protocols and links to components of fitness)

Components of Fitness - CV fitness/Aerobic endurance	
Definition	The ability to exercise the entire body for long periods of time without tiring.
Examples	Triathlete efficiently delivers oxygen to the gastrocnemius, deltoids and quadriceps when running in order to work the entire body for the 2.5 hours of the race.
Cooper 12-minute run/walk	Run for 12 minutes around a designated course
	Place cones 50m apart
	Measure the distance you cover and calculate your $\dot{V}O_2$ max
	Compare results against normative data
Harvard Step test	Step up and down on a specific height bench
	Continue for five minutes
	1 step every 2 seconds
	When finished, take your heart rate
	Take heart rate again 2 and 3 minutes after exercise
	Plot a graph/Compare against averages

Notes

Evaluation

Components of Fitness - Changing direction quickly whilst maintaining control	
Definition	Ability to change the position of the body quickly whilst maintaining control of the movement.
Examples	Netball player dodging left and right whilst maintaining control to find space to receive the ball.
Illinois Agility test	Mark out the course to the exact measurements required
	Start lying face-down on the start line (prone position)
	Run the course as quickly as you can
	How fast you complete the course is recorded
	Measured in seconds

Components of Fitness - Strength	
Definition	Ability to lift heavy weights.
Examples	Weightlifter begins to raise a world record weight off the ground by applying maximal muscular force to the bar with the upper and lower body.
Grip dynamometer test	Hold in dominant hand
	Start with your hand up
	Bring down to side/Squeeze the handle/Lower arm
	No swinging your hand
	Repeat three times
	Record the maximum force reading

Evaluation

Evaluation

Components of Fitness - Muscular endurance

Definition	Ability to use voluntary muscles repeatedly without getting tired
Examples	Olympic rower repeatedly contracts the biceps to flex the elbows and pull against the water without fatiguing meaning they maintain their pace in the crucial last 100m.
Press-up and Sit-up Test	Correct sit-up/press-up technique
	Time for 1 minute
	Count the number of sit-ups/Count the number of press-ups

Components of Fitness - Speed

Definition	Maximum rate at which an individual is able to perform a movement or cover a distance in a period of time
Examples	Table tennis player moves rapidly to their left to reach a hard-hit loop shot before the ball passes their paddle and wins the point for the opponent.
30m Sprint Test	Select a sprinting area 60-80ms long
	Measure a 30m distance
	Rolling start/Accelerate before the start
	Run as fast as you can/Run through the line
	Time is recorded

Evaluation

Evaluation

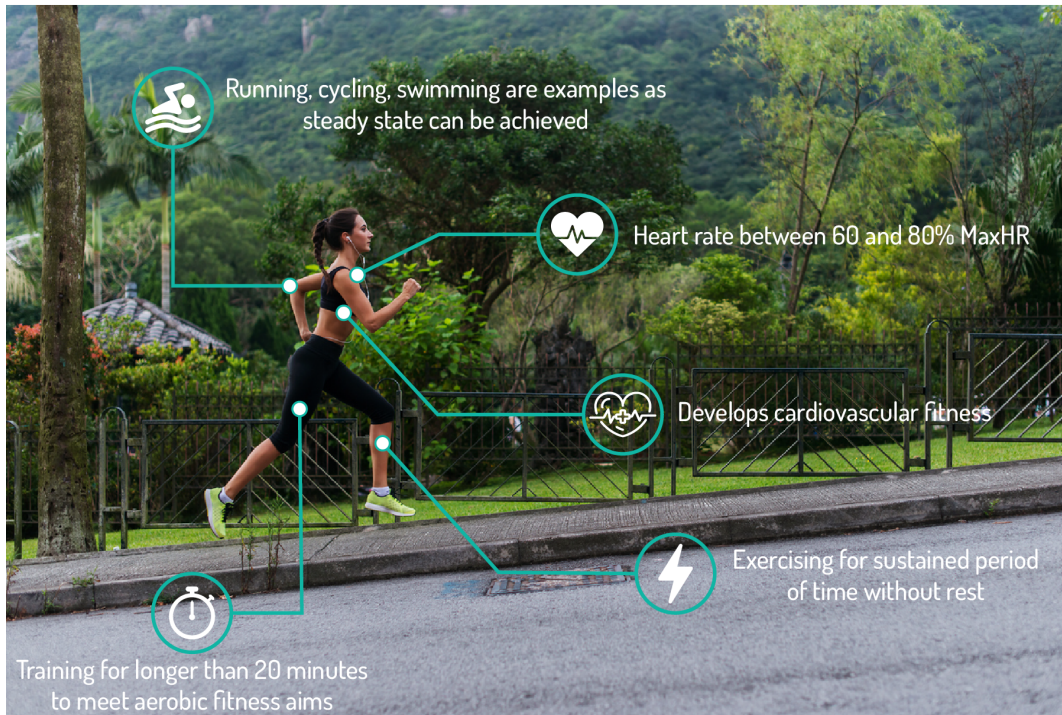
Components of Fitness - Power	
Definition	Product of strength and speed (Strength x speed) or... Ability to perform strength movements quickly
Examples	100m sprinter applies maximal force to the block at the highest speed possible to accelerate them ahead of their opponents in the race.
Vertical Jump test	Stand sideways on to the wall
	Mark standing reach height with chalk
	Jump as high as possible and mark a line with chalk at the peak of the jump
	Score is the distance in centimetres between the two lines

Components of Fitness - Flexibility	
Definition	The range of motion of your joints
Examples	Hockey goalkeeper shows a wide range of movement in the shoulder by hyperextending to save a slow-moving ball that has already looped over their head and is going into the net.
Sit and Reach test	Remove shoes
	Sit on floor with legs straight out
	Soles of feet on the box
	Reach forward with one hand on top of the other
	Stretch as far as possible
	Hold for two seconds
	No jerking movements
	Distance reached is measured in cm

Evaluation

Section 10: Training methods

Continuous training



- + Very accessible with very little equipment required.
- + Relatively cheap.
- + Easy to monitor duration (stopwatch) and intensity (heart rate).

- Many people find it tedious.
- Can reduce speed and power.
- Can lead to overuse/chronic injuries such as stress fractures.
- Time-consuming.

Notes

Fartlek training



- + More engaging than simple continuous.
- + Works on speed and power as well as CV fitness.
- + Reflects the changing intensity of game play.
- + Good for cross country runners.
- Needs greater variety of space.
- Intensity is harder to monitor.

Notes

Circuit training



- + Lots of possibility to alter and adapt the workout.
- + Whole body can be trained.
- + Order of stations can be varied.
- + Capacity to train ME, strength and even CV fitness.
- + Excellent use of space. Lots of people training in small area.
- + Different levels of fitness can work together.
- No record of who did what.
- Hard to monitor.
- Loafing may occur.

Notes

Plyometric training



- + Very effective to increase power.
- + Considered a "modern" training protocol - more engaging.
- Only suitable for athletes.
- Can cause more harm than good.

Notes

Interval training / HIIT



- + Very effective at developing speed and power.
- + Simple. Very little equipment is needed.
- + Develops both anaerobic (work period) and aerobic (recovery period) fitness.
- Requires high levels of motivation.
- Hard to monitor intensity.

Notes

Weight training



- + Very effective for developing strength and ME.
- + Hugely varied and never-ending range of lifts and exercises.
- + Muscle isolation.

- Poor technique and heavy load often used.
- Often requires equipment and almost

Notes

Section 11: Injury prevention (including PAR-Q)

PAR-Q

Physical Activity Readiness Questionnaire

Health History Form		
Name _____	Date _____	
Age _____	Sex M () F ()	
Physician's Name _____	Physician's Phone (_____)	
1) Are you taking any medications or drugs? If so, please list medication, dose, and reason.		

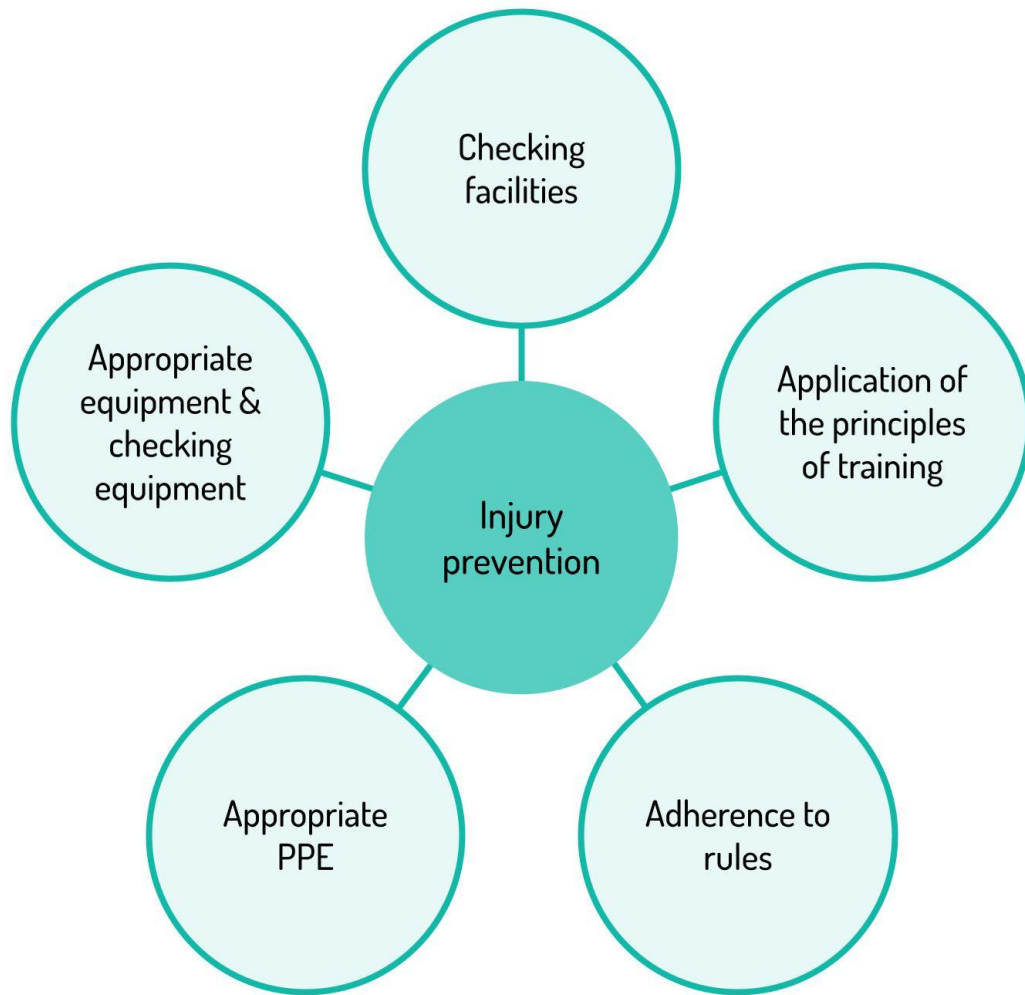
2) Does your physician ask you to inform him before participating in the exercise program?		

3) Describe any physical activity you do somewhat regularly.		

4) Answer the following health questionnaire in Yes or No		
	YES	NO
1. History of heart problems, chest pain, or stroke	<input type="checkbox"/>	<input type="checkbox"/>
2. High blood pressure	<input type="checkbox"/>	<input type="checkbox"/>
3. Any chronic illness or condition	<input type="checkbox"/>	<input type="checkbox"/>
4. History of heart problems in immediate family	<input type="checkbox"/>	<input type="checkbox"/>
5. Hernia, or any condition that may be aggravated by lifting weights	<input type="checkbox"/>	<input type="checkbox"/>
6. Recent surgery (last 12 months)	<input type="checkbox"/>	<input type="checkbox"/>
7. Pregnancy (now or within last 3 months)	<input type="checkbox"/>	<input type="checkbox"/>
8. History of breathing or lung problems	<input type="checkbox"/>	<input type="checkbox"/>
9. Muscle, joint, or back disorder, or any previous injury still affecting you	<input type="checkbox"/>	<input type="checkbox"/>
10. Diabetes or thyroid condition	<input type="checkbox"/>	<input type="checkbox"/>
11. Cigarette smoking habit/status	<input type="checkbox"/>	<input type="checkbox"/>
12. Obesity (more than 20% over ideal body weight)	<input type="checkbox"/>	<input type="checkbox"/>
13. Increased blood cholesterol	<input type="checkbox"/>	<input type="checkbox"/>
Please explain any "yes" answers on the blank space. (Comments)		
Comments:		

All the above information is true to my knowledge and I bond to inform the fitness center/instructor whenever there is change in my health status.		
Name of the client- _____	Signature _____	

Notes



Notes

Section 12: PEDs

Anabolic steroid		
*Taken by	Positives	Negatives
<ul style="list-style-type: none"> ● Power athletes ● Sprinters ● Weight lifters ● Boxers 	<ul style="list-style-type: none"> ● Increased muscle mass ● Increased power ● Increased strength ● Faster recovery 	<ul style="list-style-type: none"> ● Roid rage ● Androgynous changes ● Liver damage ● Heart failure

Notes

Beta blockers		
*Taken by	Positives	Negatives
<ul style="list-style-type: none"> ● Archers ● Pistol/rifle shooters ● Snooker players 	<ul style="list-style-type: none"> ● Reduced heart rate ● Reduced tension ● Reduced anxiety ● Steady hand 	<ul style="list-style-type: none"> ● Slower reaction time ● Drowsiness

Notes

Diuretics		
*Taken by	Positives	Negatives
<ul style="list-style-type: none"> ● Boxer ● MMA fighter ● Judo player ● Jockey 	<ul style="list-style-type: none"> ● Water loss ● Rapid weight loss ● Masking agent ● Make weight 	<ul style="list-style-type: none"> ● Dehydration ● Body can go into shock

Notes

Narcotic analgesics		
*Taken by	Positives	Negatives
<ul style="list-style-type: none"> ● Injured performer ● Someone awaiting an operation ● Ironman 	<ul style="list-style-type: none"> ● Masks pain ● Play through injury ● Delay operations 	<ul style="list-style-type: none"> ● Make the injury worse ● Not good for the athlete's health

Notes

Peptide hormones (EPO)		
*Taken by	Positives	Negatives
<ul style="list-style-type: none"> • Road cyclist • Triathlete • Marathon runner • X-country skier 	<ul style="list-style-type: none"> • RBC production • Increased oxygen transportation • Perform at higher intensities aerobically 	<ul style="list-style-type: none"> • Increased blood viscosity • Increased blood pressure

Peptide hormones (HGH)		
*Taken by	Positives	Negatives
<ul style="list-style-type: none"> • Weight lifters • Hammer throwers 	<ul style="list-style-type: none"> • Increased muscle mass • Increased strength and power 	<ul style="list-style-type: none"> • Liver damage

Notes

Stimulants		
*Taken by	Positives	Negatives
<ul style="list-style-type: none"> ● Games players ● Boxers 	<ul style="list-style-type: none"> ● Increased alertness ● Improved reaction time 	<ul style="list-style-type: none"> ● Over-arousal ● Loss of concentration ● Errors

Notes

Blood doping		
*Taken by	Positives	Negatives
<ul style="list-style-type: none"> ● Road cyclist ● Triathlete ● Marathon runner ● X-country skier 	<ul style="list-style-type: none"> ● RBC production ● Increased oxygen transportation ● Perform at higher intensities aerobically 	<ul style="list-style-type: none"> ● Transfusion infections ● High blood pressure

Notes
