

Revision Series 2024

AQA 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.
- The imagery contained in the notes is designed for you to be able to study the A01 knowledge prior to the live session.
- During the live session, James will guide you through how to use that knowledge in your exam.
- 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 pages 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.
- 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.

My ticklist:

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

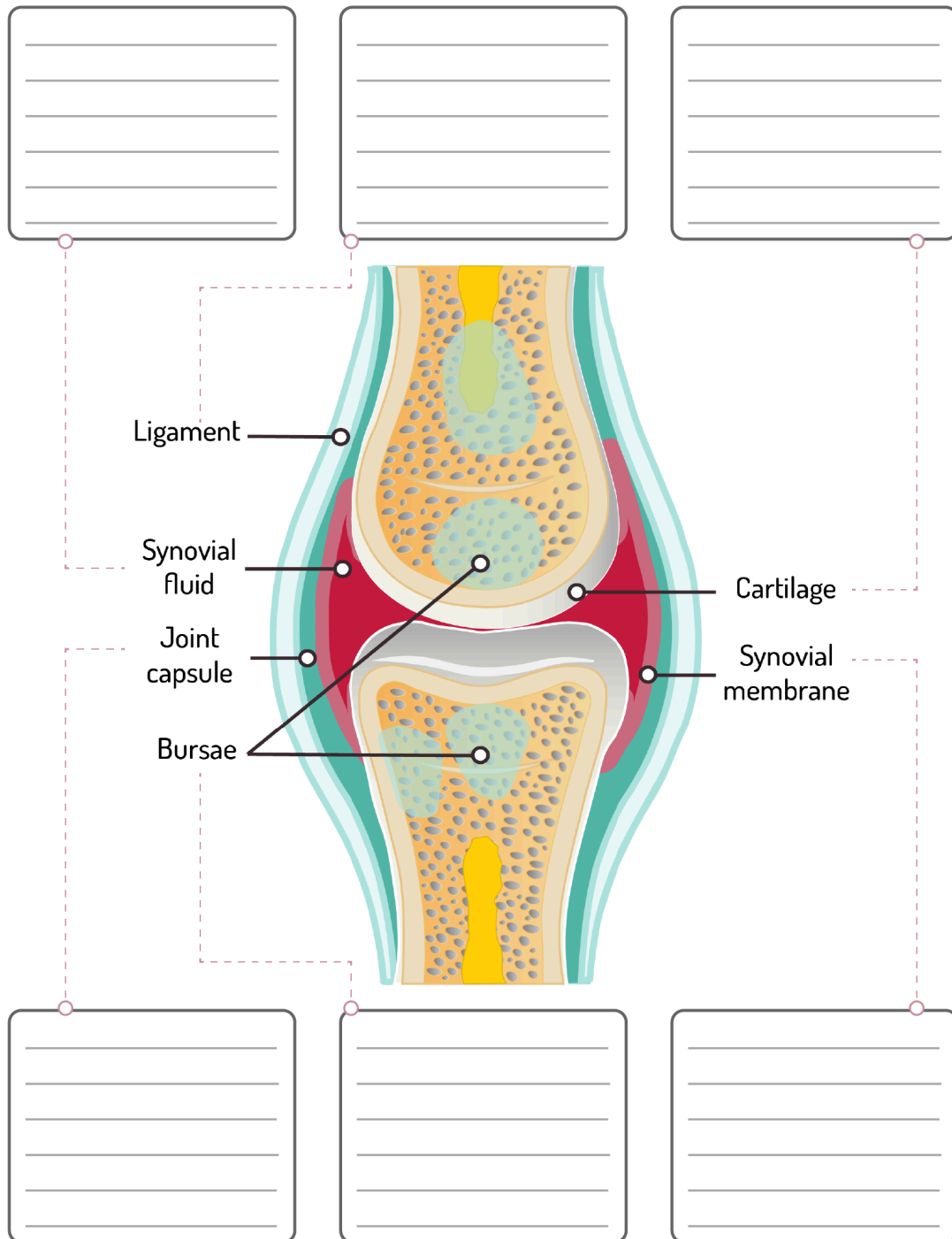
During the live show, we will cover...

Topic 1: Structure of a synovial joint.....	3
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We will also cover a wide array of exam skills including command terms for A01, A02 and A03 as well as the extended writing requirements of the paper.

You may also find it useful to study our previous years' revision shows when different samples of content and skills have been developed.



Topic 1: Structure of a synovial joint



Want to know more? Watch the FREE tutorial "Structure of joints" on [TheEverLearner.com](https://www.theeverlearner.com)

Topic 2: Aerobic exercise and anaerobic exercise.

Use of aerobic and anaerobic exercise

System	Energy release	
Aerobic respiration	Glucose + Oxygen	 Carbon dioxide + Water + Energy
Anaerobic respiration	Glucose	 Lactic acid + Energy

Performer	When aerobic is relevant	When anaerobic is relevant	Conclusions
Javelin thrower	Very little. Recovery between throws BECAUSE the aerobic pathways powers recovery.	To power the approach and throw of the javelin BECAUSE it is short duration and very high intensity.	Javelin throwing is predominantly anaerobic but relies on aerobic energy release for recovery. Suitable training methods would be weights, intervals and plyometrics.
Football midfielder	_____	_____	_____

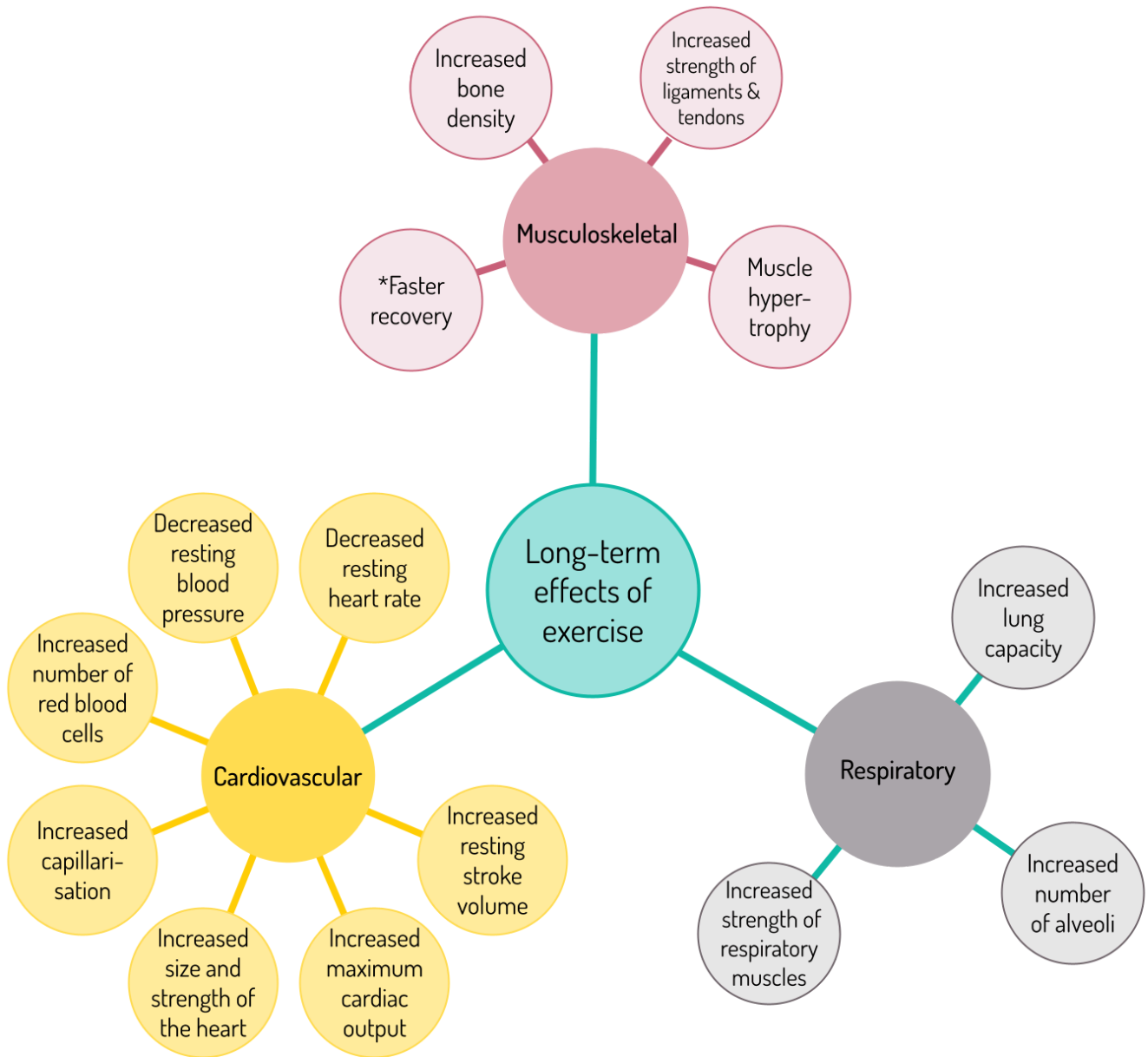
Performer	When aerobic is relevant	When anaerobic is relevant	Conclusions
Downhill skier	<hr/> <hr/> <hr/> <hr/> <hr/> <hr/> <hr/> <hr/> <hr/> <hr/>	<hr/> <hr/> <hr/> <hr/> <hr/> <hr/> <hr/> <hr/> <hr/> <hr/>	<hr/> <hr/> <hr/> <hr/> <hr/> <hr/> <hr/> <hr/> <hr/> <hr/>
Triathlete	<hr/> <hr/> <hr/> <hr/> <hr/> <hr/> <hr/> <hr/> <hr/> <hr/>	<hr/> <hr/> <hr/> <hr/> <hr/> <hr/> <hr/> <hr/> <hr/> <hr/>	<hr/> <hr/> <hr/> <hr/> <hr/> <hr/> <hr/> <hr/> <hr/> <hr/>
Boxer	<hr/> <hr/> <hr/> <hr/> <hr/> <hr/> <hr/> <hr/> <hr/> <hr/>	<hr/> <hr/> <hr/> <hr/> <hr/> <hr/> <hr/> <hr/> <hr/> <hr/>	<hr/> <hr/> <hr/> <hr/> <hr/> <hr/> <hr/> <hr/> <hr/> <hr/>



Want to know more?

Watch the FREE tutorial “Aerobic and anaerobic energy” on [TheEverLearner.com](https://www.theeverlearner.com)

Topic 3: Long-term effects of exercise



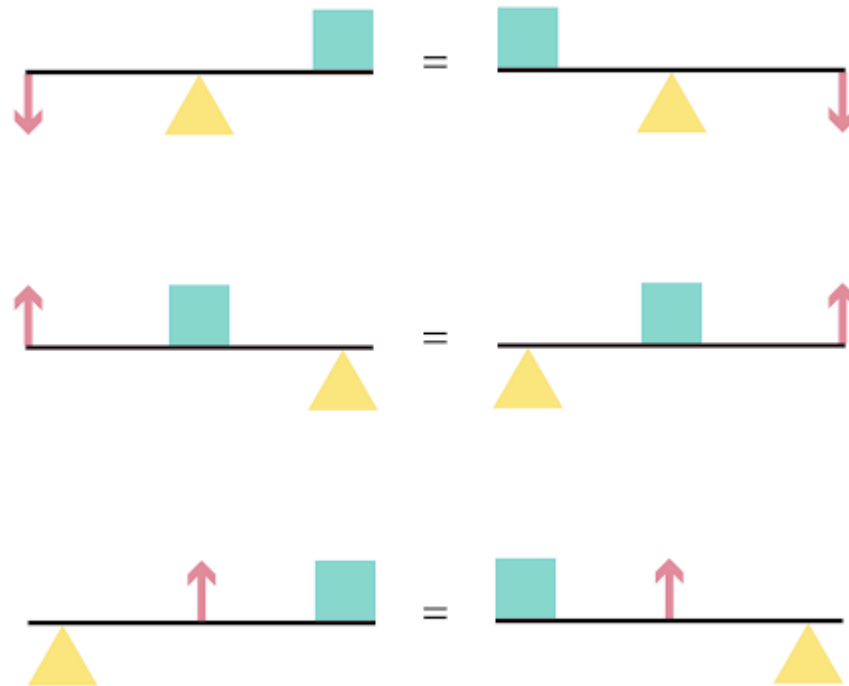
Long-term effect	Impact	Athlete who may benefit
Body shape may change	<hr/> <hr/> <hr/> <hr/>	Gymnast
Improvements in CoF	<hr/> <hr/> <hr/> <hr/>	All
Build strength	<hr/> <hr/> <hr/> <hr/>	Rugby player
Improve muscular endurance	<hr/> <hr/> <hr/> <hr/>	Rower
Improve speed	<hr/> <hr/> <hr/> <hr/>	Sprinter
Improve suppleness	<hr/> <hr/> <hr/> <hr/>	Goalkeeper

Long-term effect	Impact	Athlete who may benefit
Build cardiovascular endurance	<hr/> <hr/> <hr/> <hr/>	Endurance swimmer
Improve stamina	<hr/> <hr/> <hr/> <hr/>	Endurance swimmer
Increase in size of the heart (hypertrophy)	<hr/> <hr/> <hr/> <hr/>	Hockey player
Lower resting heart rate (bradycardia)	<hr/> <hr/> <hr/> <hr/>	Tennis player



Want to know more? Watch the FREE tutorial “Long-term effects of exercise” on [TheEverLearner.com](https://www.theeverlearner.com)

Topic 4: First-, second- and third-class lever systems and mechanical advantage

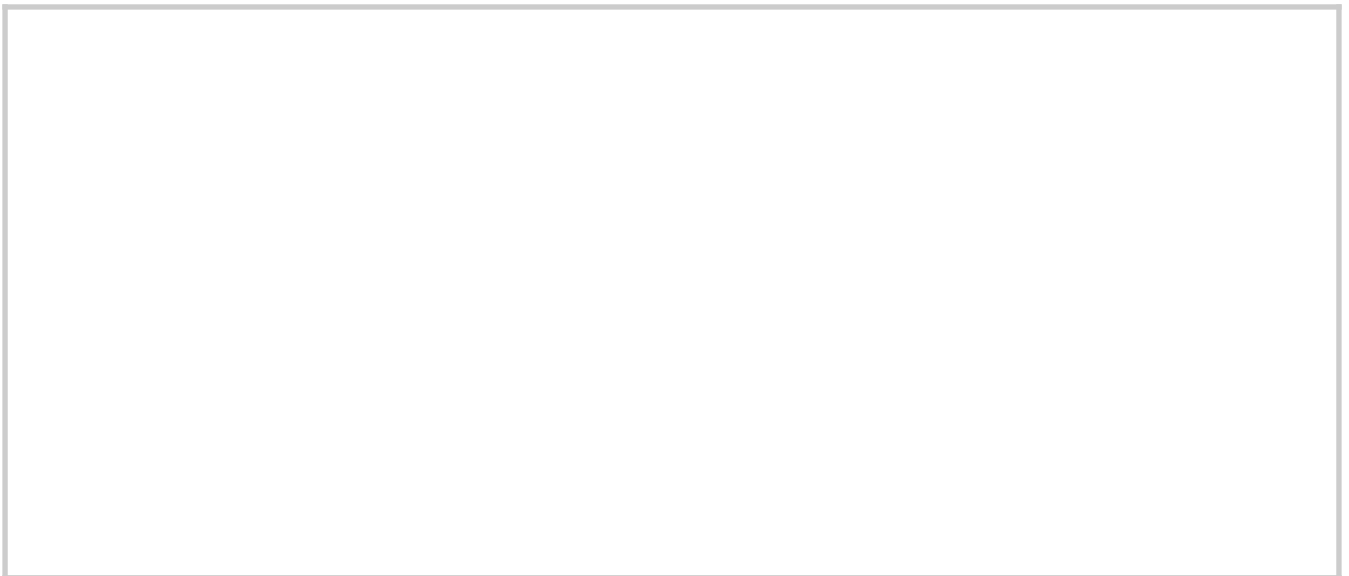


Lever component	In the human body	Shape and position
Lever arm	_____ _____	
Fulcrum	_____ _____	
Load	_____ _____	
Effort	_____ _____	

First-class levers



The two images above represent a first-class lever. Using an arrow, a square, a triangle and a straight line **only**, draw a first-class lever below.



Complete this statement:

First-class levers, such as neck extension and elbow extension, have the _____
between the _____ and the _____.

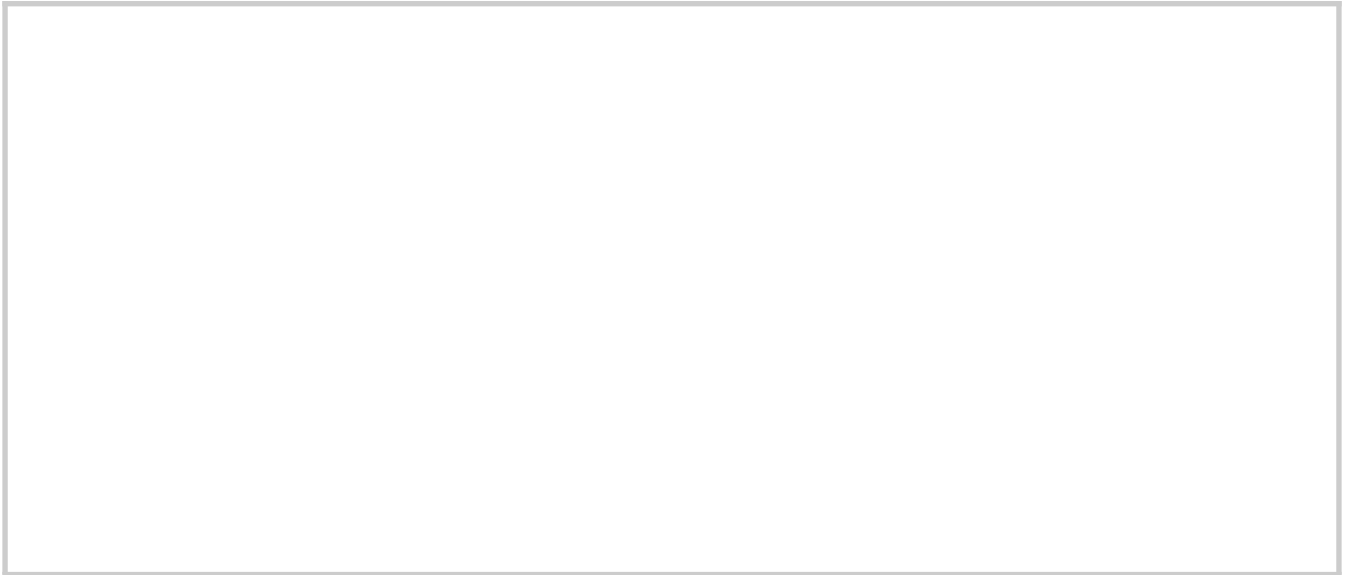
Explain why this statement is wrong: "First-class levers have the fulcrum in the middle."

Lever component	For elbow extension
Lever arm	<hr/> <hr/>
Fulcrum	<hr/> <hr/>
Load	<hr/> <hr/>
Effort	<hr/> <hr/>

Second-class levers



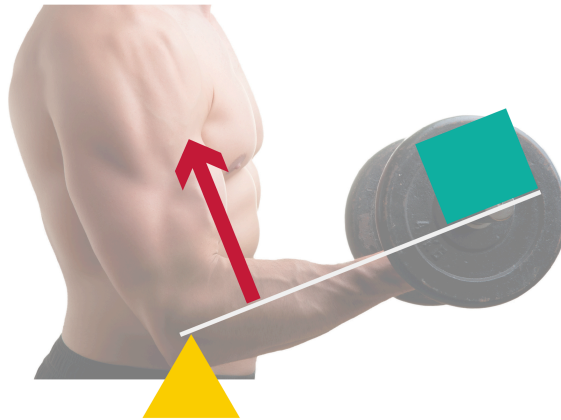
The image above represents a second-class lever. Using an arrow, a square, a triangle and a straight line **only**, draw a second-class lever below.



Second-class levers such as plantar flexion at the ankle have the _____
between the _____ and the _____.

Lever component	For plantar flexion
Lever arm	_____ _____
Fulcrum	_____ _____
Load	_____ _____
Effort	_____ _____

Third-class levers



The image above represents a third-class lever. Using an arrow, a square, a triangle and a straight line **only**, draw a third-class lever below.

Third-class levers such as elbow flexion have the _____ between the _____ and the _____.

Lever component	For elbow flexion
Lever arm	_____ _____

Lever component	For elbow flexion
Fulcrum	_____ _____
Load	_____ _____
Effort	_____ _____

Mechanical advantage

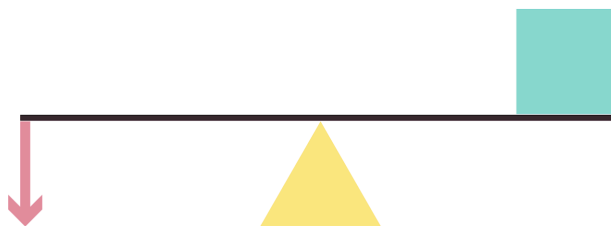


$$\text{Mechanical advantage} = \frac{\text{Effort arm}}{\text{Load arm}}$$

Effort arm: Distance from effort to the fulcrum

Load arm: Distance from the load to the fulcrum

Accurately draw the effort and load arms on this lever:



Which one is greater, the effort or the load arm?

Effort arm

Load arm

Does this lever operate with mechanical advantage?

Yes

No

Accurately draw the effort and load arms on this lever:



Which one is greater, the effort or the load arm?

Effort arm

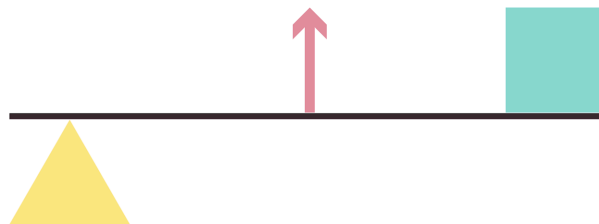
Load arm

Does this lever operate with mechanical advantage?

Yes

No

Accurately draw the effort and load arms on this lever:



Which one is greater, the effort or the load arm?

Effort arm

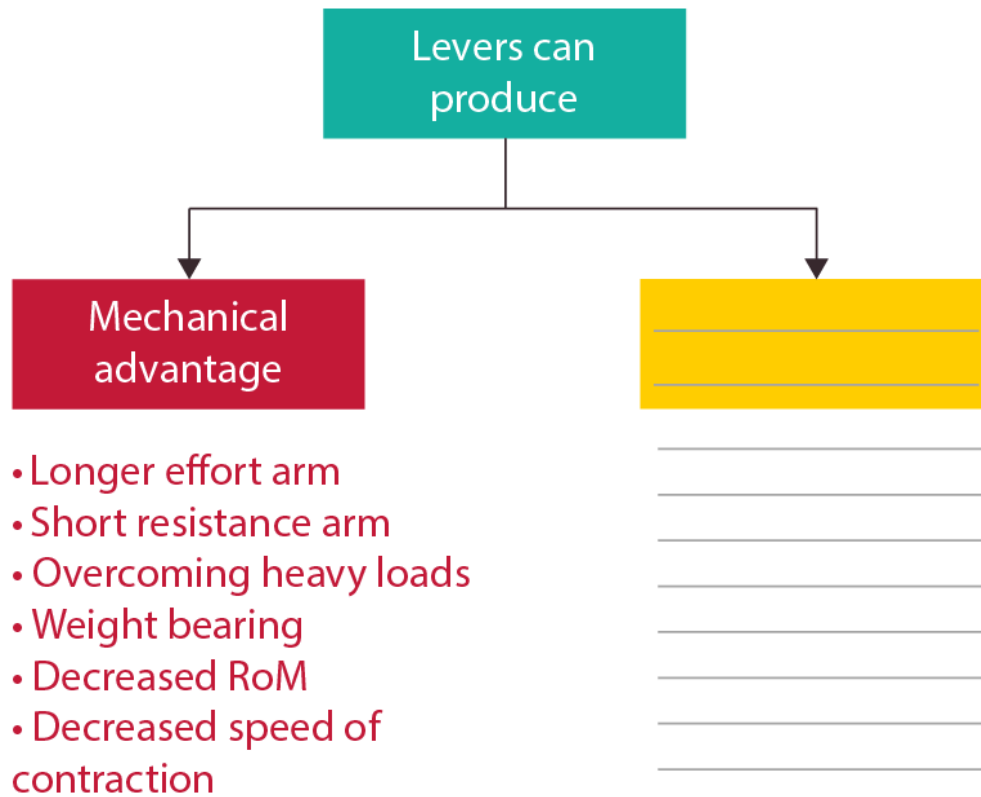
Load arm

Does this lever operate with mechanical advantage?

Yes

No

Mechanical advantage



Want to know more? Watch the tutorial "Levers" on [TheEverLearner.com](https://www.theeverlearner.com) (subscribers only).

Topic 5: Analysis of basic movements

Elbow action in a push-up

Phase A



Phase B



Movement	Joint	Phase	Prime mover	Contraction type
Press-up	Elbow	Upward	_____	_____
		Downward	_____	_____

Elbow action in a throw-in

Movement	Joint	Phase	Prime mover	Contraction type
Throw-in	Elbow	Preparation	_____	_____
		Release	_____	_____



Hip, knee and ankle action in running



Movement	Joint	Phase	Prime mover	Contraction type
Running action	Hip	Drive	_____	Isotonic concentric
		Recovery	Hip flexors	_____ _____
	Knee	Drive	_____	Isotonic concentric
		Recovery	_____	Isotonic concentric
	Ankle	Drive	Gastrocnemius	Isotonic concentric
		Recovery	_____	_____ _____

Hip, knee and ankle action in kicking



Movement	Joint	Phase	Prime mover	Contraction type
Kick action	Hip	Preparation	_____	Isotonic concentric
		Kicking	_____	Isotonic concentric
	Knee	Preparation	_____	Isotonic concentric
		Kicking	_____	Isotonic concentric
	Ankle	Preparation	_____	Isotonic concentric
		Kicking	_____	*Isotonic concentric

Hip, knee and ankle action in vertical jump



Movement	Joint	Phase	Prime mover	Contraction type
Vertical jump	Hip	Take off	Gluteals	_____
		Landing	Gluteals	_____
	Knee	Take off	Quadriceps	_____
		Landing	Quadriceps	_____
	Ankle	Take off	Gastrocnemius	_____
		Landing	Gastrocnemius	_____

Hip, knee and ankle action in basic squat deadlift

8. This image shows the performance of a deadlift. Identify the movement pattern occurring at the knee in position A.



Marks: [1]

9. Identify *both* the **agonist** and the **antagonist** at the knee when the performer moves from position A to position B.

Marks: [2]

10.

Identify the type of muscle contraction occurring in the **agonist** of the knee when moving from position A to position B. Justify your answer.

Marks: [2]

Shoulder action in cricket bowling



Movement	Joint	Pattern	Prime mover	Contraction type
Bowling	Shoulder	Circumduction	_____	_____ _____

Flexion + Extension + Abduction + Adduction = Circumduction



Want to know more?

Watch the tutorial "Movement patterns" on [TheEverLearner.com](https://www.theeverlearner.com) (subscribers only).

Topic 6: The components of fitness

From definitions to examples



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

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	Changing direction quickly whilst maintaining control	(Julie) Ability to dodge an opponent in netball to get free and receive a pass.		😊 😐 😞
Balance	Maintenance of the centre of mass over the base of support			😊 😐 😞
Cardiovascular endurance/ Aerobic power	Ability of the heart and lungs to supply oxygen to the working muscles			😊 😐 😞
Coordination	The ability to use different parts of the body together smoothly and efficiently		(Laura) Ability to perform a split leap with a wide RoM at the hip.	😊 😐 😞
Flexibility	Range of movement possible at a joint			😊 😐 😞
Muscular endurance/ Dynamic strength	Ability of a muscle to undergo repeated contractions avoiding fatigue			😊 😐 😞
Power/Explosive strength/ Anaerobic power	Product of strength and speed			😊 😐 😞

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	
Reaction time	Time taken to initiate response to a stimulus			😊 😐 😞
Static strength	Ability to hold a body part in a static position or Maximum force that can be applied to an immovable object			😊 😐 😞
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	maximal 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		

Try completing answers to this question over and over again:

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.

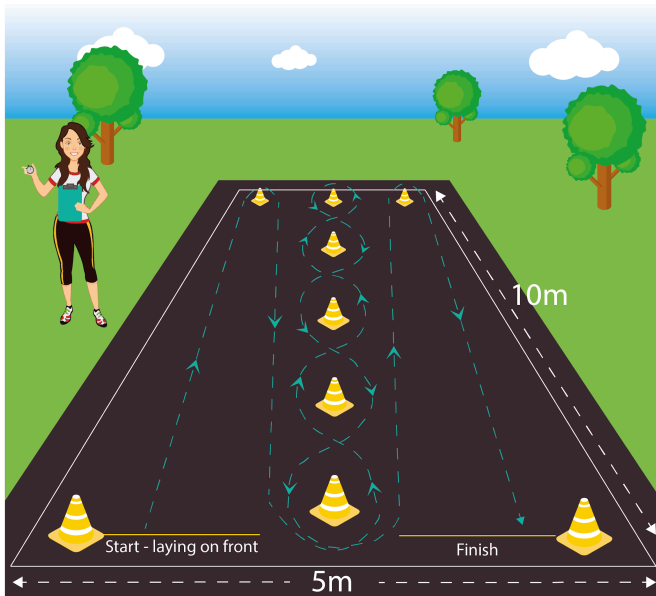


Want to know more?

Watch the tutorial “Components of fitness” on [TheEverLearner.com](https://www.theeverlearner.com) (subscribers only).

Topic 7: Measuring the components of fitness

Illinois agility test



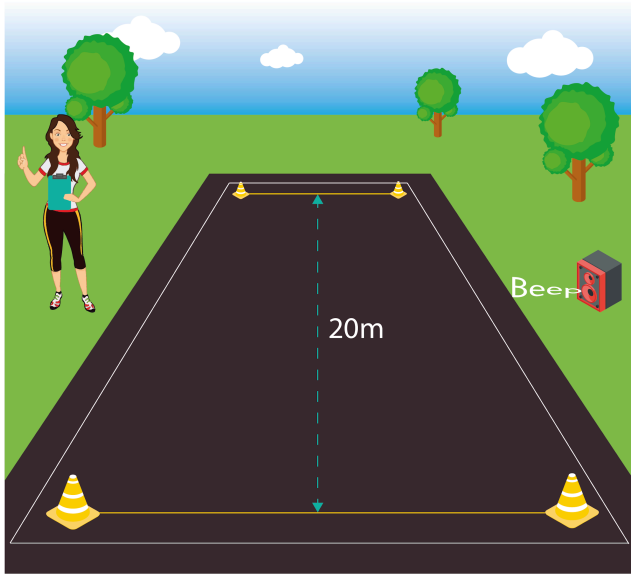
Stork-stand test



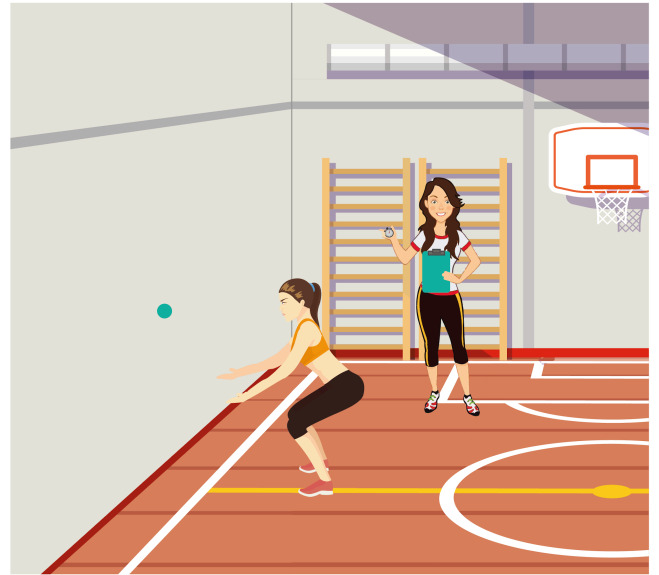
Illinois agility test	
Protocol	Strengths and weaknesses
Mark the course out to the exact measurements required (10m x 5m grid)	Relevant for running-based games
Start lying face down (prone) behind the start line	Small area
Follow the path correctly	Maximal
Stop the clock when you cross the finish line	Coordination issues affect results
Result is time in seconds	Little sideways movement so less relevant for racquet sports
	One participant at a time

Stork-stand test	
Protocol	Strengths and weaknesses
Hands on hips and one foot on the inside knee of the opposite leg	_____
Participant raises their heel	_____
Hold the balance for as long as possible	_____
Heel touches the ground and the balance is lost	_____
Score is the total time the the participant held the balance successfully	_____

Multi-stage fitness test



Wall toss test



Multi-stage fitness test	
Protocol	Strengths and weaknesses
Measure out a 20m track	_____
Use a multi-stage fitness recording	_____
Keep in time to the bleeps	_____
Wait for the bleep before turning	_____
Bleeps get closer together	_____
Test ends after two missed bleeps	_____
Result is the last level and shuttle they reach	_____

Wall toss test	
Protocol	Strengths and weaknesses
Mark a line 2m from the wall	_____
Stand behind the line	_____
Using an underarm action, throw the ball at the wall	_____
Throw the ball with one hand and catch with the other	_____
Count the number of successful catches	_____
In 30 seconds	_____

Sit-and-reach test



Sit-up bleep test



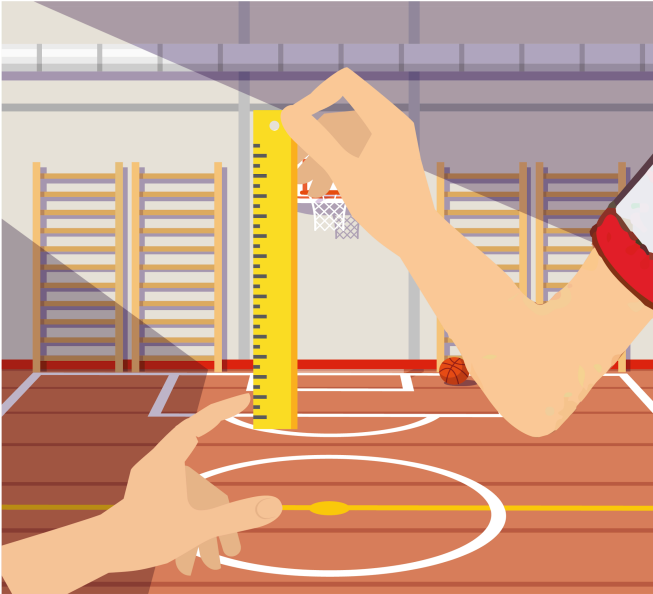
Sit-and-reach test

Protocol	Strengths and weaknesses
Remove shoes	_____
Sit on the floor with legs straight out	_____ _____
Soles of the feet on the box	_____ _____
Bench and ruler as an alternative	_____ _____
Reach forward with one hand on top of the other	_____ _____
Stretch as far as possible and hold for two seconds	_____ _____
No jerking or bouncing movements	_____ _____
Distance reached is measured in centimetres	_____ _____

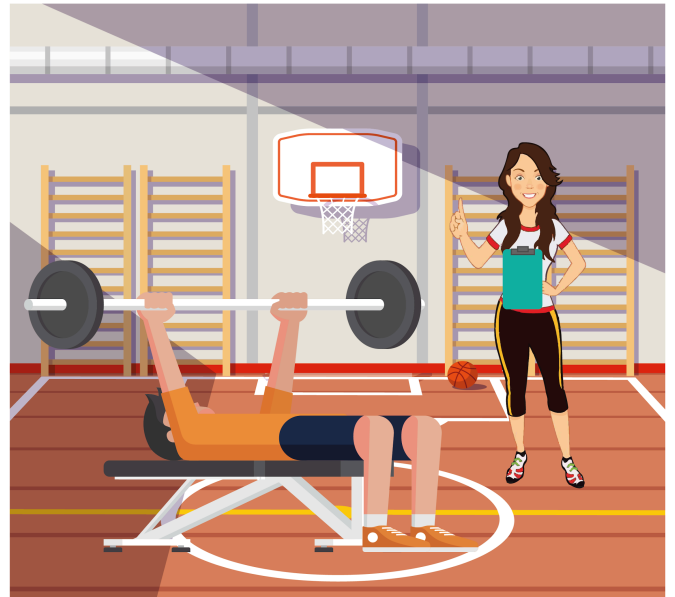
Sit-up bleep test

Protocol	Strengths and weaknesses
Use a sit-up bleep test recording	_____ _____
Keep in time to the bleeps	_____ _____
Complete the entire range of movement	_____ _____
Two bleeps per sit-up	_____ _____
Test ends after two missed bleeps	_____ _____

Ruler-drop test



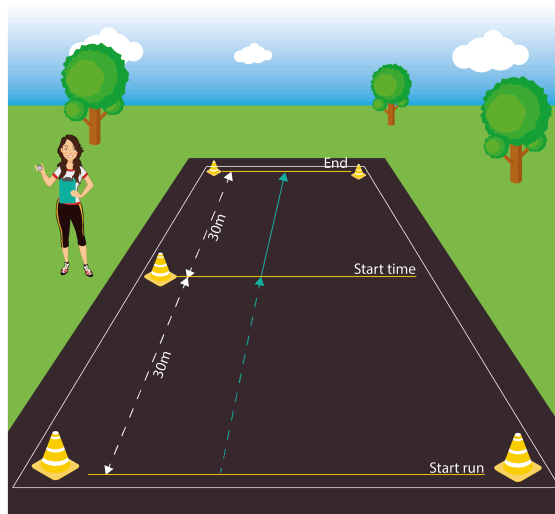
One-rep-max test



Ruler-drop Test	
Protocol	Strengths and weaknesses
Ruler is held at 0cm between the thumb and index finger	_____
Ruler is dropped with no warning	_____
Participant catches the ruler as early as possible	_____
Distance dropped is measured in centimetres	_____

One-rep-max test	
Protocol	Strengths and weaknesses
Select the body part	_____
Realistic weight lifted once	_____
Rest for 5 minutes	_____
Select a heavier weight	_____
Repeat the process until a weight is selected that cannot be lifted once	_____
Result is weight in kg of the last successful lift	_____

30m sprint test



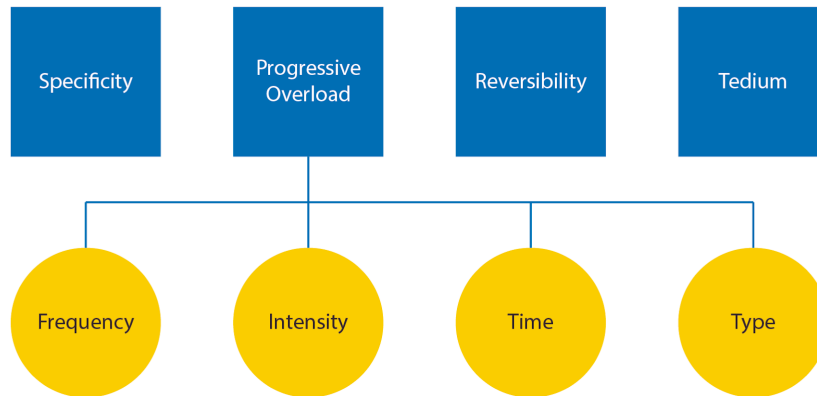
30m sprint test	
Protocol	Strengths and weaknesses
Measure out exactly 30m	_____ _____
Rolling start	_____ _____
Run as fast as you can	_____ _____
Use a stopwatch to measure the time	_____ _____
Result is time in seconds	_____ _____
	_____ _____



Want to know more?

Watch the tutorials "Fitness testing 1", "Fitness testing 2" and "Fitness testing 3" on [TheEverLearner.com](https://www.theeverlearner.com) (subscribers only).

Topic 8: The principles of training and overload and their application



Principle	Performer 1 (A02)	Performer 2 (A02)	Your level of confidence with this principle
	Laura/Josh/Julie/ Tom/Kate	Laura/Josh/Julie/ Tom/Kate	
Specificity			😊 😐 😞
PO - F			😊 😐 😞
PO - I			😊 😐 😞
PO - Time			😊 😐 😞
PO - Type			😊 😐 😞

Principle	Performer 1 (A02)	Performer 2 (A02)	Your level of confidence with this principle
	Laura/Josh/Julie/ Tom/Kate	Laura/Josh/Julie/ Tom/Kate	
Reversibility			😊 😐 😞
Tedium			😊 😐 😞

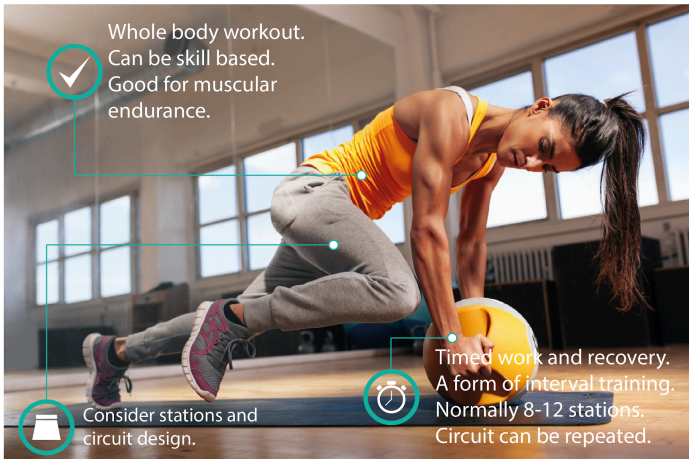


Want to know more?

Watch the tutorial "Principles of training" on [TheEverLearner.com](https://www.theeverlearner.com) (subscribers only).

Topic 9: Types of training

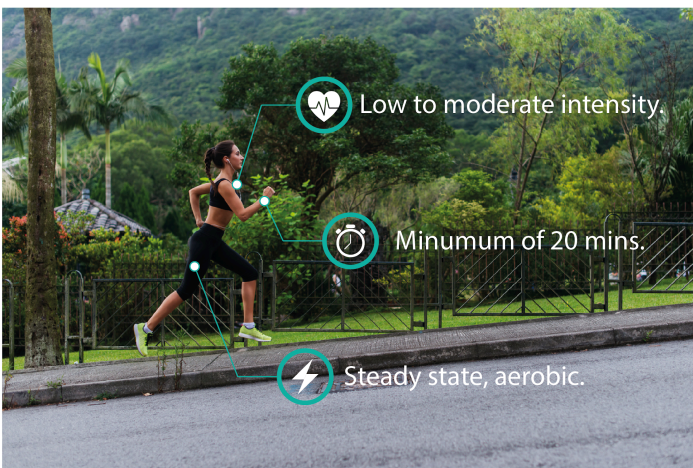
Circuit training



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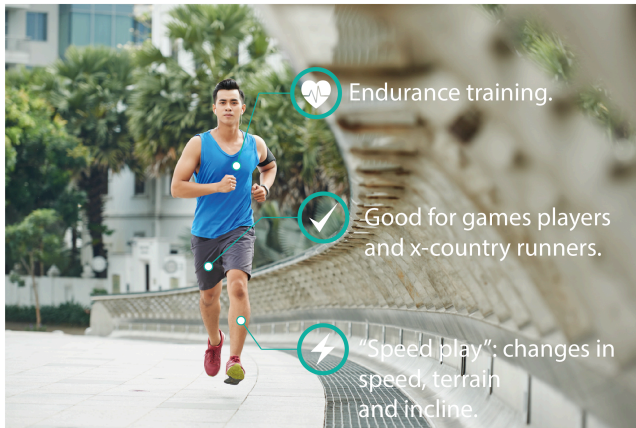
Continuous training



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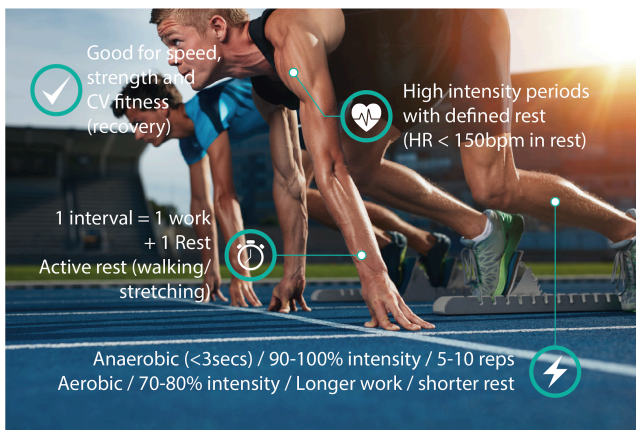
Fartlek training



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Interval training



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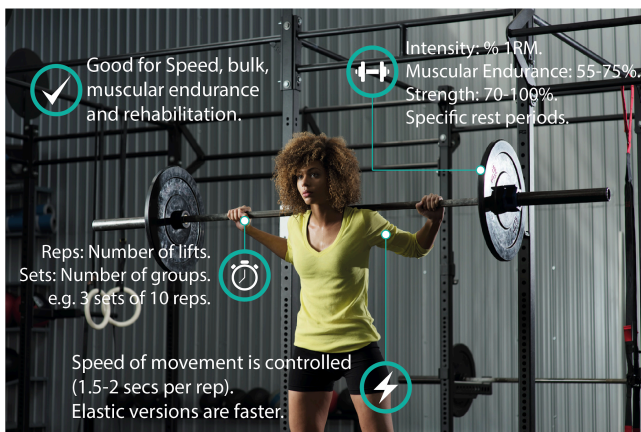
Flexibility training



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Resistance training



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Plyometric training



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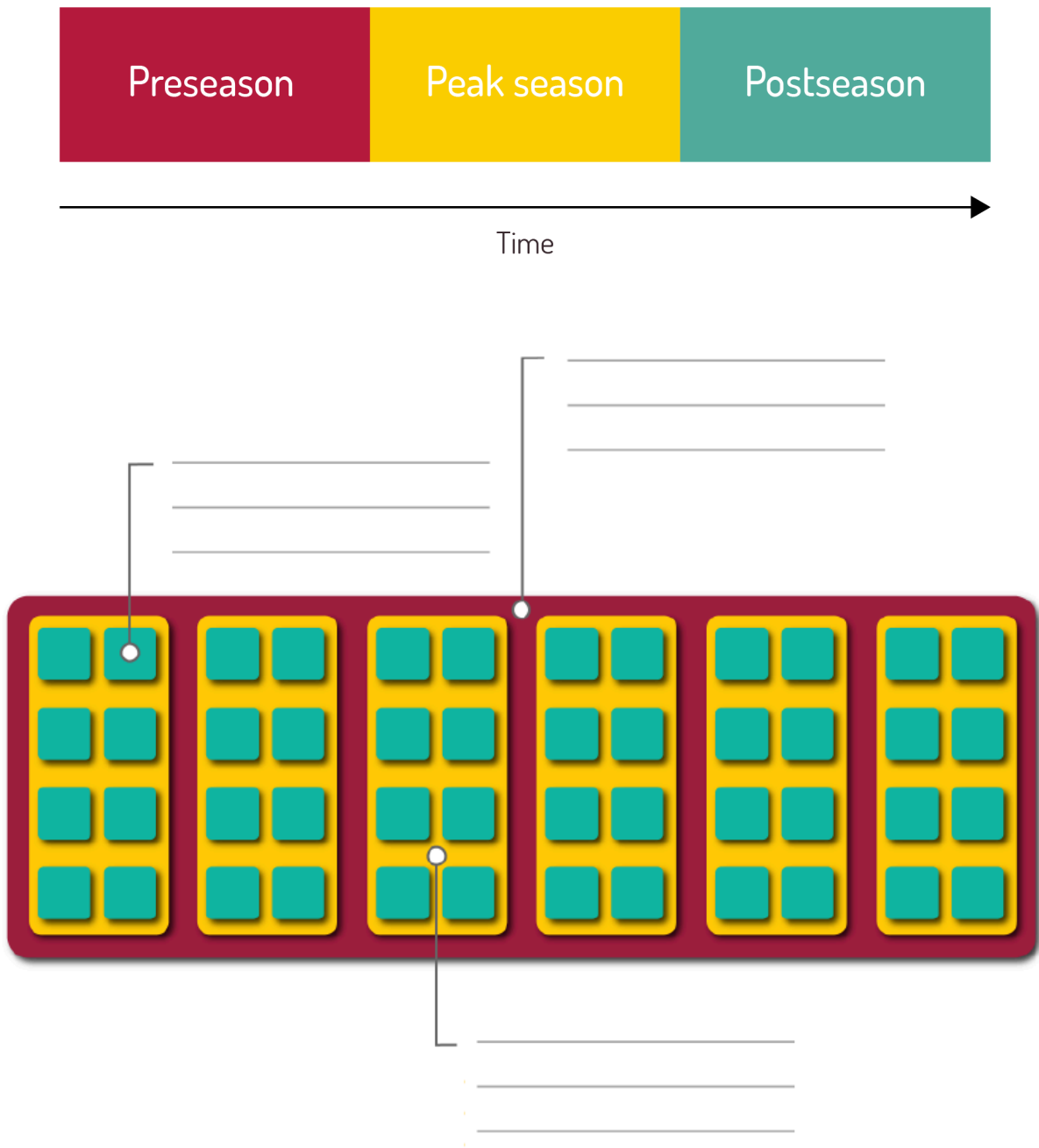
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Want to know more?

Watch the tutorials “Methods of training 1” and “Methods of training 2” on [TheEverLearner.com](https://www.theeverlearner.com) (subscribers only).

Topic 10: Seasonal aspects



Want to know more?

Watch the tutorial "Seasonal training" on [TheEverLearner.com](https://www.theeverlearner.com) (subscribers only).