



Aspire Achieve Thrive

Autumn Term
Term 1
Sport
Year 10

Name: _____

Tutor: _____

Year 10 Homework Timetable

Monday	English Task 1	Ebacc Option A Task 1	Option C Task 1
Tuesday	Option B Task 1	Modern Britain Task 1	Science Task 1
Wednesday	Sparx Maths	Option C Task 2	Sparx Science
Thursday	Ebacc Option A Task 2	Sparx Catch Up	Option B Task 2
Friday	Modern Britain Task 2	Science Task 2	English Task 2

Sparx Science

- Complete 100% of their assigned homework each week

Sparx Maths

- Complete 100% of their assigned homework each week

Option A (EBACC)	Option B	Option C
Computer Science	Business Studies	Art
French	Hospitality and Catering	Business Studies
Geography	Drama	Hospitality and Catering
History	Music	Child Development
	Geography	Computer Science
	Health and Social Care	Drama
	ICT	Photography
	Media Studies	Science (Triple)
	Music	Sport
	Sport	
	Travel and Tourism	

Half Term 1 (8 weeks) - Year 10

Week / Date	Homework task 1 Cornell Notes	Homework task 2 Exam Question
Week 1 2nd September 2024	Cornell Notes on: Components of fitness	Question: Identify and provide an example for each of the physical components of fitness being used in a sport or activity (6)
Week 2 9th September 2024	Revision Cards on: Components of physical fitness	Question: Identify and provide an example for each of the skill related components of fitness being used in a sport or activity (5)
Week 3 16th September 2024	Revision Cards on: Components of skill related fitness	Question: Describe how a 100m sprinter will use a mixture of physical and skill related components of fitness in a race. (6)
Week 4 23rd September 2024	Cornell Notes on: Fitness Testing - Physical	Question: Describe how the equipment is used for TWO physical fitness tests. (6)
Week 5 30th September 2024	Cornell Notes on: Fitness Testing - Skill related	Question: Describe how the equipment is used for TWO skill related fitness tests. (6)
Week 6 7th October 2024	Revision Cards on: Cardiorespiratory System	Question: Describe the journey of air into the lungs (6)
Week 7 14th October 2024	Cornell Notes on: Methods of Training	Question: Select 2 methods of training for either a football, netball or rugby player and explain why you have picked them (6)
Week 8 21st October 2024	Revision Cards on: Musculoskeletal System	Question: Select 6 muscles and describe a stretch for each of these (6)

Half Term 2 (7 weeks) - Year 10

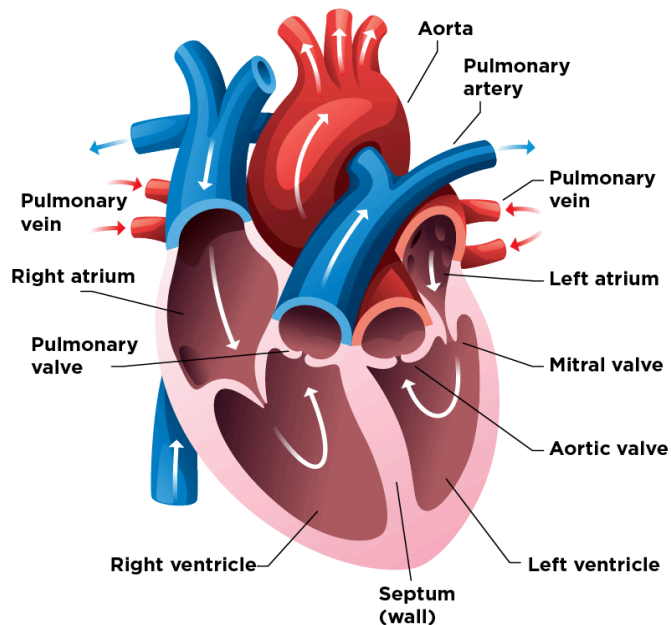
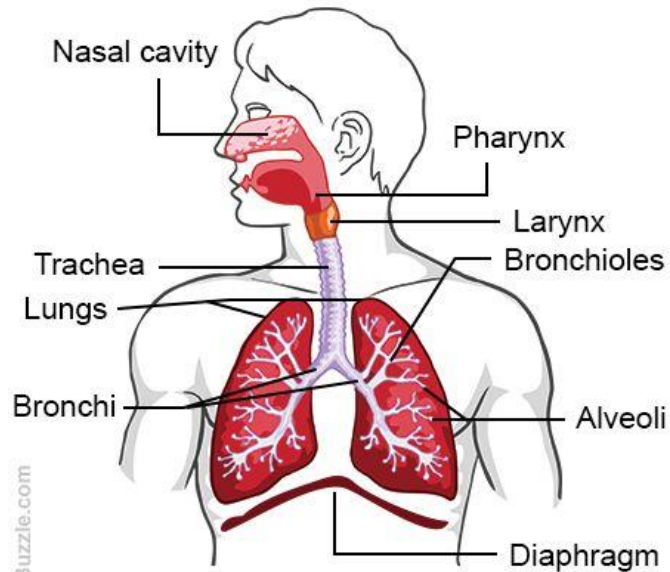
Week / Date	Homework task 1 Cornell Notes	Homework task 2 Exam Question
Week 9 4th November 2024	Cornell Notes on: Responses of the body systems to the pulse raiser	Question: What changes occur in the body during a pulse raiser? (6)
Week 10 11th November 2024	Revision Cards on: Principles of training	Question: Lucy would like to increase her training schedule, how can she use the principles of training to achieve this? (6)
Week 11 18th November 2024	Cornell Notes on: Responses of the body systems to the mobiliser	Question What changes occur in the body during a mobiliser? (6)
Week 12 25th November 2024	Revision Cards on: Exercise intensity	Question: Sally wants to improve her maximal strength, her current 1 rep max is 50kg. Calculate the weight she needs to be lifting for 6 reps. (3) John is 30, what are his aerobic training zones? (3)
Week 13 2nd December 2024	Cornell Notes on: Responses of the body systems to preparation stretches	Question: What changes occur in the body during preparation stretches? (6)
Week 14 9th December 2024	Revision Cards on: Motivation and goal setting	Question: What is motivation and the types of motivation? How can it be used to benefit performance? (8)
Week 15 16th December 2024	Cornell Notes on: Adapting warm-ups	Question: Ben is 52 and returning to exercise after a serious injury, what adaptations would need to be made to Ben's warm up? (6)

Knowledge Organiser

Week 1-3 - Components of Physical Fitness	Week 1-3 - Components of Skill Related Fitness
<p><u>Physical:</u></p> <ul style="list-style-type: none"> ● Muscular Endurance: the ability of the muscular system to continue to contract at a light to moderate intensity to allow repetitive movements throughout a long event or game. ● Aerobic Endurance: the ability of the cardiorespiratory system to supply oxygen and nutrients to the muscles to sustain low to medium intensity work to delay fatigue. ● Muscular Strength: the maximum force that can be generated by a muscle or muscle group to improve forceful movements within an activity. ● Speed: distance divided by time to reduce time taken to move the body or a body part in an event or game. ● There are three types of speed: <ol style="list-style-type: none"> 1. Accelerative speed – sprints up to 30 m 2. Pure speed- sprints up to 60 m 3. Speed endurance- sprints with a short recovery period (rest) in between. ● Body Composition: the relative ratio of fat mass to fat-free mass in the body allowing variation in body composition dependent on the sport. ● Flexibility: the range of motion possible at a joint to allow improvements in technique. 	<p><u>Skill related:</u></p> <ul style="list-style-type: none"> ● Coordination: The smooth flow of movement needed to perform a motor task efficiently (wasting as little energy as possible) and accurately (without going wrong). ● Agility: the time taken between a stimulus and the start of a response, useful in fast-paced sports to make quick decisions about what to do. ● Reaction time: The time that it takes for a sports performer to respond to a stimulus and initiate (start) their response. ● Balance: the ability to maintain centre of mass over a base of support, useful to maintain positions in performance sports (static balance) or when on the move in any other sporting situation (dynamic balance). ● Power: the product of speed and strength to allow for explosive movements in sport.

Week 4 - Fitness test methods for components of physical fitness	Week 5 - Fitness test methods for components of skill-related fitness
<p><u>Aerobic endurance:</u></p> <ul style="list-style-type: none"> ● Multi-stage fitness test, also known as the bleep test (20 metre distance) <ul style="list-style-type: none"> ○ Equipment - Tape measure, MSFT recording or app, speakers/CD player, cones. ● Yo-Yo test <ul style="list-style-type: none"> ○ Equipment - Tape measure, MSFT recording or app, speakers/CD player, cones. ● Harvard step test <ul style="list-style-type: none"> ○ Equipment - metronome, stopwatch, ruler/tape measure, bench. ● 12-minute Cooper run or swim. <ul style="list-style-type: none"> ○ Equipment - stopwatch, whistle, cones, tape measure. <p><u>Muscular endurance:</u></p> <ul style="list-style-type: none"> ● One-minute press-up ● One-minute sit-up ● Timed plank test <ul style="list-style-type: none"> ○ Equipment - stopwatch and a mat <p><u>Flexibility:</u></p> <ul style="list-style-type: none"> ● Sit and reach test <ul style="list-style-type: none"> ○ Equipment - Sit and reach box, ruler or tape measure, mat ● Calf muscle flexibility test <ul style="list-style-type: none"> ○ Equipment - Mat, wall ● Shoulder flexibility test. <ul style="list-style-type: none"> ○ Equipment - 2m rope, tape measure <p><u>Speed:</u></p> <ul style="list-style-type: none"> ● 30 metre sprint test ● 30 metre flying sprint. <ul style="list-style-type: none"> ○ Equipment - Cones, tape measure, stopwatch <p><u>Muscular strength:</u></p> <ul style="list-style-type: none"> ● Grip dynamometer <ul style="list-style-type: none"> ○ Equipment - handgrip dynamometer ● 1 Rep Max. <ul style="list-style-type: none"> ○ Equipment - fixed or free weights <p><u>Body composition:</u></p> <ul style="list-style-type: none"> ● Body Mass Index (BMI) <ul style="list-style-type: none"> ○ Equipment - scales, tape measure/stadiometer, calculator ● Bioelectrical Impedance Analysis (BIA) - <ul style="list-style-type: none"> ○ Equipment - BIA machine ● Waist to hip ratio. <ul style="list-style-type: none"> ○ Equipment - tape measure 	<p>Agility:</p> <ul style="list-style-type: none"> ● Illinois agility run test <ul style="list-style-type: none"> ○ Equipment - Tape measure, cones, stopwatch ● T Test <ul style="list-style-type: none"> ○ Equipment - Tape measure, cones, stopwatch <p>Balance:</p> <ul style="list-style-type: none"> ● stork stand test <ul style="list-style-type: none"> ○ Equipment - Stopwatch, mat ● Y balance test <ul style="list-style-type: none"> ○ Tape measure/ruler, stopwatch, mat <p>Coordination:</p> <ul style="list-style-type: none"> ● Alternate-Hand Wall-Toss test <ul style="list-style-type: none"> ○ Tennis ball, stopwatch, tape measure, wall ● Stick flip coordination test <ul style="list-style-type: none"> ○ 60cm long stick, 2cm in diameter with tape or paint at one end. <p>Power:</p> <ul style="list-style-type: none"> ● Vertical jump test <ul style="list-style-type: none"> ○ Vertical test jump board or tape measure, chalk, wall ● Standing long/broad jump <ul style="list-style-type: none"> ○ Tape measure ● Margaria-Kalamen power test <ul style="list-style-type: none"> ○ Tape measure, scales, cone, stairs, stopwatch <p>Reaction time:</p> <ul style="list-style-type: none"> ● Ruler drop test <ul style="list-style-type: none"> ○ Metre ruler ● Online reaction time test (reaction test timer) <ul style="list-style-type: none"> ○ App, smartphone/tablet

Weeks 6 - Cardiorespiratory System



Week 7 - Fitness training methods for physical components of fitness

Physical Components of Fitness

Aerobic endurance:

- Continuous training – steady pace and moderate intensity for a minimum period of 30 minutes
- Fartlek training – the intensity of training is varied by running at different speeds and/or over different terrain
- Interval training – work period followed by a rest or recovery period
 - for aerobic endurance decrease the number/length of rest periods and decrease work intensity (compared to speed training)
- Circuit training – use of a number of stations/exercises completed in succession with minimal rest periods in between to develop aerobic endurance.

Flexibility:

- Static active – the performer applies internal force to stretch and lengthen the muscle
- Static passive – requires the help of another person or an object, e.g. wall to apply external force causing the muscle to stretch
- Proprioceptive Neuromuscular Facilitation (PNF) technique – the technique involves the use of a partner or immovable object, isometric muscle contractions to inhibit the stretch reflex.

Muscular endurance:

- Free weights and fixed resistance machines – high repetitions and low loads
- Circuit training – using body resistance exercises or weights with low loads and high repetitions.

Muscular strength training:

- Free weights and fixed resistance machines – high loads and low repetitions.

Speed:

- Acceleration sprints – pace is gradually increased from a standing or rolling start to jogging, then to striding, and then to a maximal sprint
- Interval training – work period followed by a rest or recovery period.
 - For speed short, high intensity work periods, increasing the number of rest periods and increasing work intensity (compared to aerobic endurance training)
- Resistance drills – hill runs, parachutes, sleds, bungee ropes, resistance bands.

Skill Related Components of Fitness

Agility:

- Speed Agility and Quickness training (SAQ) – drills used to develop physical ability and motor skills.

Power:

- Plyometrics – lunging, bounding, incline press-ups, barrier hopping and jumping.

Weeks 8 - The Musculoskeletal System

	Function	Example in sport
Deltoid	Abduction of the shoulder (moving the arm outwards and away from the body)	Outward arm action in a jumping jack
Pectoralis major	Adduction of the shoulder (moving the arm towards the body); Shoulder horizontal flexion (moving the arms forwards in front of the body)	Upwards phase of a press up
Triceps	Extend the elbow (straightening the arm)	Shooting in netball
Biceps	Flex the elbow (bending the arm)	Drawing a bow in archery
External obliques	Trunk rotation (turning the body sideways)	Turning the body to breathe to the side when performing front crawl in swimming
Latissimus dorsi	Shoulder adduction (moving the arm towards the body); Shoulder horizontal extension	Butterfly stroke in swimming
Hip flexors	Hip flexion (moving knee up towards the chest)	Performing a rugby conversion kick
Gluteus maximus	Hip extension (moving the leg backwards)	Pulling back leg before kicking a ball
Quadriceps	Extend the knee (straightening the leg)	Kicking a ball
Hamstrings	Flex the knee (bending the leg)	Performing a hamstring curl on a weights machine
Gastrocnemius	Plantar flexion of the ankle (pointing the toes downwards)	Standing on tiptoe to mark a goal shoot in netball
Tibialis anterior	Dorsiflexion of the ankle (bringing the toes up towards the shin)	Foot making contact with a football

Bones

Upper Body (waist up)		Lower Body (waist down)	
Name	Location	Name	Location
Cranium	Head	Pelvis	Hips
Clavicle	Collar bone	Femur	Thigh
Scapular	Shoulder	Patella	Knee Cap
Sternum	Middle of chest	Tibia	Front of lower leg
Ribcage	Chest	Fibula	Side of lower leg
Humorous	Upper arm	Tarsals	Ankle
Radius	Lower arm	Metatarsals	Foot and toes
Ulna	Lower arm	Phalanges	End of toes

Weeks 9 - The responses to the pulse raiser

Types of activities in the pulse raiser – activities that gradually increase in intensity to increase the heart rate.

Examples- Fast walking, skipping, cycling, rowing, jogging, swimming

Response of the cardiorespiratory system to the pulse raiser:

- Increased heart rate - is the number of times your heart beats per minute
- Increased breathing rate - the number of breaths per minute
- Increased depth of breathing - amount of air inhaled
- Increased supply of oxygen to the working muscles
- Increased removal of carbon dioxide.

Response of the musculoskeletal system:

- Increased temperature of the muscles
- Increased pliability of the muscles
- Reduced risk of muscle strain.

Pliability

Pliability describes the state in which your muscles are long, resilient, and move without restriction, enabling them to absorb and dispense forces. Unlike short and dense muscles, pliable muscles allow you to perform and train at your best while avoiding injury.

Strain

A strain is when a muscle is stretched too much and part of it tears. It is also called a pulled muscle. A strain is a painful injury. It can be caused by an accident, overusing a muscle, or using a muscle in the wrong way.

Week 10 - Principles of Training

The basic principles of training (FITT):

- Frequency: the number of training sessions completed over a period of time, usually per week
- Intensity: how hard an individual will train
- Time: how long an individual will train for
- Type: how an individual will train by selecting a training method to improve a specific component of fitness.

Additional principles of training (SPORVAIR):

- Specificity definition: training should meet the needs of the sport, or physical/skill-related fitness goals to be developed
- Progressive overload definition: in order to progress, training needs to be demanding enough to cause the body to adapt, improving performance
- Reversibility definition: if training stops, or the intensity of training is lowered, fitness gains from training are lost
- Variation definition: altering types of training to avoid boredom and maintain motivation to train
- Adaptation definition: changes to the body due to increased training loads
- Individual differences/needs definition: training should meet the needs of an individual
- Rest and recovery definition: to allow the body to recover and adapt.

Week 11 - Responses of the body systems to the mobiliser

Types of activities in the mobiliser –

Activities that take the joints through their range of movement starting with small movements and making these bigger as the warm-up progresses.

Mobilisers need to include movement.

Examples- Shoulder rolls, arm swings, opening and closing the gates, leg swings, chest swings, ankle rolls, wrist rolls. hip circles, high knees, heel flicks.

Response of the cardiorespiratory system to the mobiliser:

- Slight drop in heart rate as intensity of exercise lowers
- Slight drop in breathing rate as intensity of exercise lowers.

Response of the musculoskeletal system to the mobiliser:

- Increased production of synovial fluid in the joints to increase lubrication of joints and increase range of movement at the joint.

Synovial Fluid

Joints are places in the body where two bones meet, such as your knees, shoulders, hips, hands, and feet. Synovial fluid, also known as joint fluid, is a thick liquid located between your joints. The fluid cushions and protects the ends of bones and reduces friction during movement.

Week 12 - Exercise Intensity

Heart rate: The number of times the heart beats per minute (bpm)
Maximum heart rate – also called HR max

Equation: $HR\ max = 220 - \text{age (years)}$

e.g. the maximum heart rate of a 25 year old is 195 bpm

Heart rate training zones:

Aerobic training zone - 50%-80% of HR max

Anaerobic training zone - 80-90% of HR max

Working out target zones:

1. Calculate maximum heart rate (HR max) $HR\ max = 220 - \text{age (years)}$

2. Find upper training threshold = $HR\ max \times 0.8$

3. Find lower training threshold = $HR\ max \times 0.5$

e.g. $220 - 25 (\text{age}) = 195\ \text{bpm}$

$195 \times 0.8 = 156\ \text{bpm}$ (upper training threshold)

$195 \times 0.60 = 97.5\ \text{bpm}$ (lower training threshold)

Target zone = 97.5 bpm – 156 bpm

The RPE BORG Scale

The numbers on the scale represent the different levels of exercise intensity.

Level 6 - level 20

The BORG can be used to estimate a person's heart rate $HR\ (\text{bpm}) = RPE \times 10$

e.g. a performer says they are working extremely hard and give a RPE scale rating of 19 their estimated heart rate is: $HR\ (\text{bpm}) = RPE \times 10$

You can also estimate a RPE scale/Borg scale rating from a heart rate (bpm):

$RPE\ scale = HR\ (\text{bpm}) \div 10$.

*RPE - rating of perceived exertion

Free weight training reps and load

- Muscular endurance - **low load / high rep** 50-60% 1RM / 20 reps
- Maximal strength - **high load / low rep** 90% 1RM - 6 reps

Week 13 - Responses of the body systems to the Preparation Stretches

Types of activities in the preparation stretch

Activities to stretch the main muscles that will be used in the physical activity:

Types of static and dynamic stretching for each muscle group:

- Static Stretching - are those in which you stand, sit or lie still and hold a single position for a period of time, up to about 45 seconds.
- Dynamic Stretches - are active movements where joints and muscles go through a full range of motion. They can be used to help warm up your body before exercising.

Simple stretches - stretches that focus on one muscle

Compound stretches - stretches that incorporate a variety of muscles

Response of the cardiorespiratory system to the preparation stretch:

- Slight drop in heart rate and breathing rate for static stretches
- Maintained elevated heart and breathing rate for dynamic stretches.

Response of the musculoskeletal system to the preparation stretch:

- Extending muscles so that they are fully stretched and less likely to tear during the sport or activity session.

Week 14 - Motivation and goal setting

Aims – details of what they would like to achieve for the selected sport E.g a long jumper wants to improve the distance they can jump

Objectives – how they intend to meet their aims using an appropriate component of fitness and method of training. E.g. a longer jumper could use different types of speed training and plyometric exercises in their programme

Motivation – the internal mechanisms and external stimuli that arouse and direct behaviour.

Types of motivation:

- Intrinsic - Participation because they want to, enjoyment and pleasure from the accomplishments of taking part
- Extrinsic - Prize money, trophies and status

Personal goals – (SMARTER Targets)

- Specific - specific to what they want to achieve - long jumper improving explosive power.
- Measurable - use a system e.g. time, distances, amounts.
- Achievable - able to access training.
- Realistic - goals that are going to be met in the time frame and from the starting point.
- Time-related - use deadlines so motivation is not lost.
- Exciting - select goals that are going to improve performance and the participant is going to want to meet.
- Recorded = track progress to see if training is working.

Short-term goals - set over a short period of time, between one day and one month

Long-term goals - what they want to achieve in the long term, and the best way of doing this

Influence of goal setting on motivation:

- Provide direction for behaviour
- Maintain focus on the task in hand.

Benefits of motivation on the sports performer:

- Increase participation
- Maintain training and intensity
- Increased fitness
- Improved performance.

Week 15 - Adapting warm-ups

Adapting warm-ups for different categories of participants:

- Vary intensity of activities
- Low impact and high impact options;
 - Low impact- marching, knee drives, no jump jacks
 - High impact- jogging, high knees, jumping jacks
- Vary timing of warm-up – longer time frame for beginners, participants with low fitness levels and those aged 50 plus
- Types of stretch used – simple stretches for beginners, compound stretch for moderate to advanced participants.

Adapting the warm-up to make it specific to a physical activity:

- Introduction of equipment in the warm-up that is specific to the physical activity
- Using movements and activities from the physical activity in the warm-up
- Stretching the main muscles required for the specific physical activity.

Delivering a warm-up to prepare participants for physical activity

Organisation and demonstration of the warm-up activities:

- Space – areas used
- Equipment
- Organisation of participants
- Timing
- Demonstrations
- Positioning.

Supporting participants as they take part in the warm-up:

- Observing participants
- Providing instructions
- Providing teaching points
- Providing feedback to participants.

STEP 2: CREATE CUES

What: Reduce your notes to just the essentials.

What: Immediately after class, discussion, or reading session.

How:

- Jot down key ideas, important words and phrases
- Create questions that might appear on an exam
- Reducing your notes to the most important ideas and concepts improves recall. Creating questions that may appear on an exam gets you thinking about how the information might be applied and improves your performance on the exam.

Why: Spend at least ten minutes every week reviewing all of your previous notes. Reflect on the material and ask yourself questions based on what you've recorded in the Cue area. Cover the note-taking area with a piece of paper. Can you answer them?

STEP 1: RECORD YOUR NOTES

What: Record all keywords, ideas, important dates, people, places, diagrams and formulas from the lesson. Create a new page for each topic discussed.

When: During class lecture, discussion, or reading session.

How:

- Use bullet points, abbreviated phrases, and pictures
- Avoid full sentences and paragraphs
- Leave space between points to add more information later

Why: Important ideas must be recorded in a way that is meaningful to you.

STEP 3: SUMMARISE & REVIEW

What: Summarise the main ideas from the lesson.

What: At the end of the class lecture, discussion, or reading session.

How: In complete sentences, write down the conclusions that can be made from the information in your notes.

Why: Summarising the information after it's learned improves long-term retention.

WEEK 1: Cornell Notes (Homework task 1)

Date: 2nd September 2024	Topic: Components of fitness	Revision guide page:
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links	Notes
Questions	

Summary

WEEK 4: Cornell Notes (Homework task 1)

Date: 23rd September 2024	Topic: Fitness Testing - Physical	Revision guide page
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links	Notes
Questions	

Summary

WEEK 5: Cornell Notes (Homework task 1)

Date: 30th September 2024	Topic: Fitness Testing - Skill related	Revision guide page
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links	Notes
Questions	

Summary

WEEK 7: Cornell Notes (Homework task 1)

Date: 14th October 2024	Topic: Methods of Training	Revision guide page
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links	Notes
Questions	

Summary

WEEK 9: Cornell Notes (Homework task 1)

Date: 4th November 2024	Topic: Responses of the body systems to the pulse raiser	Revision guide page
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links	Notes
Questions	

Summary

WEEK 11: Cornell Notes (Homework task 1)

Date: 18th November 2024	Topic: Responses of the body systems to the mobiliser	Revision guide page
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links	Notes
Questions	

Summary

WEEK 13: Cornell Notes (Homework task 1)

Date: 2nd December 2024	Topic: Responses of the body systems to preparation stretches	Revision guide page
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links	Notes
Questions	

Summary

WEEK 15: Cornell Notes (Homework task 1)

Date: 16th December 2024	Topic: Adapting warm-ups	Revision guide page
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links	Notes
Questions	

Summary

Week 2

<p>What are the Components of Physical fitness?</p>	<p>Answers</p> <p>1</p> <p>2</p> <p>3</p> <p>4</p> <p>5</p> <p>6</p>
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Week 3

<p>What are the Components of Skill Related fitness?</p>	<p>Answers</p> <p>1</p> <p>2</p> <p>3</p> <p>4</p> <p>5</p>
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Week 6

Revision Card on Cardiorespiratory System Identify the key parts of the: Cardiorespiratory System	Answers			
	1		7	
	2		8	
	3		9	
	4		10	
	5		11	
6		12		



Week 8

Revision Card on: Musculoskeletal System Identify 6 major bones and 6 major muscles	Answers			
	1		8	
	2		9	
	3		10	
	4		11	
	5		12	
	6		13	
7		14		

Week 10

Revision Card on Principles of training List the basic and additional principles of training	Answers
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Week 12

Revision Card on Exercise Intensity 1. How is maximum heart rate calculated? 2. What are the aerobic training zones? 3. What are the anaerobic training zones? 4. Maximal weight training requires what to be lifted? 5. Endurance weight training requires what to be lifted?	Answers 1 2 3 4 5
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Week 14

Revision Card on Motivation and goal setting.

What are the types of motivation?

What are the SMARTER targets?

Answers

Aspire
ACHIEVE
Thrive

Develop your character



Aspire | Achieve | Thrive