Hi there,

I am delighted that you are thinking of studying BTEC Level 3 Sport in September. The step up from GCSE/Cambridge National Sport Studies work to A level or a Level 3 course can be tough and many students must adjust to the increased demands of workload, independence and responsibility. At the same time, students get the opportunity to study the subjects that they have been most interested in or are now shaping their pathway into University or apprenticeships. In order to give

yourself the best start in Autumn with your new course, we suggest that you complete the following preparation tasks to the best of your ability.

Transition work

Unit 1: Applied anatomy and Physiology

This first task is to recap the basics for anatomy and physiology, you will have covered these two systems as part of your GCSE work and this is a good starting point before we look at these in more depth in Autumn.

Task 1 – Skeletal System

Label the skeleton with 19 bones:

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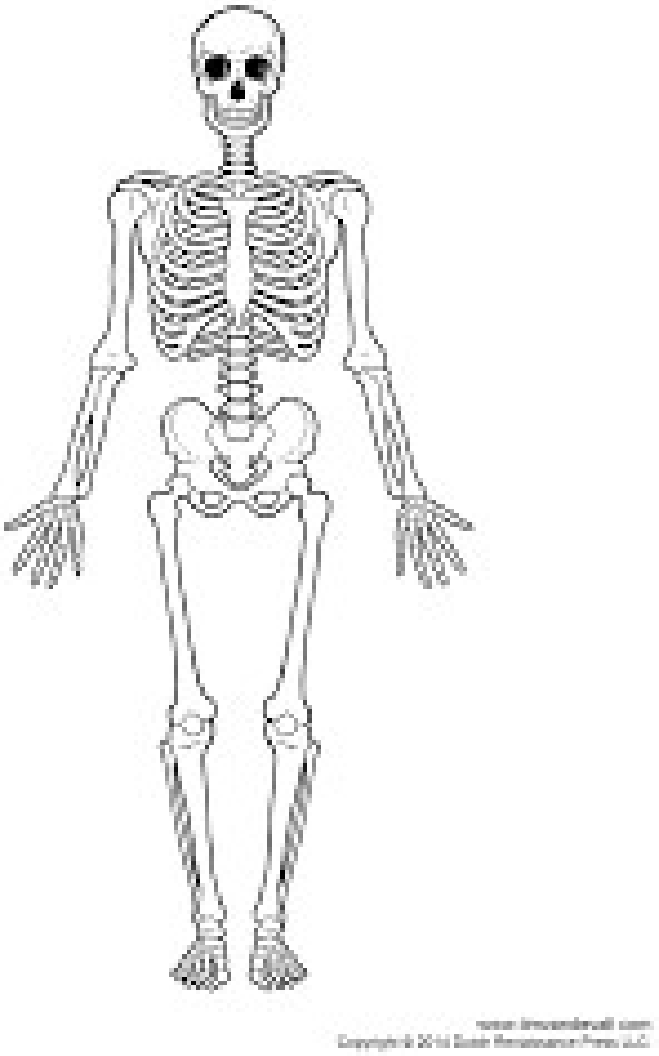
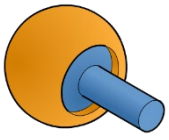
Sport

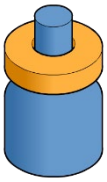
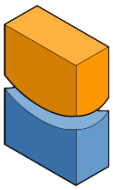
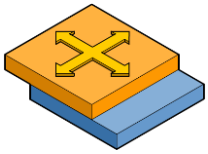
1.	Cranium
2.	Clavicle
3.	Ribs
4.	Sternum
5.	Scapula
6.	Humerus
7.	Radius
8.	Ulna
9.	Carpals
10.	Metacarpals
11.	Phalanges
12.	Pelvis
13.	Vertebral Column
14.	Femur
15.	Patella
16.	Tibia
17.	Fibula
18.	Tarals
19.	Metatarsals



Types of synovial joint

There are 6 main types of synovial joint. You must complete the table to identify where the joints can be found in the body, a description of the structure and the types of movement available at the joint.

Type	Diagram	Location	Description	Types of movement
Hinge		Knee Elbow	The cylindrical surface of one bone fits into the groove of another to form a hinge joint	Flexion (bending) Extension (straightening)
Ball and socket				

Pivot				
Condyloid				
Saddle				
Gliding				

Task 2 – Muscular System

Muscle fibre type

Our muscles are made up of individual muscle fibres, and it is these that contract to bring about movement.

There are 3 different types of muscle fibre and we all have these in different proportions. The proportion of muscle fibre type can dictate the type of athlete you may become.

Research the 3 muscle fibre types and complete the table below. Use words such as high, low, moderate, fast etc.

Characteristic	Type I	Type 2a	Type 2x

Contraction speed			
Force produced			
Fatigue levels			
Mitochondria levels			
Glycogen stores			
Phosphocreatine (PC) levels			
Capillary density			
Colour			

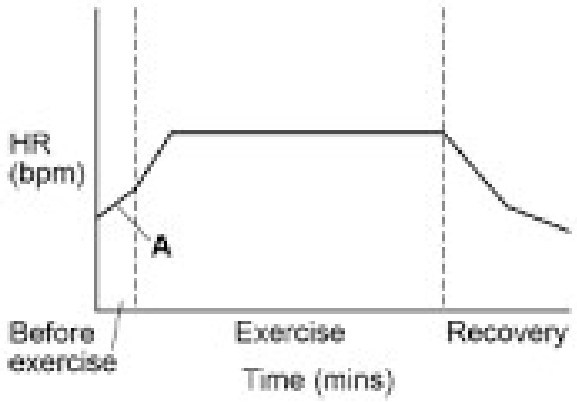
Task 3 – Cardiovascular System

Before exercise, so when you are on the starting blocks of a race, stood waiting for a tip off or holding the ball ready to serve in tennis, there is an immediate increase in heart rate.

Can you name the hormone that is released, which causes this anticipatory rise?

_____

Below is a picture of a heart rate trace, showing the period before exercise, exercise and recovery. 'A' is the anticipatory rise in heart rate.



What happens to the heart rate immediately when exercise begins?

Why does this happen? (Think about what the body needs and why)

What happens to the heart rate during exercise? Why?

What happens to the heart rate when exercise is stopped? Why?

Unit 2: Fitness Training and Programming for Health Sport and Wellbeing

Diet and Nutrition and their effect of physical performance

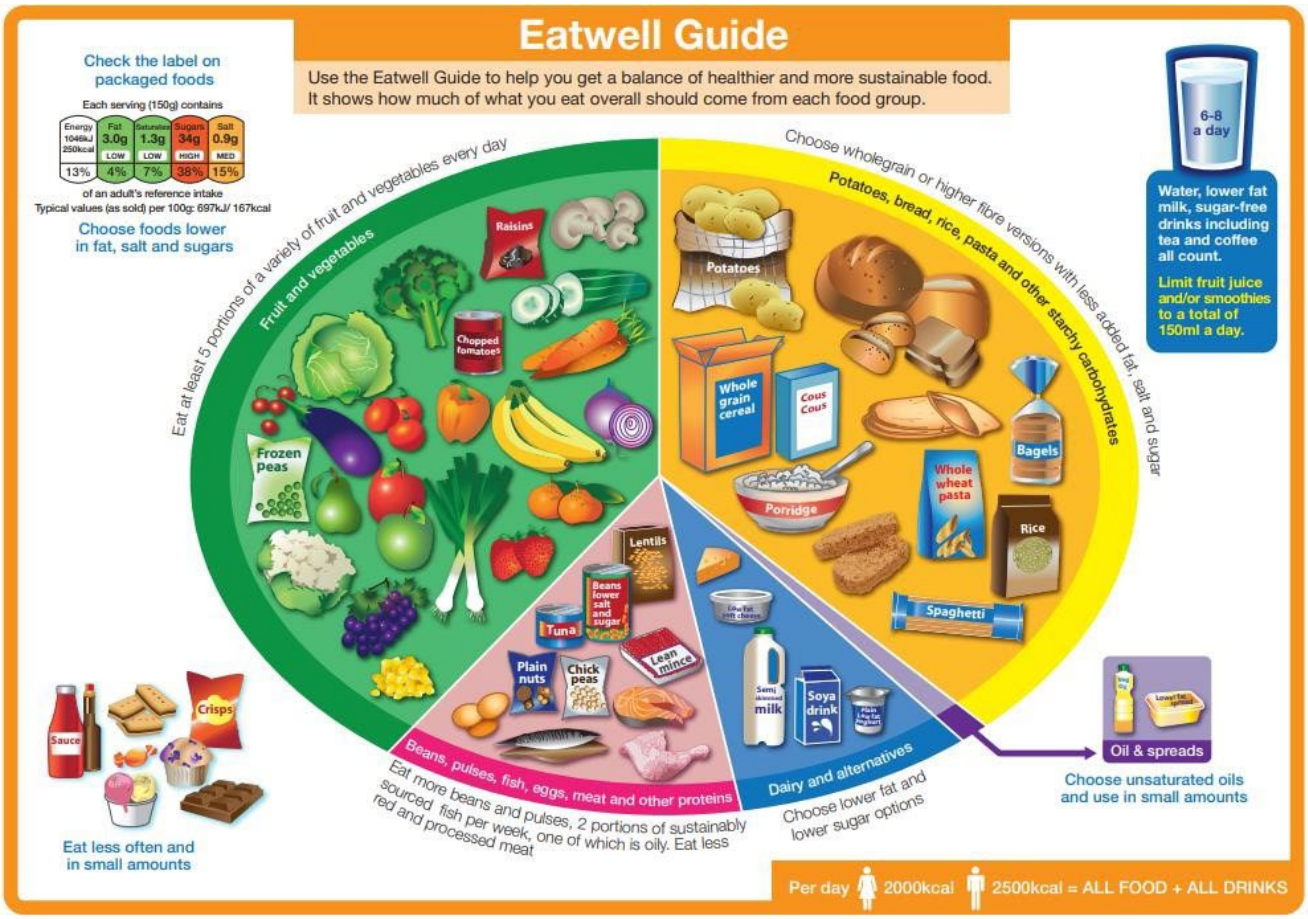
Healthy, balanced diet

Diet and nutrition are topics that you will have looked at within GCSE PE and Science. Firstly, lets revisit what you should already know.

For 19-50 year olds, what is the government recommendation for the following calorie guidelines?

- Men …….. calories per day •

Female ……. calories per day.



You should also be familiar with the three macronutrients of carbohydrates, proteins and fats. Now let's look at them in a little more detail.

Carbohydrates (CHOs)

CHOs are vital for energy production. They are the preferred fuel for exercise, accounting for approximately 75% of the energy requirements. CHOs can be consumed (eaten/drunk) in several forms for example, starches and sugars. Please complete the table below.

Carbohydrate	Example food (what can you eat that contains this type of CHO)	Where are they stored in the body?
Starches		
Sugars		

Proteins

Proteins (found in milk eggs, meat and soya) are essential for:

- Growth and repair of tissues and cells
- Making muscle proteins (increasing muscle size)
- Making Haemoglobin
- Making enzymes, antibodies and collagen

Fats

Role of fats:

- Insulate nerves, form cell membranes and cushion organs
- Provide an energy store – they can be broken down for aerobic energy production and have twice the yield of CHOs

Research Question– what is the difference between saturated fat and unsaturated fat?

. . . . . .
. . . . . .
. . . . . .
. . . . . .

Fat Type	Food Example	Consideration
Unsaturated fatty acids		Can boost the delivery of oxygen, improve endurance recovery, and reduce joint inflammation
Saturated fatty acids		Limit intake to reduce the risk of cardiovascular

Supplementation

Supplements can also be used to improve and enhance performance. You may already be aware (or know people) who used creatine or who include caffeine as part of their diet. Please complete the table below to outline the benefits, drawbacks, and practical application of supplementation.

Dietary Supplementation	*Legal or illegal*	*+ Benefits*	*-Drawbacks*	*Type of athlete likely to use this aid*
Creatine Taking supplement in the form of powder/tablet to increase phosphocreatine (PC) stories in muscle: used for very high intensity energy production				
Caffeine Stimulates CND and increases breakdown of FFAs for aerobic energy production				
Protein Powder It is an essential macronutrient that helps build muscle, repair tissue, and make enzymes and hormones. Using protein powder may also aid weight loss and help people tone their muscles.				

Unit 3: Professional Development in Sport Industry

You will study this unit in Year 13 and whether you have decided to progress into a career in the sports industry (hopefully 😉) or not, this unit will enhance your career prospects by teaching you how to research a career pathway and prepare the required application materials and interview techniques.

Task 1 – Scope and provision of the sports industry

Sport provision = Key Term: The total range of sport and leisure activities offered to the public

The sports industry supports over 980,000 jobs in the UK. The employment opportunities are diverse and range from personal trainer to sports journalist

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Sport

Geographical factors influence the type of sport or physical activity that you participate in.

Location

Traditional sports such as football continue to grow in popularity, whereas newly 'emerging' sports such as Parkour or free running are attracting participants at the expense of other traditional sports such as netball and cricket who's governing bodies report a downturn in participation rates – **WHY?**



Research task:

Use the map of Great Britain below. Identify sports / physical activities that are popular and have increased provision for them in different areas. For example the Lake District in Cumbria provides a good geographical landscape for walking and outdoor pursuit activities.

The British Isles

Task 2 – Jobs in sport

With the sports industry continuing to widen the range of jobs available, use the websites listed below, or others you find, to carry out some research into the types of jobs that are actually out there:

www.careers-in-sport.co.uk
www.uksport.gov.uk/jobs
www.sportscareers.co.uk
www.jobsinsports.com

Complete the table below with your findings (You must find a minimum of 4 different jobs):

Job title	**Type of contract** *(i.e full-time, part-time etc)*	**Working hours** *(usually per week)*	**Wage / salary**	**Job description / responsibilities**

Task 3 – Personal skills audit

You must identify what qualities and skills you have in order to select the correct career pathway and job.

Below are a list of qualities that most employers would like in their employees. Can you describe what each one means (Reliability is given as an example).

Reliability: Example - You will do what is expected of you, e.g turn up on time.

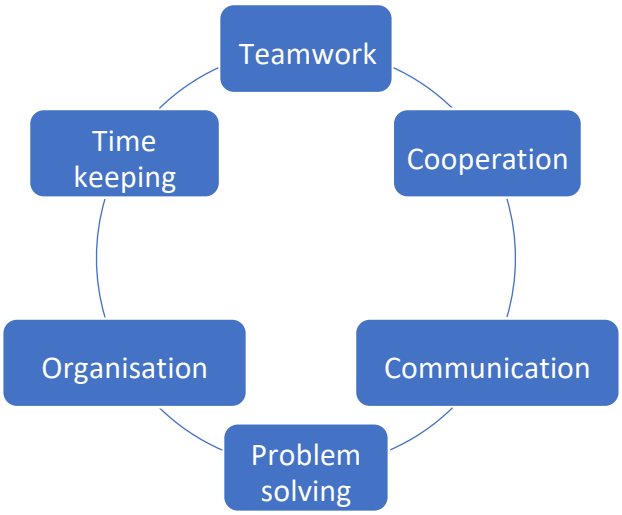
Organisational skills:

Commitment:

Resilience:

Empathy:

There are also general employability skills that you must have:



BTEC Level 3

Sport

You are now going to think about your qualities and skills and complete your own personal skills audit by ticking the appropriate boxes below. Once you have completed it, identify your strengths and weaknesses and then highlight strategies to improve the weaknesses.

For example, if you have poor time management skills you may decide to keep a diary of tasks, with deadline dates and completion dates.

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TRAFFIC LIGHT SKILLS AUDIT

Use this questionnaire to identify which skills you have already mastered and which ones you still need to work on. Remember, only you will see this so be as honest as you can.

KEY	X No – I really need to work on this.	X Not entirely sure –I could still improve.	X Yes – I'm really confident I can do this

TIME and SELF MANAGEMENT			
I am able to organise my time so that I comfortably meet all my deadlines for assignments			
I know exactly where to go for help and support if I have difficulty completing a task			
I keep a diary or calendar so that I always know when I have to attend lectures, seminars and other key dates			
I arrive on time for classes, appointments and meetings			
I am aware of the things that cause me to waste time and am able to avoid them when I have work to complete			
I have future targets in mind regarding my education (and career) and use these to help me focus on current tasks			

CRITICAL THINKING and PROBLEM SOLVING			
I am able to use different methods for exploring a problem (academic and non academic), such as considering different points of view or options			
I am able to consider a range of alternative solutions to a problem and predict the best one in the given circumstances			
I am able to break down a complex problem (e.g. an assignment, a seminar question or where to live) into simple parts			
I am able to work productively with others to solve problems			
I know how to find out what is expected of me in a particular assessment task			

ORAL COMMUNICATION			
In group discussions, I listen to others and I value and respond to their contribution even if I do not agree			
I am confident that I can contribute ideas and opinions to a group discussion			
I think of relevant follow-up questions as people are speaking and ask them once they have finished			
I am confident explaining new concepts to other people			
I would be confident in giving a presentation to my peers			

BTEC Level 3
Sport

WRITTEN COMMUNICATION			
I am confident that I can structure an assignment in paragraphs and using signposting language (however, firstly) in order to communicate my ideas effectively			
I am confident that I can write in an appropriate academic style for my subject			

I am confident that my written work has no grammatical, punctuation and spelling errors before I submit it			
I have an effective method for organising and planning the information that I want to put into a written assignment such as an outline plan or a 'mindmap'			
I understand what plagiarism is and how to avoid it by clearly referencing my work			
I can use sources effectively to make my argument convincing and show that I am well-informed about the topic			
I am confident that I know the correct format and style for formal letters and documents, such as covering letters and CVs			
I am able to produce useful and meaningful written notes from a lecture, presentation or demonstration that capture the key points			

INFORMATION LITERACY: READING			
I am confident in gathering information from a wide variety of sources such as books, journals, on-line data-bases and the internet.			
I think about what I need to find out before I start reading (am I reading to verify facts, to understand a subject in general or to analyse a particular argument?)			
I make useful, easy to follow notes while I am finding information for an assignment or project			
I can identify the points in a text which convey the author's main arguments and distinguish these from supporting examples and references			

NUMERACY			
I am confident that I have the numerical and statistical skills needed to succeed on my course			
I am able to interpret information presented in graphs, charts, tables and diagrams.			

Strengths:

Weaknesses:

Strategies to improve weaknesses:

Unit 6: Sport Psychology

These next few tasks will help you for the Sports Psychology unit. Sport psychology is the study of how psychology influences sports, athletic performance, exercise, and physical activity. Some sports psychologists work with professional athletes and coaches to improve performance and increase motivation. Other professionals utilise exercise and sports to enhance people's lives and well-being throughout the entire lifespan.

Professional sports psychologists often help athletes cope with the intense pressure that comes from competition and overcome problems with focus and motivation. They also work with athletes to improve performance and recover from injuries. But sports psychologists do not just work with elite and professional athletes. They also help regular people learn how to enjoy sports and learn to stick to an exercise program

Tasks:

Personality:

Think of 4 words that you would use to describe your personality. Then, if you can, ask the people you live with to also describe your personality in just 4 words (this can often be a difficult task for people to do)

When you have done this, please research the following personality types:

Type A personality	Introvert
Type B personality	Extrovert

Once you have done this and wrote down a suitable description, can you find the science behind why someone is believed to be an introvert/extrovert. HINT – it is to do with something called the reticular activating system (RAS).

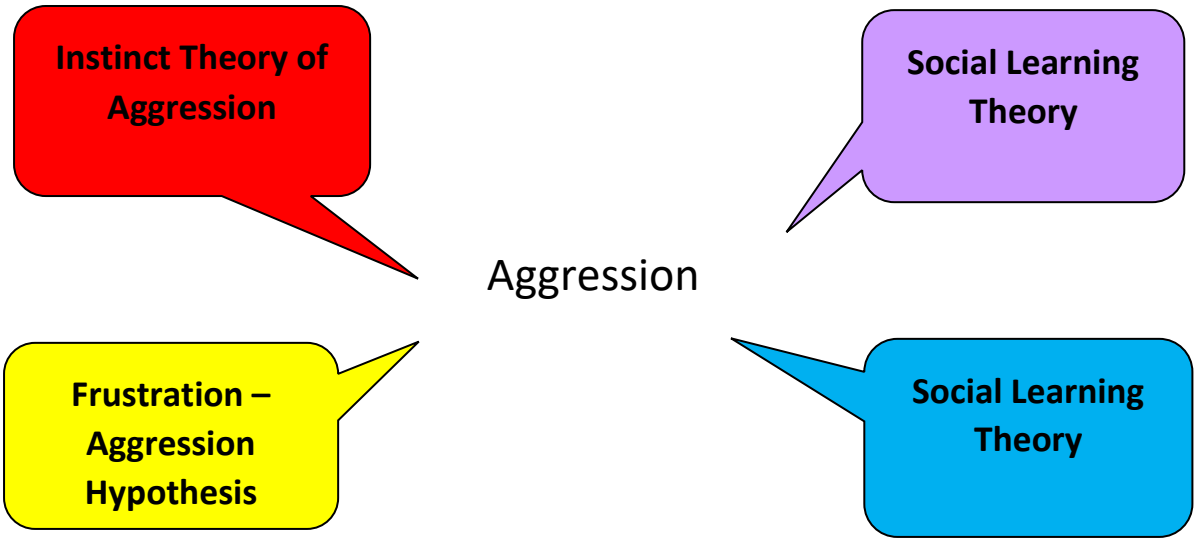
Now look back at your four words and the words given to you by your family members. Would you

class yourself as being a Type A/B personality and are you more likely to be introverted/extroverted? Please write up your findings.

Aggression

Task – Define Assertion and Aggression

There are currently four theories that try to explain why sports performers show aggressive behaviour in sport. For each of the theories create a PowerPoint slide to try to explain each. Try using google and YouTube to get the information that you need.



Motivation & Arousal

First task – define both motivation and arousal.

Second task – find out what classifies as intrinsic motivation and extrinsic motivation. Then create a list of as many motivators as you can for two professional athletes and identify if they are intrinsic/extrinsic.

Task three -As a performer's arousal increases, the state of readiness and expectation increases, but if the arousal gets too high, a performer can lose concentration and feel over-arousal. It is essential to understand three theories that try to explain how arousal affects performance. Research please, into the three graphs/theories of arousal and display your knowledge. These are:

- Drive Theory
- Inverted U Theory
- Catastrophe Theory

If you are struggling, get onto YouTube to get a basic understanding of this topic which will then help you to understand the theories.

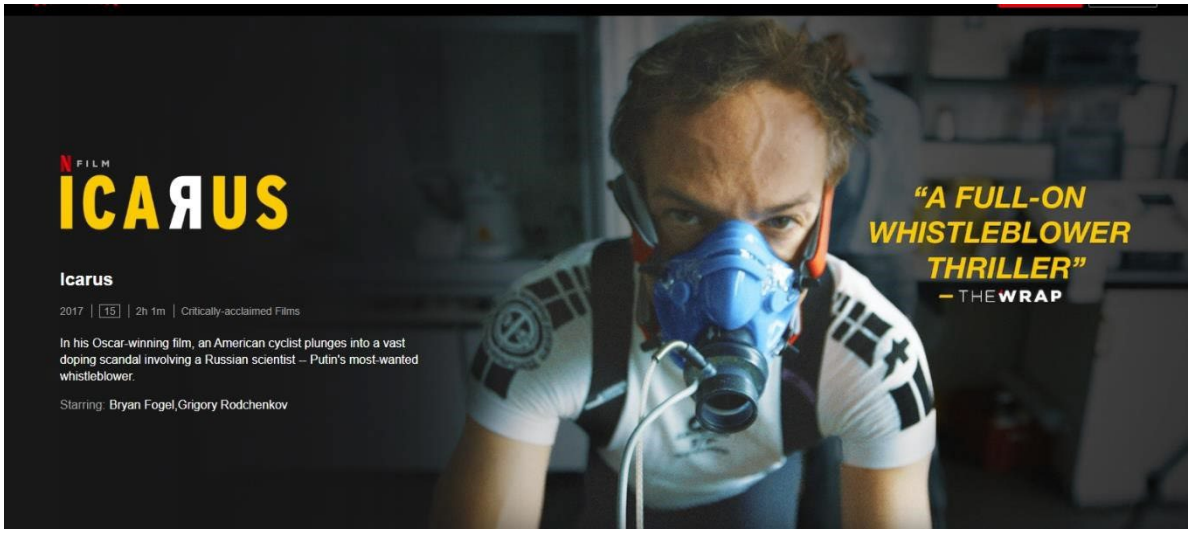
Further reading and research in sport and society

Ethics and Deviance in Sport – Doping and drugs in sport

Performance Enhancing Drugs is a topic that you should be familiar with from GCSE PE. Doping and drugs in sport is a topic studied in both the Physiology and Contemporary Issues units of A level PE.

Task 1 Video – If you have Netflix take a look at the following documentary – Icarus (2017). (Possibly also available to watch via Youtube)

Icarus 2017 - When filmmaker Bryan Fogel sets out to uncover the truth about doping in sports, a chance meeting with a Russian scientist transforms his story from a personal experiment into a geopolitical thriller. Dirty urine, unexplained death and Olympic gold are all part of the exposure of the biggest scandal in sports history.



Task 2 – Reasons why elite performers use doping and illegal drugs

It is thought that some elite performers use doping and illegal drugs because of:

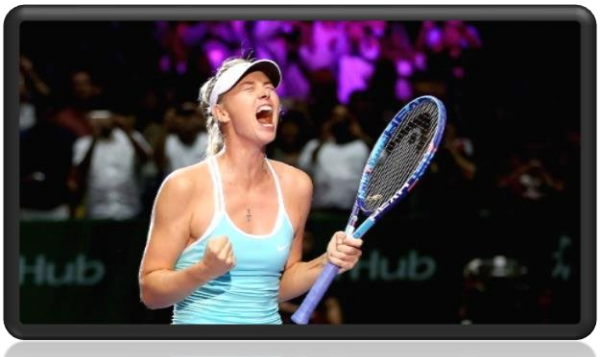
- Pressure from coaches
- Political Pressures
- High monetary rewards for winning and lucrative sponsorship deals
- Some performers think ‘everyone else is doing it’

Have a look at the following sports performers who have tested positive for banned substances. Create a brief information case study for each performer based upon your findings. Include:

- Who is the performer/elite? What is their sport? Nationality? Age?
- What did each performer test positive for?
- What are the benefits of that drugs?
- Any information for why they felt they needed to use banned substances

- Any punishments put into place following their positive testing?

Maria Sharapova



Tyson Gay

Lance Armstrong

Wilson Chandler

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Final Task – Strategies to stop the use of doping and illegal drugs

Have a good look at the World Anti-Doping Agency website https://www.wada-ama.org/en/whowe-are.

Have a go at the 'PlayTrue Quiz' and see how much you already know about the work being done to try and keep sport 'Drug Free'.

https://www.wada-ama.org/en/what-we-do/education-prevention

Something to listen to...

Podcasts discussing topical sports talking points. 'Sportsworld', 'Flintoff, Savage, 'the Ping Pong Guy', both available on BBC Sounds.

Football weekly, talkSPORT, The Football Show

Peak Performance

Something to read about...

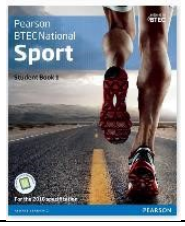
YouGov is a Sports Research company with lots of interesting, thought provoking articles. Also check out UK Sport for everything Team GB.

Good Books: 'How Bad Do You Want It?: Mastering the Psychology of Mind Over Muscle' by Matt Fitzgerald and 'Bounce: the Science of Success' by Matthew Syed.

Wider reading –

RESOURCES

SCHOOL STUDENT TEXT BOOK

BOOK	AUTHOR	TITLE
	Pearson	BTEC National Sport Student book 1

USEFUL WEBSITES

www.mypeexam.co.uk

www.brianmac.co.uk/index.htm

www.teachpe.com

www.revisionworld.co.uk

www.pe4u.co.uk

www.uksport.gov.uk

www.bbc.co.uk/sport

www.bases.org.uk

www.istadia.com

www.mindtools.com