



THE DEAN TRUST
Broadoak School

Name:

Ben

17 year old

Amateur
Gymnast



GCSE PE Department

2015 Scenario

Section B of the examination will consist of questions linked to the scenario below.

Ben is a 17-year-old amateur gymnast who is studying for his A levels in the sixth form. He also volunteers in a local primary school where he runs sports sessions and competitions for the students at lunchtimes.

Ben began gymnastics at primary school and has been on the National Talent Programme since the age of 14. As a result of recent success in competitions, he has been included in the World Class Podium Potential Programme. He trains for six days a week at a gymnastic facility, which is equipped with the latest equipment and technology. Ben follows a strict training routine and diet set by his coach.

Ben has a small group of friends who are not involved in sport. He is spending less time with them as his training time increases. Ben has a shy personality and often suffers from anxiety when competing in major competitions.

Ben has represented Great Britain at the European Junior Gymnastics Championships. He hopes to emulate Louis Smith, an Olympic gymnastics medallist, by competing at the Rio 2016 Olympic Games.

GYMNASTICS

ACCURATE REPLICATION OF
ACTIONS, PHRASE AND SEQUENCES

Ben takes part in Gymnastics competitions. He will be required to perform routines involving floor, pommel, rings vault, parallel bars and high bar. He is awarded points for his performance and then ranked against other male competitors.

Age

Age is a factor you have no control over. It is a **PHYSIOLOGICAL FACTOR**. There are various physical effects ageing has on the body and can influence levels of participation in physical activities.



- Very young children cannot cope with difficult tasks, which affect their ability to learn and practise. Some sports not introduced until children are older.
- Flexibility decreases with age therefore makes some activities more difficult.
- Oxygen capacity and reaction time decreases.
- Injury and disease become more common as you get older. Injuries take longer to recover from.
- Skill levels start to increase as you get into your teens and twenties but may start to decline.
- Strength starts to increase as you get older, peaking in your twenties and thirties but decreases as you enter your forties.

Ben is only 17 years of age and is therefore unlikely to have experienced the negative effects of ageing on the body. With him only still being a teenager, Ben can continue to develop his skills, flexibility, strength, agility and speed to compete in top level gymnastics. It's rare that gymnasts compete successfully in top level gymnastics once they reach their thirties because of the physical demands of the sport



Many sports have **AGE DIVISIONS**, particularly physical contact sports, where people compete against people the same age. This is to make competition fair and safe. In school this is usually organised in year groups, but sports and governing bodies also organise competitions into particular age groups such as under 14s, under 16s and under 18s to allow gifted young performers to take part in a category above their age.

There are age categories in gymnastics. In the Olympics, gymnasts have to be 16 years old to compete, and as Ben is 18 next year, he will be eligible to compete. When Ben competed in the European Junior Championships, the age category was 14-18. If he was 14 when he competed, he may have been at a disadvantage competing against 18 year olds, as they may have had greater fitness levels and experience.



GYMNASTICS - MEN

The six distinct disciplines used in men's artistic gymnastics events at the Olympics.

POMMEL HORSE

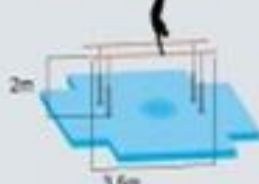


RINGS

Balance & arm strength



PARALLEL BARS

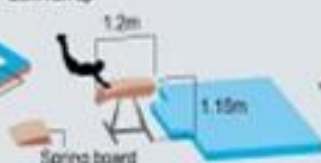


FLOOR

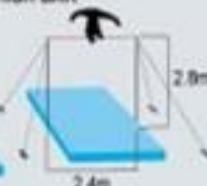


VAULT

25m run up



HIGH BAR



PHYSIQUE – SOMATOTYPE

An individual's physique is very closely linked to their body type or somatotype.

PHYSIQUE/BODY TYPE

Somatotype may determine which sport you may find easier:

Endomorph	Wide hips, shoulders and high body fat.
Mesomorph	Broad shoulders with muscular arms and legs.
Ectomorph	Narrow shoulders and hips. Thin lean build with little body fat.



Endomorphs are most suited to specific sports that do not require high levels of speed or mobility due to their additional weight. Suited to rugby, especially in the scrum.



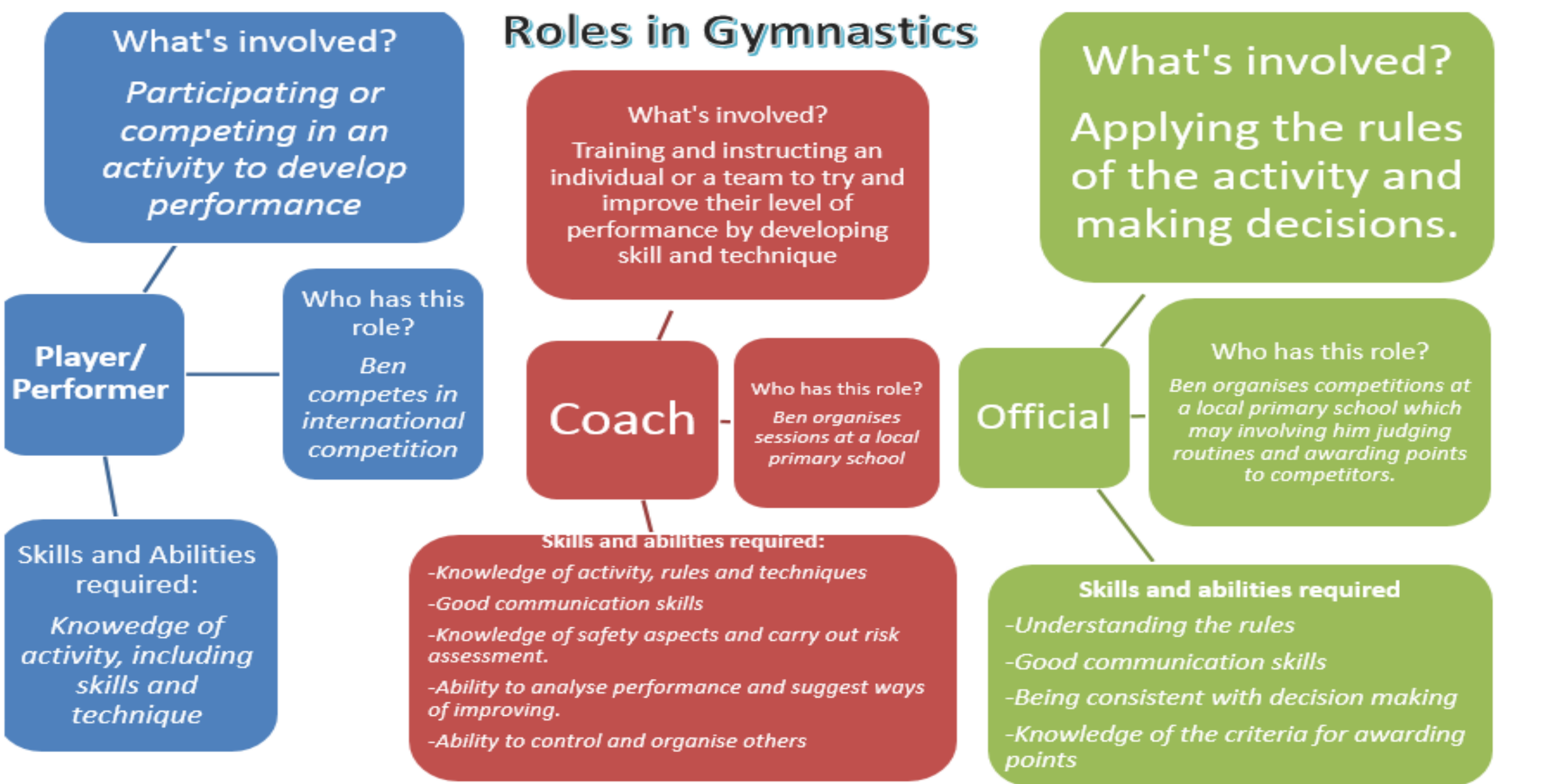
Mesomorphs tend to have a muscular, athletic build with little body fat and can gain muscle relatively easily. Suited sports requiring speed, strength and power, such as games, artistic gymnastics, swimming and sprinting events.

All the disciplines within male gymnastics requires strength, flexibility and speed. The most suitable body type for Ben would be mesomorph because he would need muscular strength and broad shoulders, particularly when he needs to support his body weight on the rings, pommel and bars.



Ectomorphs tend to be tall and thin with a delicate build. They are therefore suited to endurance and agility type of events e.g. cross country running, dance and rhythmic gymnastics.

Roles in Gymnastics



During his time at school, Ben will have taken on the role of performer in PE lessons. His expertise in gymnastics may have also seen him take on the role of a coach, which may have led him volunteering to run sessions at the local primary school. He is also organising competitions there which will require him to officiate, so Ben will have experience of all the different roles he may have adopted in his PE lessons.

What is fatigue? A state of extreme tiredness resulting from extreme exertion; can be physical or mental

What is stress? The body's reply to a change requiring physical, mental or emotional adjustment

Consequences of Fatigue

- Muscular fatigue can cause you to have to stop the activity completely
- Decline in concentration levels
- Make mistakes
- Incorrect execution of techniques
- Can lead to injury if you don't stop

Fatigue and Stress

Consequences of Stress

- Aggression
- Increased arousal
- Muscle tightness (caused by excitement, suspense or nervousness)
- Decline in motivation

Link between Stress and Anxiety

Feelings of anxiety can increase tension and agitation

Boredom/Tedium

Participants who get bored during training or practice are less likely to achieve in their sport

Who experiences stress?

More commonly experienced by individual performers due to increased focus on that person, but also experienced in team games.

Negative feedback/Criticism

Participants that are fatigued may appear to spectators to not be putting enough effort in, and are subject to criticism

Ben trains six days a week and follows a "strict training routine". He is also taking part in competitions and therefore his body is having very little time to recover, and so he is very likely to experience the effects of fatigue.

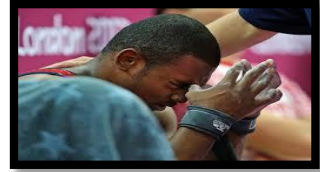
Training sessions are likely to be demanding on the body. As a result of fatigue, Ben may not be able to complete training sessions.



His skill levels may drop and a loss of strength when performing on the rings, parallel and high bars may result in mistakes being made and injuries occurring, particularly if he was to fall off these pieces of equipment.



Ben "often suffers from anxiety when competing in major competitions." This could be due to him feeling the pressure to win medals and not let his friends, coach or family down. Ben maybe anxious performing in front of an audience.



When performing routines, he may lose marks in a competition if he loses concentration and forgets which move to perform.



Although Ben is performing at international level with Great Britain, gymnastics can be classed as more of an individual activity. Ben has a "shy personality" which could mean that he is a **INTROVERT** personality type, which explains his love for gymnastics, which requires a high level of skill and concentration.

Some anxiety may be a positive factor if it helps Ben to prepare and increase his arousal levels, but if over anxious it will have a negative effect as he may worry too much, leading to decrease motivation and negative feedback. This can lead to increase stress.

An **INTROVERT** tends to be quiet and shy and prefer individual sports where skill and concentration are needed.

An **EXTROVERT** is more outgoing and confident, preferring team sports with a high level of excitement.



★ COMPONENTS OF FITNESS ★

Component of Fitness	Definition	Benefits for Ben
DYNAMIC STRENGTH/ MUSCULAR ENDURANCE	Ability of the muscles to work continuously over a period of time	Enables Ben to repeat movements in his arms on the parallel and high bars
EXPLOSIVE STRENGTH	Used in one short sharp movement	Enables Ben to take off from the spring board when performing a vault
STATIC STRENGTH	Amount of strength applied to an immovable object	Enables Ben to hold the crucifix position on the rings
SPEED	Ability of the body to move as quickly as possible	Enables Ben to move quickly in his run up to perform a vault
POWER	Combination of speed and strength	Enables Ben to take off when performing tumbling moves during his floor routine
FLEXIBILITY	The range of movement around a <u>joint</u>	Enables Ben to perform more complicated moves during routines and therefore gain extra marks
AGILITY	The ability to change direction quickly – a combination of flexibility and speed	Enables Ben to change direction during the floor routine
BALANCE	The ability to stay level and stable	Enables Ben to maintain posture when dismounting from the pommel, parallel bars and high bars
COORDINATION	The ability to control the body when performing different actions at the same time	Enables Ben to perform different moves on the pommel and bars with control
CARDIOVASCULAR ENDURANCE	Ability of the heart and lungs to continuously supply oxygen over long periods	Enables Ben to carry out training sessions which will probably last for several hours
TIMING	The ability to coincide movements in relation to external factors	Enables Ben to time transfer movements between the high bars
REACTION TIME	The length of time taken to respond to a stimulus	

Thresholds of Training

This is the heart rate needed to ensure that exercise is affecting the body and fitness improves. Maximum Heart Rate (MHR) is calculated by $220 - \text{age}$. Ben's events last a short time so will work in his anaerobic training zone.

Aerobic threshold = 60% of MHR
Anaerobic threshold = 80% of MHR



Dynamic Strength/
Muscular endurance



Coordination



Explosive Strength



Static Strength



Power



Speed



Flexibility



Agility



Balance



Timing

Ben's MHR $220 - 17 = 203$ bpm **Ben's Anaerobic zone 80% of 203 = 162 bpm**

TRAINING METHODS FOR BEN

N.B - Ben will carry out more than one training method in a session – This is known as **Combination Training**

Training Method	Description	Fitness Component(s)	Suitability for Ben	Advantages	Disadvantages
Interval Training	<ul style="list-style-type: none"> Involves periods of intense work followed by rest periods Can be short or long intervals Suitable for games players and sprinters 	Aerobic and anaerobic fitness	<i>Ben performs routines lasting between one to two minutes and so his training may involve short bursts of exercise, followed by rest periods.</i>	<ul style="list-style-type: none"> Can be adapted for different activities Can be adapted for different levels of fitness No specialist equipment required Can be carried out individually or as a team 	<ul style="list-style-type: none"> Work and rest periods need to be timed carefully Can be repetitive
Circuit Training	<ul style="list-style-type: none"> Involves completing a variety of exercises at stations to exercise different muscle groups Each exercise is carried out for a set time or number of repetitions before moving on to the next station Same muscle group should not be next to each other 	Aerobic and Anaerobic fitness General fitness	<ul style="list-style-type: none"> <i>Ben's coach may design a circuit involving core strength and conditioning exercises. These may include abdominal crunches, lunges with dumbbells, back extensions, chin ups, pelvic thrusts and sit-ups.</i> <i>The circuit could incorporate repeated gymnastics such as handstand dips, back flips and tumbles.</i> 	<ul style="list-style-type: none"> Can be adapted to include skill stations Easy to plan a programme showing progression Variety of exercises prevents boredom Fitness stations can be adapted to the requirements of different activities 	<ul style="list-style-type: none"> Can take some time to set up Some specialist equipment may be required
Weight Training	<ul style="list-style-type: none"> Involves using free-standing weights or fixed weights attached to weight training equipment Repetitions are the number of times the weights are lifted Sets are the number of times a weight activity is carried out 	Muscular strength Muscular endurance Muscle tone	<p>Muscular strength and muscular endurance are needed in Ben's routines. Strength is needed particularly on the rings and endurance is vital when performing on the pommel and parallel and high bars.</p> <p>If Ben wanted to focus on developing strength, he would lift heavy weights with a small number of repetitions. Lighter weights and a high number of repetitions would develop endurance.</p>	<ul style="list-style-type: none"> Free standing weights – easy to add weights Fixed weights – safer to use as less chance of overloading weights. Easy to show progression Assists recovery after injury 	<ul style="list-style-type: none"> Need to have access to a gym which may be costly, although this is not an issue for Ben as he has access to a gymnastic facility Free-standing weights may cause injury if dropped Limit on the weight that can be lifted with fixed weights

PRINCIPLES OF TRAINING - SPORT AND FIT

S SPECIFICITY – The training should match the demands of the activity and develop the relevant body systems
Ben's training needs need to be relevant to gymnastics and developing his core strength and muscular endurance

P PROGRESSION – Training workload should be increased gradually so that the body can adjust to the extra demands
Ben's coach needs to gradually make his training more difficult

O OVERLOAD – Making your body work harder than normal in order to make it adapt or improve.
Ben needs to push his body harder, longer and further to show improvement

R REVERSIBILITY – If training stops, because of injury for example, then the benefits gained would be lost
If Ben was to sustain an injury during training or competition, he would be unable to train or compete and would lose his fitness

T TEDIUM – Training should be varied and interesting to prevent boredom
Ben is training six days a week, which could lead to tedium. However his training will involve practising for six different disciplines therefore there is variety, which will help prevent boredom

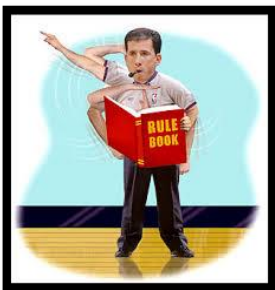
F FREQUENCY – The number of training sessions
It would be difficult for Ben to increase the frequency of his training as he already does six days a week

I INTENSITY – The amount of activity carried out a session. How hard you train.
Ben could lift heavier weights or go for longer on specific activities to increase intensity

T TIME – The amount time spent training in a session
The length of Ben's training sessions could be increased e.g. from 2 hours to 3 hours a time

Risk Assessment

Making sure any potential hazards or dangers are identified before any physical activity gets underway.



Rules and regulations are the activity have to be followed. Safety equipment may have to be worn.

Safety equipment may need to be in place for certain activities e.g. safety mat under high bar in gymnastics.



Make sure no one is wearing jewellery.

Long hair tied up.



When Ben is running sports sessions and competitions at the local primary school, he will need to carry out a risk assessment to ensure the safety of the pupils. He should make sure all the equipment is in good condition, the pupils are performing the moves correctly and they are wearing appropriate clothing.

- Takes part in sport or activity as a hobby rather than financial gain.
- Take part for enjoyment
- Do not get paid and usually have a job.
- Have to fit in training around their jobs or studies



- Takes part in sport for their livelihood.
- Will get paid for taking part.
- Will do it as a full time job.

Ways for Amateurs to receive money:

- Sponsorship deals
- Expenses payments
- Scholarships

Gymnastics is by in large an amateur sport. Many of the performers receive funding from the National Lottery for equipment, facilities, coaching and travel, so that they can continue, like Ben to study, as many are only young and still in education. After his A-Levels Ben possibly could go on and gain a scholarship at University which will allow him to go full time and better his chances at Rio 2016

All training sessions have specific parts or phrases. Ben would follow this in his training sessions.

Aspects of Training

Ben should do this in his sports sessions at the local primary school.



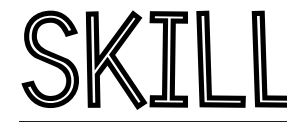
- Prepares body for the activity and increase blood flow.
- Become psychologically prepared.
- Reduce possibility of injury.



Concentrate on aspect of fitness specifically identified and most appropriate.



With Ben, this would be working specifically on gymnastic fitness. Areas such as muscular endurance and strength, anaerobic fitness, needed in his gymnastic routines.



Concentrate on the main aspects of skill needed for the particular activity.



Ben would be working with his coach to improve and develop routines on the different pieces of apparatus, as well as his techniques.



Light exercise after activity will help in recovery and remove lactic acid and other waste material. Ben would ensure a thorough cool down is done so that he isn't sore or stiff later allowing more training to be completed, over six days.



Louis Smith typical daily food plan whilst training:

Breakfast – Scrambled egg and Toast with plenty of fruit (4 pieces)

Lunch – Pasta with ham, tomatoes and cucumber. More fruit.

Dinner – Chicken or fish with vegetables or salad

Fluids – 1 litre of hydration drinks whilst in training

The combination of intense training schedules, need for strength and the requirement for gymnasts to maintain a lean body makes gymnastics a unique sport. As a result, Ben's coach is required to carefully monitor the diet of Ben during training and competition. The obsession surrounding food, disciplined exercise and striving for perfection could lead to eating disorders such as anorexia and bulimia among gymnasts.



Nutrient	What is it for?	Which foods contain it?	Importance to Ben
Carbohydrates	Main source of energy	Simple carbs, e.g. glucose and sugar Complex carbs e.g. pasta, bread and rice.	<i>Ben would need to eat complex carbohydrates during intense training sessions to provide energy</i>
Fats	Major source of energy	Cheese, cream, meat, oils, butter	<i>Ben may need some unsaturated fats for energy as part of his diet, but his intake would need to carefully be monitored as too much weight gain would hinder his performance</i>
Proteins	Important for growth and repair of tissue	Animal products and plant foods	<i>Ben would need proteins to help with muscle repair after intense training sessions and competitions</i>
Vitamins	Essential for good health	Fruit and veg	<i>Vitamins will help Ben to maintain general good health. They may also help with concentration which is important for Ben when performing a routine.</i>
Minerals	A number of different functions, required in small amounts	Vegetables and meat	<i>Iron can help prevent fatigue and helps with transport of oxygen, which will help Ben in Training</i>
Water/fluids	Lack of water leads to dehydration	Water	<i>Ben will need to have regular intakes of fluids during training and competitions to replace lost water. This will prevent dehydration, which is an extreme lack of water in the body</i>
Fibre	Aids the digestive system	Cereals, wholegrain bread, oats	<i>Fibre can help with weight control which is important for Ben, as too much weight would prevent him from performing routines efficiently</i>

Dietary Imbalance

If you do not maintain a balanced diet, it could lead to dietary imbalance:

- Malnutrition – insufficient nutrient intake causing physical weakness
- Obesity – overweight caused by overeating, leading to many health problems
- Anorexia – self-starvation due to the fear of gaining weight, usually occurring in females

Injury

How can Injury be prevented?

- Carry out and follow a risk assessment
- Carry out a warm-up
- Enforce and follow code of conduct
- Wear the correct safety equipment/clothing



Causes of Injury

- Incorrect execution of technique can lead to injury to the individual or their opponent, e.g. going in for a sliding tackle.
- Overuse injuries caused by over training, e.g. tennis elbow.
- Sudden injuries caused by movements such as stretching and twisting, e.g. damage to ACL during a netball pivot.
- Foul play from the opponent, e.g. pulling shirt
- Impact injuries, e.g. with equipment or playing surface
- Equipment/clothing: faulty equipment or badly fitting clothing, e.g. football boots causing blisters.
- Accidents: accidents occur, despite precautions to try to prevent them.



Clothing

Most sports have a kit that must be worn for competition, but any suitable clothing can be worn to training.

Some sports have specific requirements, e.g. loose clothing can not be worn during trampolining in case it gets caught, and outdoor adventure activities may require warm, waterproof clothing to be worn to prevent getting too cold, etc.

Gymnastic Injuries

- When Ben is performing his different routines on the apparatus, he must use the correct technique to avoid falling off and making sure he dismounts correctly to avoid injuries caused by landing awkwardly.
- Different injuries Ben may experience include elbow, wrist and ankle sprains, shoulder and back strains, and stress fractures caused by overuse on hard surfaces.
- Many of the injuries that Ben could receive can be treated through using the R.I.C.E method.



Social Groupings

	Positive Effects	Negative Effects
Peers	<ul style="list-style-type: none"> • Support your views and participation • Encouragement, e.g. watch you play • Listen to advice, e.g. your friend tells you its important • Admire/follow their example • Join in with them 	<ul style="list-style-type: none"> • Go along with negative views of physical activity, PE lessons, etc. • Choosing not to be active because your friends aren't • Not going to training when your friend doesn't go
Family	<ul style="list-style-type: none"> • Role model: set a good example by being active • Financial support, e.g. buying new equipment • Provide transport for training and matches • Encouragement and motivation 	<ul style="list-style-type: none"> • Poor role model: set a bad example by leading an inactive lifestyle • Lack of financial support • Lack of social support/encouragement • Pressure to focus on academic work
Gender	<ul style="list-style-type: none"> • Less of an issue than previous years • More opportunities for women to play same sports as men • More opportunities for female roles within sport 	<ul style="list-style-type: none"> • Some gender differences do still exist, e.g. professional male football players get paid more than professional female football players.
Ethnicity	<ul style="list-style-type: none"> • Role models: there has been an increase in ethnic minority participation in elite sport 	<ul style="list-style-type: none"> • Traditional views don't always support participation, e.g. some religions don't encourage females to take part in PE due to clothing issues • Influenced by visibility of role models of a similar racial background, e.g. there are few black people in sports such as tennis and golf compared to football. • Incidences of racial abuse in sport



Footwear

Some sports require specific footwear to be worn for safety and practicality:

Athletics: track runners must wear spiked shoes

Games: studs need to be worn on grass to prevent player slipping

Gymnastics: no footwear required or gym slippers

Rules Relating to Sport and Equipment



Equipment

Almost all sports require safety equipment to be worn.
e.g. gymnasts wear wrist guards, hand grips, elbow and ankle braces where necessary





Sport England was set up by the government and aims to increase participation in sport by providing funding and facilities, monitoring levels of participation and identifying priority groups. Funding is provided by the Government and the National Lottery with over £1 billion being invested.

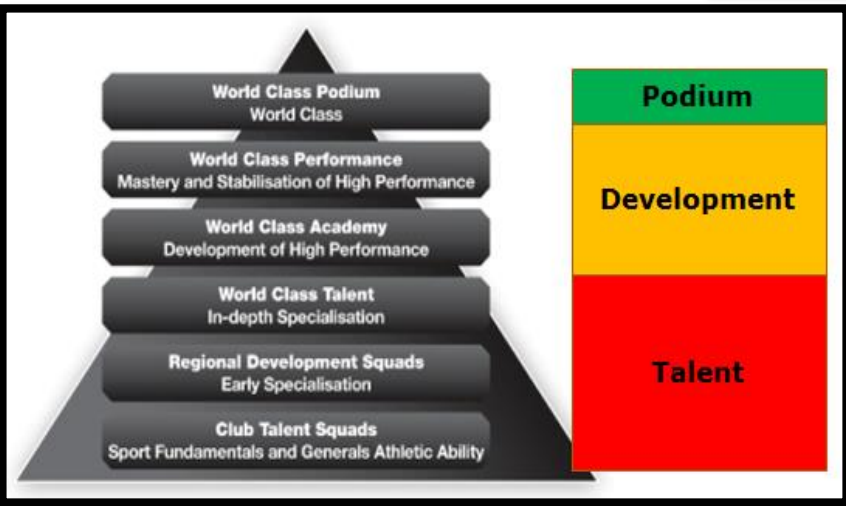


Youth Sport Trust is an independent charity which aims to change young peoples' lives through sport. It manages national sports competitions such as the National School Games and organises various leadership and volunteering programmes, so that young people are engaged in PE and school sport.

*Sport England are involved with British Gymnastics in funding the **National Talent Programme** and **World Class Podium Potential Programme**, both of which have enabled Ben to achieve success in competitions. Ben may seek National Lottery funding to help with his ambition to compete in Rio 2016 and Sport England are responsible for this funding.*

***British Gymnastics** is the national governing body for gymnastics in the UK. After the success of gymnasts in the London 2012 Olympics, British Gymnastics set up the **National Talent Programme** to identify talented gymnasts from an early age. **The World Class Podium Potential Programme** seeks to develop this talent to enable gymnasts to achieve on the international stage. Ben will be receiving top quality coaching which will have been provided by British Gymnastics.*

*Ben runs sessions at a local primary school and he could be part of the **Volunteering in School Sport programme**. He could have registered for **The Step into Sport Volunteer Passport (SISVP)** which allows people aged 14-19 to record the number of hours the volunteer and then be rewarded and recognised.*



National Governing Bodies are responsible for running individual sports locally and nationally. They provide training and support for coaches and official, ensuring that a talent development programme is in place to enable performers to reach their potential, and arranging competitions.



*The primary school where Ben volunteers may be part of the **Change 4Life Sports Clubs** run by the **Youth Sports Trust**, designed to involve youngsters in physical activity.*

The DKHLT aims to use elite sports performers to inspire and mentor young people from a range of backgrounds to get their lives back on track and make the best use of their talents.

Organisational Influences



Ben's school may have been part of the **Aspiring Minds** project where an elite performer has gone into the school to encourage participation in a particular sport. **Louis Smith** may have gone into Ben's primary school to talk about how he developed his interest in gymnastics, which may have inspired Ben to take part.



Role Models

Role models are people that others aspire to be like, and should therefore set a good example.

How can role models shape attitudes?

- The way in which they play, e.g. fairly, abiding by rules or playing unfairly against the rules.
- Setting trends
- The way in which they conduct themselves in both their sporting and private life.




How can role models influence participation?

- By being an inspiration
- By being successful through good performances
- By representing a group, e.g. ethnic group, gender group or disability



Ben's Role Model

Competitions

	What is it?	Advantages	Disadvantages
 <p>Knockouts</p>	<p>One team plays another.</p> <p>The winner progresses to the next round and loser drops out of competition. Usually played in rounds. Darts is an example</p>	<p>Can be organised quickly and easily.</p> <p>High numbers can participate due to drop out.</p>	<p>Competition is over quickly if you lose your first game.</p> <p>Qualifying events or byes may be required to get the right number in each round.</p>
 <p>Ladders</p>	<p>Set number of players/teams on the ladder.</p> <p>Challenge people higher up the ladder to games and take their place if you win.</p>	<p>Suited to racket sports such as squash, badminton and tennis.</p> <p>Easy to run and administer.</p>	<p>Slow progress.</p> <p>Only small number of participants can take part.</p>
 <p>Combination</p>	<p>Combination of some or all types.</p> <p>For example qualifying leagues, and winners' progress to further leagues or knockout.</p> <p>The Football World Cup is an example</p>	<p>Can play as many games as you like.</p> <p>More than one opportunity to qualify.</p> <p>A large number of teams can participate.</p>	<p>Its time consuming.</p> <p>'Meaningless' games may be played where teams have already qualified for the next stage.</p>

Range and Scope of Sponsorship	Sponsorship	Advantages of Sponsorship	Disadvantages of Sponsorship
<ul style="list-style-type: none"> • Individuals: individual sponsorship deals whereby the athlete gets given money to endorse a good, e.g. wearing a specific brand of footwear. • Teams and clubs: payments made to the team, and used for equipment, kit etc. • Sports: major sponsorship associated with the sport to promote leagues or competitions. • Events: big events such as the Olympic Games attract many sponsors because it increases publicity 	<p>Unacceptable Sponsorship</p> <ul style="list-style-type: none"> • Anything associated with poor health, e.g. smoking and alcohol <p>Effects of Sponsorship</p> <ul style="list-style-type: none"> • Provision of equipment, clothing accessories, facilities, transport/travel • Entry fees and expenses paid, e.g. hotel bills 	<ul style="list-style-type: none"> • Financial support for the athlete • Promotion of the sport • Raise profile and image of sport • Increased revenue for the sponsor, and gives them a good image 	<ul style="list-style-type: none"> • Sponsors may start to dictate changes, e.g. to the rules, clothing, timings etc. • Sponsors can withdraw if the image of the sport is damaged • Difficult for minority (less well-known) sports to get sponsorship

Ben may need to seek sponsorship to help pay for equipment, travel and training expenses as he aims to compete in the Rio 2016 Olympics. He may find this difficult as he is a young gymnast and is not presently well known and also, gymnastics is not a high profile sport. Ben may be able to find a local business to sponsor him, who may be glad of the goodwill and positive publicity this gesture may generate.

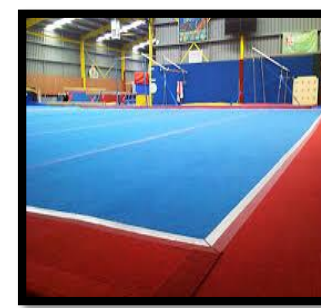
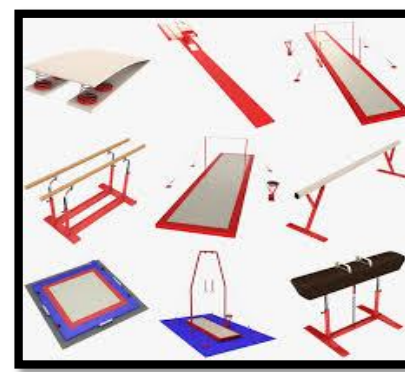
Gymnastics scoring in competitions is not straight forward. When Ben performs his routines he will gain marks for the degree in difficulty and lose marks for mistakes made in the execution of the moves. He will then be given an overall score and then ranked against other competitors.

Ben will need to be aware of the different types of competition when he organises competitions at the local primary school. He may adopt the gymnastics scoring system to make it easier for the children to understand.

Science & ICT in Sport

Equipment

Through advancement of the apparatus, gymnastics accessories have evolved and many gymnasts wear specific equipment to help perform better including wrist guards and chalk. Grips are used on the uneven bars, high bar, still rings and parallel bars to enhance the gymnast's grip and, in the case of bar exercises, to reduce friction between the gymnast's hands and the bar.



Gymnastic facilities have developed over the years, specifically to help with the health and safety of all gymnasts. "Ben trains at a gymnastic facility equipped with the latest technology". This would include a sprung floor, landing pit and foam to enable safe landing from height.



The apparatus has changed to allow bigger and better routines throughout the years, as well as improved safety for the performers



Clothing



The majority of gymnastic clothing is made from lycra. For competitions, male gymnasts wear two layers of clothing. The first, a singlet (or Comp Shirt - Short for Competition Shirt) is a sleeveless leotard. For floor and vault, gymnasts wear a pair of very short shorts over the singlet. For their other events, they wear a pair of long pants, attached to the bottom of the feet with stirrups. This allows freedom of movement without any restrictions.



ICT should be a significant factor in Ben's training and him and his coach will be recording his performances and analysing it back so he can **make improvements**. This can be done using the Coach's Eye app on a tablet, smart phone or even just through a digital camera. **Data** can be stored on Ben's performances in competitions which can help with **analysing** Ben's strength and weaknesses.



ICT

There are a number of ways ICT has been used to help sports performers improve their performance. The **recording and analysing** of an athlete's performance using up-to-date computer software is now widely available. This includes **Coach's Eye App** which allows video recording and instant slow motion reply and feedback. Performers can get **instant feedback** about their performance. Computer hardware packages including **heart rate monitors** which can be used during training.

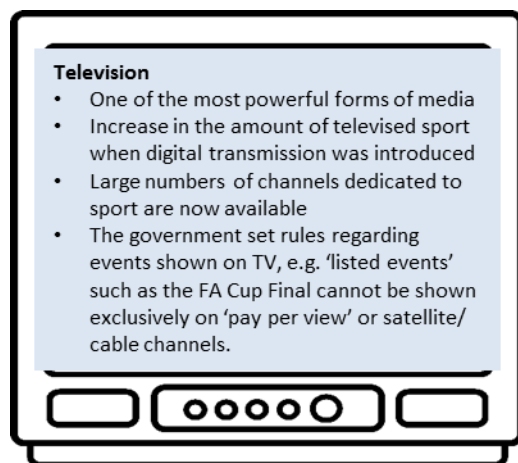
Facilities





Radio

- Increase in the number of radio stations broadcasting sport since the introduction of DAB
- There are now a number of stations dedicated to sport
- Cheaper to broadcast via radio than TV, and cheaper and more accessible/portable for listeners



Television

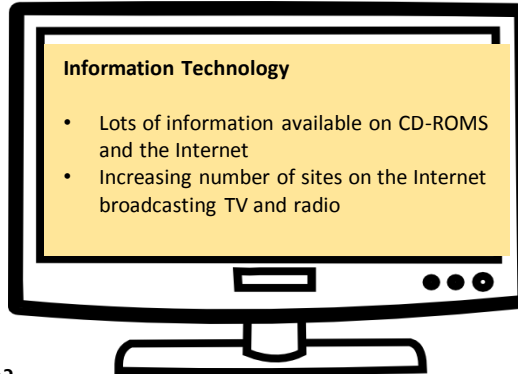
- One of the most powerful forms of media
- Increase in the amount of televised sport when digital transmission was introduced
- Large numbers of channels dedicated to sport are now available
- The government set rules regarding events shown on TV, e.g. 'listed events' such as the FA Cup Final cannot be shown exclusively on 'pay per view' or satellite/cable channels.

Gymnastics is not given a lot of media coverage apart from during the Olympics and the Commonwealth Games. However, the European Junior Championships did receive coverage on BBC2 and was also available on the interactive BBC Red Button, and so Ben may well have been on the TV himself.

Ben's interest in gymnastics may have resulted from him watching television coverage of the Olympics and his desire to emulate Louis Smith may be a result of watching his success in the London 2012 Olympics.

Ben will have been able to access information about gymnastics from various websites including The British Gymnastics website. Ben could even go onto websites such as YouTube to watch performances and pick up on the strengths and weaknesses of his opposition. He will be receiving feedback from his coach, but watching performances on the internet will give him greater insight into skills and techniques within gymnastics.

<p>Magazines</p> <ul style="list-style-type: none"> • Often contain sport stories • Increasing number of specialised magazines in specific sports 	<p>Newspapers</p> <ul style="list-style-type: none"> • Have dedicated sports section at the back <p>Books</p> <ul style="list-style-type: none"> • E.g. textbooks, autobiographies, novels
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Information Technology

- Lots of information available on CD-ROMS and the Internet
- Increasing number of sites on the Internet broadcasting TV and radio

International Sport

How Can The Media Influence Performance and Participation?

- High standards of performance are shown – gives an example of people to follow
- Slow motion replays allow good points to be emphasised and the viewer can learn from it
- Promotion of physical activity and its health benefits

Edited Coverage

- Writers or directors can edit coverage so that an inaccurate representation of the action is seen by the viewer

Different Types of Output

- **Informative** – sports news
- **Educational** – documentaries
- **Instructional** – coaching DVD
- **Entertainment** – live matches

Advantages of hosting international sporting events:

- Likely to make profit through sponsors, media rights and selling merchandise.
- Facilities are updated / new facilities are built especially for the event but can be used in the future.
- Raising the profile/reputation of the host country worldwide.

Disadvantages of hosting international sporting events:

- Security/risk of terrorist attack
- Political protests or boycotts
- Expensive to provide facilities and security



Examples of high profile events include football and rugby world cups, cricket test matches, athletics world championships, formula One world championships, Wimbledon, Super Bowl and the Olympic Games.

Issues in sporting events:

- London 2012 Olympics – Possible terrorist attacks/ticket allocation
- Rio 2014 Football World Cup – Protests of high costs v poverty
- Qatar 2022 Football World Cup – Player safety 40 degree heat
- Berlin 1936 Olympics – Adolf Hitler used them for political beliefs
- Munich 1972 Olympics – Terror attack leading to high security costs



Media Influence

Multiple Choice Questions

Which one of the following do female sports performers tend to have an advantage over male sports performers?

- a. Skill
- b. Flexibility
- c. Strength
- d. Agility

Success in gymnastics can be measured by:

- a. Identifying solutions
- b. Overcoming opponents
- c. Accurate repetition of routine
- d. Exploring ideas

Before taking part in physical activity it is important to identify potential hazards. This is called:

- a. Risk management
- b. Danger management
- c. Danger assessment
- d. Risk assessment

1. Which one of the following refers to the process of aerobic respiration?

- a. Glucose + oxygen → energy + carbon dioxide + water
- b. Glucose → energy → lactic acid
- c. Glucose → carbon dioxide + energy + water + oxygen
- d. Glucose + energy → carbon dioxide + water

Which one of the following activities would be most suitable for an introvert?

- a. Football
- b. Volleyball
- c. Gymnastics
- d. Hockey

Which one of the following is not an anaerobic activity?

- a. Cross country running
- b. Shot put
- c. Tennis serve
- d. Gymnastics vault

Which one of these helps with the digestive system?

- a. Protein
- b. Fibre
- c. Vitamins
- d. Fats

Which one of the following is a simple carbohydrate?

- a. Sugars
- b. Bread
- c. Pasta
- d. Rice

Which one of the following is a movement of a limb towards the body?

- a. Abduction
- b. Flexion
- c. Extension
- d. Adduction

Gradually increasing training to allow the body to adjust is known as:

- a. Progression
- b. Overload
- c. Frequency
- d. Time

Which one of the following is not an acceptable type of sponsorship for a junior gymnast?

- a. A local sports shop
- b. A local fast food store
- c. A local garage
- d. A local building society

Which one of the following would not be part of the press media?

- a. Digital cameras
- b. Magazines
- c. Newspapers
- d. Books

Which one of the following is not used to record and analyse performance?

- a. Video officials
- b. iPad
- c. Flip cams
- d. Lap tops

Which one of the following is a part of the Healthy Schools Programme?

- a. PSHE
- b. The National Curriculum
- c. Sports performance Awards
- d. GCSE PE

Which one of the following is not a reason why PE is taught in schools

- a. To improve health and fitness levels
- b. To provide a balance of subjects taught
- c. It's a legal requirement
- d. To prepare professional sports performers

Which one of the following is not an example of a school extra-curricular activity

- a. Gymnastics lesson
- b. Lunchtime netball club
- c. After school cross country session
- d. Breakfast football club

Exam Style Questions

- Describe two physical changes that Ben will experience with increasing age. (2 marks)
- Which body type would Ben need to take part in gymnastic competitions? Describe this body type. (2 marks)
- Ben runs sports sessions at the local primary school. Suppose he is taking on the role of a coach. State and describe two qualities he would need to be an effective coach. (4 marks)
- Give two reasons why it is important for Ben to warm up before a training session. Give examples of exercises he should include in his warm up. (4 marks)
- What are the formulae for aerobic and anaerobic respiration? Explain why Ben would use both types of respiration during training. (4 marks)
- State what anxiety is and explain how it may have affected Ben's performance when he competed in the European Junior Gymnastics Championships. (3 marks)
- In weight training, describe what are meant by repetitions and sets. (2 marks)
- Give two ways in which Ben's PE teachers may have had a positive influence on his participation in gymnastics (2 marks)
- Explain how the facilities at Ben's school may have had a negative effect on his participation. (2 marks)
- Identify and describe two of the ways that Ben's parents may encourage his participation in gymnastics. (2 marks)
- Identify one type of media and explain how it may help raise the profile of gymnastics in this country. (2 marks)
- Describe two ways that Ben should make sure the pupils at the local primary school are participating safely in gymnastics. (2 marks)
- Explain why Louis Smith may be a good role model for Ben. (2 marks)
- Identify two forms of technology Ben's coach may use when he is training and explain how they could help improve his performance. (4 marks)

DAVID 2012 PAST EXAM QUESTIONS – ADJUSTED FOR BEN!!

1. Ben runs sporting sessions at the local primary school, which could be competitions. Describe a type of competition that would allow maximum participation if five teams were involved. *(2 marks)*
2. Name **one** type of strength that Ben would use on the high bars. *(1 mark)*
3. Using an example, explain why improved levels of the strength you named in would help Ben in the High Bar. *(3 marks)*
4. Ben regularly could be a coach at his local gymnastics club. State and describe **three** qualities that David needs to be an effective coach. *(6 marks)*
5. As a gymnast, Ben uses interval training as part of his training programme. Describe what is meant by ‘interval training’. Using your knowledge of training zones and the principles of training, explain how interval training can be used to improve performance in an all-round gymnastics competition. *(8 marks)*
6. Ben found the Junior European Championships stressful. What is meant by the term ‘anxiety’?*(1 mark)*
7. Explain how anxiety could have affected Ben’s performance when competing at the Junior European Championships. *(2 marks)*
8. Many companies sponsor elite performers. Describe the advantages that a local company might gain from sponsoring Ben. *(3 marks)*
9. The sports nutritionist advises that fibre is an important nutrient in Ben’s diet because it keeps his digestive system healthy. Name **three** other nutrients that are important in Ben’s diet and explain how each may help his performance in training and in competition. *(6 marks)*
10. A good recovery routine will be important for Ben because he trains and competes so much. Describe the best way for Ben to recover after a hard training session or competition. Explain why a good recovery routine is necessary and how it will benefit his future performance in training or in competition. *(8 marks)*

(Adapted from David 2012)

SARAH 2013 PAST EXAM QUESTIONS – ADJUSTED FOR BEN!!

1. Identify **and** describe a suitable training method to help Ben achieve his ambition of representing Great Britain at Rio 2016 Olympics. *(2 marks)*
2. As part of his A-Level Physical Education course, Ben has learned about training zones. Explain how Ben could use his knowledge of training zones to help improve his performance in the all-round gymnastics competition. *(4 marks)*
3. School influences have an impact on an individual's involvement in physical activity. Identify **and** explain **three** ways in which Ben's experiences in secondary school may have helped to improve his performance in his favourite activities. *(6 marks)*
4. Ben has an interest in the media. Explain how the media may have influenced Ben's participation in sport. *(8 marks)*
5. Diet is an important factor to consider when participating in a physical activity. Explain how a carbohydrate loading diet could help Ben to perform to the best of his ability in a gymnastics competition. *(4 marks)*
6. Ben uses the local sports facilities during the week and at weekends for training purposes. Explain the difference between public sector and private sector provision of sports facilities. *(4 marks)*

(Adapted from Sarah 2013)

RACHEL 2011 PAST EXAM QUESTIONS – ADJUSTED FOR BEN!!

- Describe a training method that Ben could use **and** explain in detail how he could also use the principle of overload to improve his fitness. **(8 marks)**
- Name **two** social groups and explain how they may have influenced Ben's decision to participate in gymnastics. *(4 marks)*
- Ben trains six days a week and he may experience fatigue as a result. State what fatigue is and explain the effects it could have on Bens performance in the pommel horse competition. *(4 marks)*
- Ben is an amateur performer and needs to attract sponsorship to help with funding his dream of going to Rio 2016. Describe **one** acceptable type of sponsorship that would be useful to him. *(2 marks)*
- Explain why an alcohol company may not be an acceptable sponsor for Ben. *(2 marks)*
- State **two** components of physical fitness that Ben would need when taking part in either the floor event, rings or parallel bars. Explain how these components could improve his performance in that activity. *(4 marks)*
- Ben works with younger students in his local primary school and has become a role model. Explain what a role model is and describe how they can affect the level of participation in a sport. *(4 marks)*
- Ben's body type is mesomorph and is well suited to his chosen sporting activities. Describe a mesomorph body type and explain why this body type helps Ben to perform well in his chosen sporting activity. *(4 marks)*
- Using examples, explain how advances in technology could help Ben to improve his performance. *(8 marks)*

(Adapted from Rachel 2011)