

GCSE Physical Education

Topics covered from the beginning of the academy year to the end of this half-term.

AUT 1:

1. Structure and function of the skeleton
2. **Muscles and contractions**
3. **Aerobic and anaerobic**
4. **Structure of the heart**

AUT 2:

4. **Training systems/components of training**
5. **Respiratory systems**



ARENA
ACADEMY

Health & Social Care, P.E,
Physics, Chemistry, Biology



G.C.S.E.P.E
Learning Journey

Qualitative & Quantitative

Analyse & evaluate data



Components of fitness recap

AQA

Practical moderation

Chapter 7 – Use of data

Somatotypes

Sedentary lifestyle

Mental health & well-being

Ectomorph
Endomorph
Mesomorph

Social health & well-being

Chapter 6 – Health & Fitness

Physical health & well-being

Lever systems recap



Drugs in sport

Barriers to participation
Women
Ethnicity
Disability

Commercialisation

Chapter 5 – Socio-cultural influences

Ethical issues

Arousal

Personality types

Golden Triangle

11
YEAR

11
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Chapter 4 – Sports psychology

Types of feedback

Basic model of information processing

Classification of skills

Planes & Axis

Lever systems

Analysis of selected movements

Push ups
Throw in
Running

AQA

Chapter 2 – Movement Analysis



FITT Principle

Components of fitness

Fitness testing

Principles of training

Chapter 3 – Physical Training

Types of training

Major muscles

Chapter 1 – Applied anatomy & physiology



Respiratory system

Structure of the heart

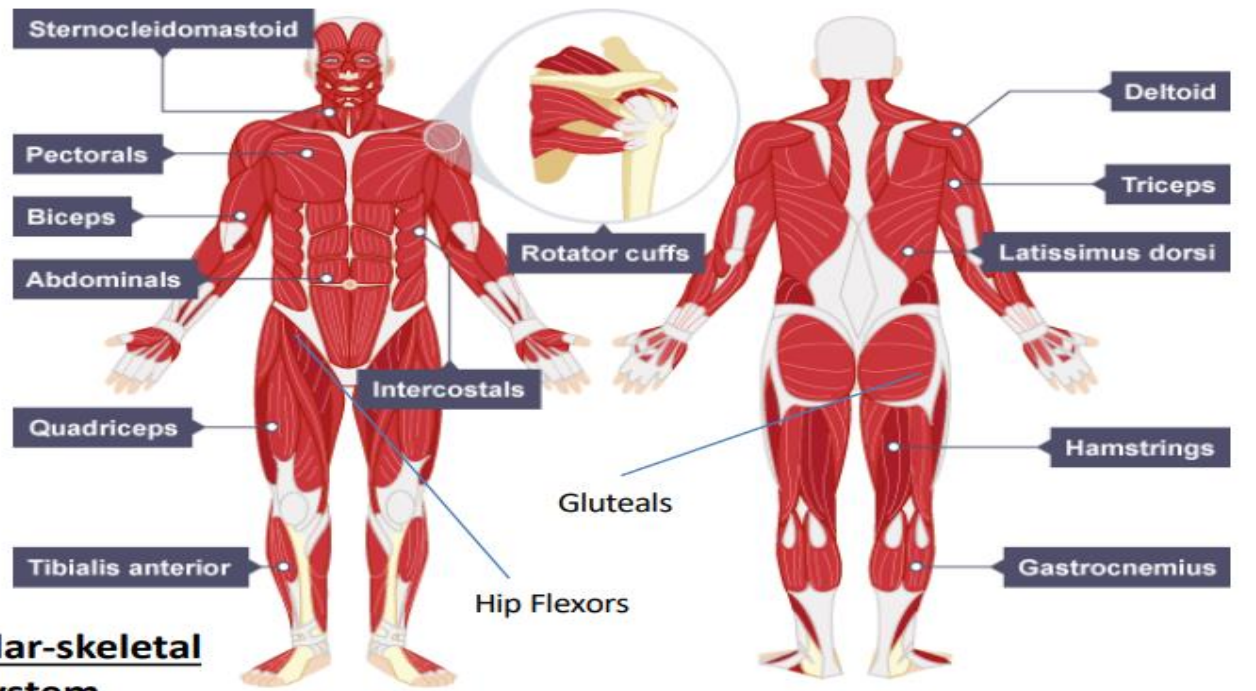
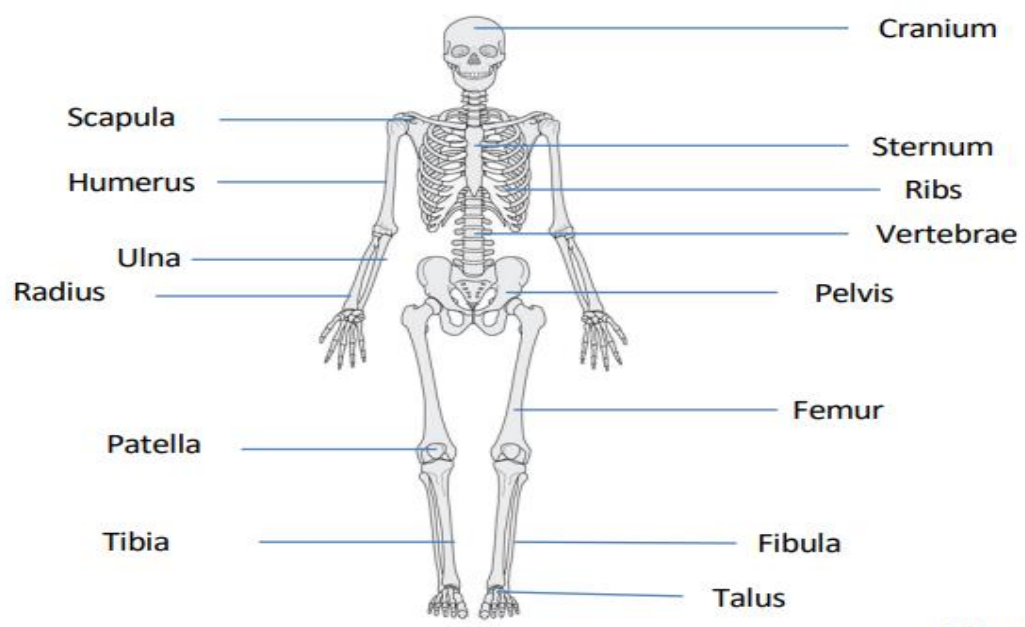
Aerobic & Anaerobic

Functions of the skeleton

Structure of the skeleton

10
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YEAR



Muscular-skeletal system

Types of Muscle Contraction

Isotonic Contractions

These contractions occur when there is movement of the body. The ends of the muscles move closer together to cause the movement

Isometric Contractions

This type of contraction takes place when the body is being held in the same position. The length of the muscle during these contractions stays the same length.

Isotonic Concentric Contraction

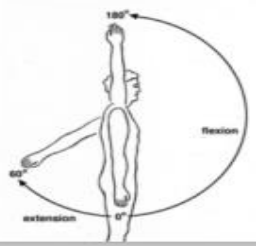
occurs when the muscle shortens e.g. biceps contracting concentrically during the upwards phase of a bicep curl / triceps contracting concentrically during the upwards phase of a press-up

Isotonic Eccentric Contraction

occurs when the muscle lengthening (antagonist) is under tension. An eccentric contraction provides the control of a movement on the downward phase and it works to resist the force of gravity e.g biceps contracting eccentrically when lowering the weight in a bicep curl / triceps contracting eccentrically during the downwards phase of a press-up.

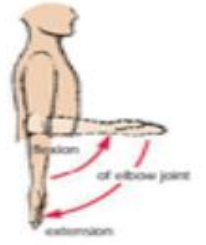
Flexion and extension at the shoulder

- The **Deltoid** causes flexion at the shoulder
- The **Latissimus dorsi** causes extension at the shoulder



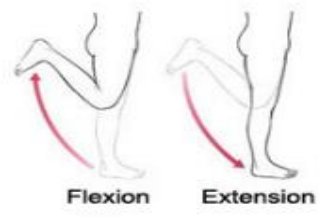
Flexion and extension at the elbow

- The **Biceps** cause flexion at the elbow
- The **Triceps** cause extension at the elbow



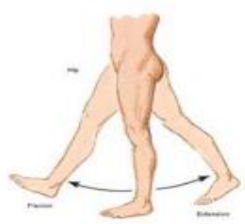
Flexion and extension at the knee

- The **Hamstrings** cause flexion at the knee
- The **Quadriceps** cause extension at the knee



Flexion and extension at the hip

- The **Hip Flexors** cause flexion at the hip
- The **Gluteals** cause extension at the hip



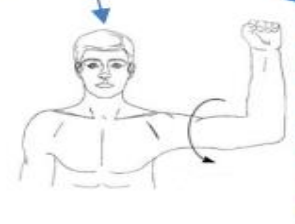
Flexion and extension at the ankle

- The **Tibialis Anterior** causes dorsiflexion at the ankle
- The **Gastrocnemius** cause plantar flexion at the ankle



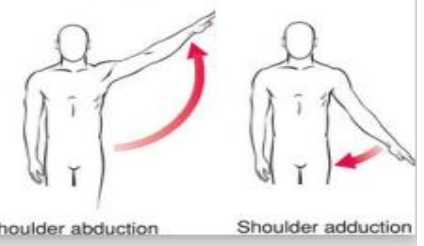
Rotation & Circumduction of the Shoulder

The **Rotator Cuff** causes rotation at the shoulder
The **deltoids, latissimus dorsi, pectorals and rotator cuff** cause circumduction.



Abduction and Adduction at the shoulder

- The **deltoid** causes abduction at the shoulder
- The **Pectorals / Latissimus Dorsi** cause adduction at the shoulder

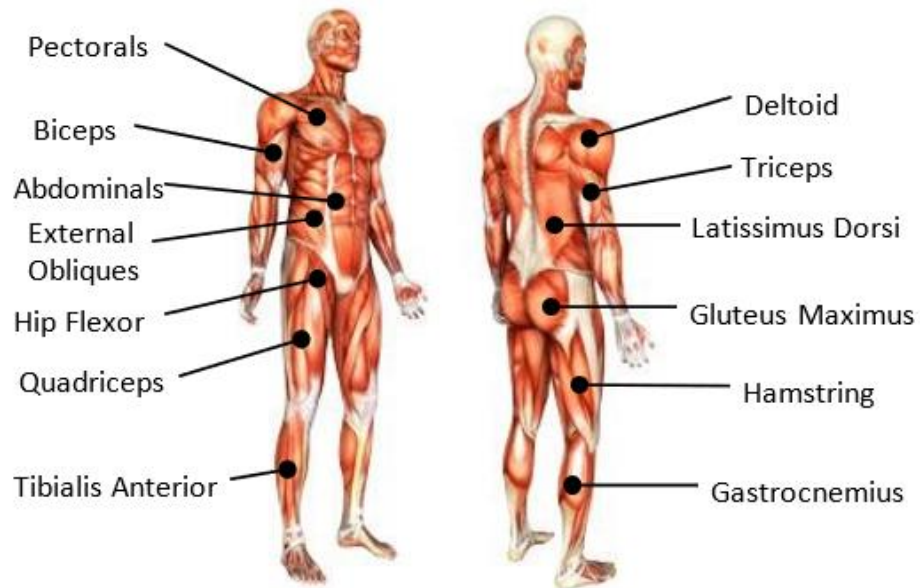


Shoulder abduction

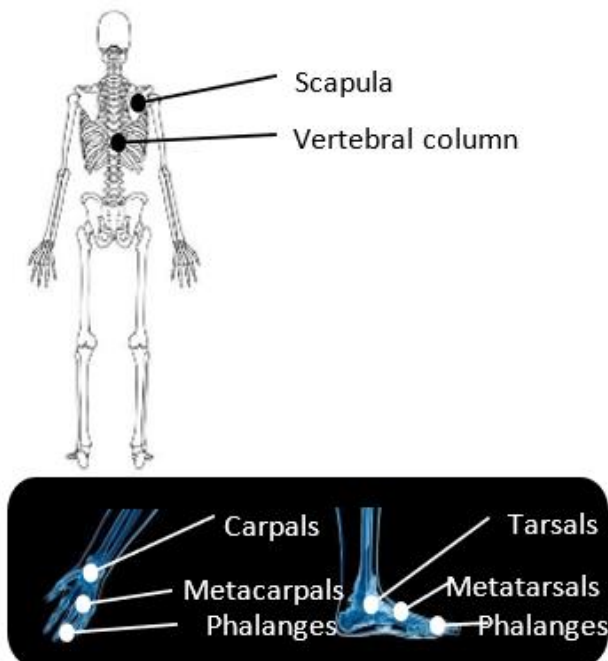
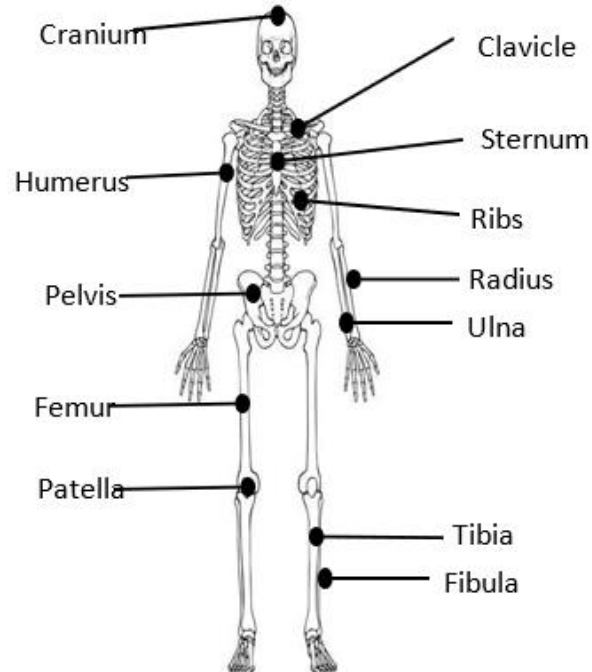
Shoulder adduction

PE: Body Systems

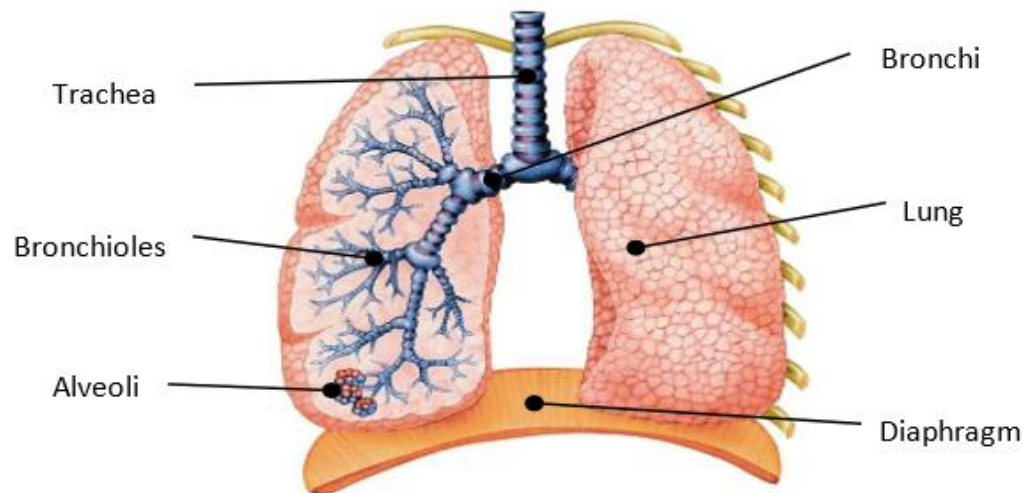
Muscular system



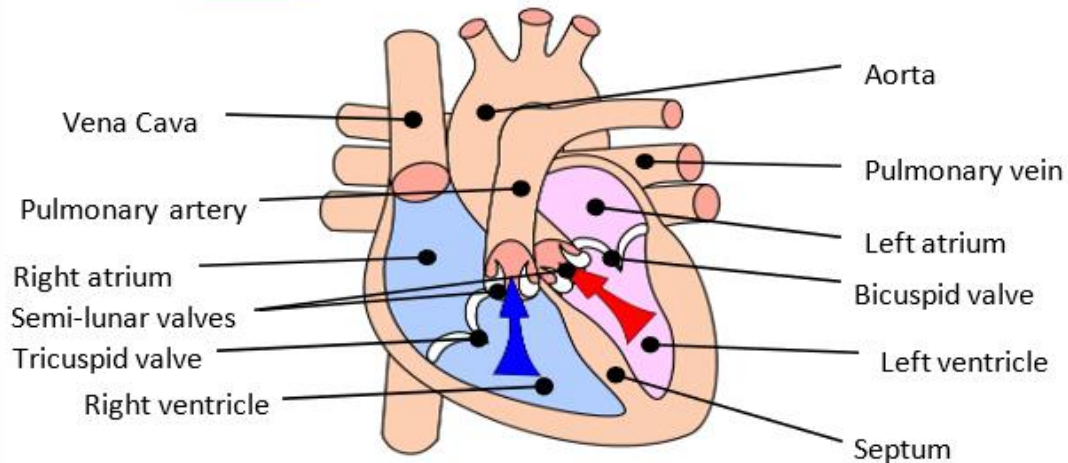
Skeletal System



Respiratory system



Circulatory system 'Stroke Volume': The amount of blood pumped by the heart each beat



Health:

State of complete mental, physical and social wellbeing and not merely the absence of disease or infirmity



Relationship between health and fitness:

- Ill health can negatively affect fitness as the individual may be too unwell to train.
- Increases in fitness can positively affect health and well-being e.g. you may be less likely to get ill, you may feel better about yourself; **HOWEVER**, an increase in fitness cannot prevent illness.



Fitness:

Ability to meet the demands of environment

Components of Fitness:

- 1) **Cardiovascular endurance:** the ability of the heart and lungs to supply oxygen to the working muscles.
- 2) **Agility:** The ability to move and change direction quickly (at speed) whilst maintaining control.
- 3) **Balance:** maintaining the centre of mass over the base of support.
- 4) **Co-ordination:** the ability to use different (two or more) parts of the body together smoothly and efficiently.
- 5) **Flexibility:** the range of movement possible at a joint.
- 6) **Muscular endurance:** Ability of a muscle or muscle group to undergo repeated contractions avoiding fatigue.
- 7) **Power / Explosive strength:** the product of strength and speed (strength x speed).
- 8) **Reaction Time:** the time taken to initiate a response to a stimulus.
- 9) **Speed:** the maximum rate at which an individual is able to perform a movement or cover a distance in a period of time (speed = distance divided by time)
- 10) **Strength:** the ability to overcome a resistance
 - a) **Maximal** – the largest force possible in a single maximal contraction
 - b) **Dynamic** – repeated contractions
 - c) **Explosive** – (see POWER)
 - d) **Static** – the ability to hold a body part in a static position.

When asked to explain remember to give specific sporting examples:

- Power is needed in football to kick the ball harder when shooting so it is more difficult for the goalkeeper to save.
- A gymnast uses power gain height when jumping. This will give them more time to complete the move.
- Cardiovascular fitness is important in hockey as each game lasts a long time therefore they need to be able to transport oxygen around the body effectively for the duration of the match. This will help them maintain the quality of performance throughout game.

Reasons for Fitness Testing:

- To identify strengths and weaknesses, this allows them to work on weaknesses
- To allow you to plan your training
- To show a starting level of fitness
- To monitor improvement
- To monitor the success of a training programme
- To compare against normative data
- To motivate and set goals

Limitations with Fitness Testing:

- Tests are often not sports specific (give an example)
- They do not replicate the movements in a sport
- They don't replicate the high pressure environment of sporting activities/n competitive
- Some are not reliable
- Some are maximal which means the performer is required to try their best
- Protocols **MUST** be followed or else the tests are invalid

Components of Fitness and Fitness Testing

Fitness tests:

- **Agility = Illinois agility run:** Cones arranged in 10m x 5 m rectangle with 4 cones down the middle, performer starts face down, performer runs round the cones as fast as possible, performer is timed, compare results to national averages.
- **Balance = Stork Balance Test:** start balanced on 2 feet, hands placed on hip, one leg lifted so that the toes of the lifted leg touch the inside of the planted leg, timekeeper tells the individual to raise the heel on the planted leg and starts the stopwatch, individual balances for as long as possible, timer stops clock when the individual loses their balance, compare to national average
- **Cardiovascular endurance = multi-stage fitness test:** Cones set out 20m apart, test gets progressively harder, individual runs 20m in time with 'bleeps', time between bleeps gets shorter as levels increase, performer runs for as long as possible, score recorded a level when performer finishes e.g. level 8 bleep 4, compare to national averages.
- **Co-ordination = wall toss test:** tennis ball starts in one hand, stand 2m from wall, on 'GO' the performer works for 30 seconds, performer throws ball against wall and catches it with opposite hand, if ball is dropped the time continues, compare to national averages.
- **Flexibility = sit and reach test:** Remove shoes, sit on floor with feet flat against sit and reach board, performers legs must be straight, performer pushes forward slider as far as possible, score is recorded in centimetres, compare to national averages.
- **Muscular endurance = abdominal curl conditioning test:** Performer lies on mat in a sit-up position, partner holds ankles, performer sits up on bleep and down on bleep (staying in time), the test gets progressively harder as bleeps get faster, score is how many sit ups you did, compare to national averages
- **Power / Explosive strength = vertical jump test:** with flat feet, stand and push the wall ruler with fingertips as high as possible, apply chalk to finger tips, from a standing position jump as high as possible marking the ruler with chalk, record height jumped, compare to national averages.
- **Reaction time = ruler drop test:** Place thumb and index finger together of dominant hand, partner holds metre ruler above, without warning partner drops ruler, individual being tested must catch the ruler, measure in 'cm', compare to national averages
- **Maximal Strength test = one rep max:** lift weight once using the correct technique, if completed attempt a heavier weight until heaviest weight is discovered, take 1 rep max weight and divide it by body weight, compare to national averages.
- **Strength = handgrip dynamometer test:** hold dynamometer in dominant hand, bend elbow at 90 degrees and place against body squeeze with maximum effort, record best score, compare to national averages.
- **Speed = 30m speed test:** set up two cones 30m apart, use a flying start, individual is timed running as fast as they can for 30m, compare to national averages.

Sports Studies

CNAT Sports Studies

Learning Journey



ARENA
ACADEMY



Unit R184 Externally assessed Exam

- Contemporary issues in sport

Unit R184

Contemporary
issues in sport
Performance
Objective 3-5

Unit R184 Contemporary issues in sport

- Performance Objective 1-2

Unit R186 Sport and the Media

- Understand negative effects that the media can have on sport

Unit R186 Sport and the Media

- Know how sport is covered across the media

Unit R186 Sport and the Media

- Understand positive effects that the media can have on sport

Word rich

focus-

Evaluation and analysis of sports performance

Unit R185

Evaluate sporting sessions highlighting areas for improvement

Unit R185

Deliver a sporting activity of your choice to younger participants

Word rich

focus-

Leadership styles and qualities

Unit R185

Evaluate sporting sessions highlighting areas for improvement

Unit R185

plan a sporting activity of your choice.

Prep
research
for
media
unit

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Word rich

focus-Sports from around the world

Unit R055 Sports Leadership

- Be able to evaluate own performance in delivering a sports activity session.

Unit R185 Performance unit

- Practice methods to improve performance

How are you assessed?

3 Units

R184- Exam Unit 40%

R185- Performance unit 40%

R186- Media in sport unit 20%.

Welcome!

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10



CORE
EDUCATION
TRUST



Unit R185 Performance Perform in two chosen sports (individual or team)

ARENA
ACADEMY



R185 | PERFORMANCE AND LEADERSHIP IN SPORTS ACTIVITIES

TOPIC AREA 3

Organising and planning a sports activity session

Organisation of a sports activity session

A session must be planned effectively in order for it to be a success. If the planning is thorough and detailed, the session is easier to follow and deliver.

Appropriate venue (location/size/ weather)

The venue must have enough working space for the activity and for the number of people taking part. For example, a large 3G hall for multi-skills session with 30 primary ages students. You must also have a contingency plan for if the activity cannot take place outside.

Equipment (type/amount)

The type of equipment will depend on the activity and the participants e.g. Size 2 footballs for under 4s and 5s, Size 5 footballs for under 14s and above.

The amount will depend on what skills/ techniques are being taught and how many participants there are. E.g. If practicing passing technique in football then 1 ball between 2 or 3 would be ideal.

Timing (appropriate/allowing for progression)

Allowing enough time for the participants to practice skills is important in order to improve. Not spending too much time on skills that they can already perform so they get bored is also important

Allowing skills/drills to progress will improve players as the drills will become more advanced or harder. For example in passing in basketball can be progressed by:




Supervision (Number of participants/size of group)

Different activities require different levels of supervision for example the CPSU require their 1 adult per 8 children (ages 9-12) and 1 adult per 10 children (ages 13-18).

The size of group depends of the the activity. You can have a large group of experienced with less supervision but a group a beginner swimmers would have more.

Contingency plan

This is a back up plan for anything that might need to change during a sporting activity. For example, if you have planned a cricket session outside but it is raining then having a back up (contingency) plan is important to have. You may choose to do coaching session indoors.

You may also need a back up plan if the participants are not responding or interested in the activities that you have planned. 

Safety considerations

Risk assessment and corrective action

Risk assessment completed before an activity take place and are used to identify and eliminate risks where possible, protecting participants from harm. Risks include those posed by the **facilities** (goal posts in sports hall), the **equipment** used , the **clothing** and **footwear** worn (suitable trainers for the activity) and any **activity-specific risks** such as, boots and shin pads for football when on a 3G astroturf pitch.

Checking of equipment

All equipment and areas should be checked. For example, rugby tackle bags should be checked that they are in good working order before tackling.

Basic First aid & child protection

There should be somebody that is qualified in basic first at a sports activity session. This is to help given to a sick or injured person until full medical treatment is available.

It is also important for a leader to have an understand about protecting children. This is to ensure that children are safe from abuse and neglect

Emergency procedures


It is important to have emergency procedures in a session. For example, calling 999, if the equipment breaks and how to complete emergency action plans.

Objectives

Objectives

The group can be at different levels or experience so planning a session to meet the needs is important. An example objective is to improve your forehand serve in badminton. Activities may need to be adapted depending on the size, experience, number of participants, gender, age, facilities, equipment.


Introduction and conclusion of a session

The introduction should include a brief introduction from the leader, aims of the session and checking for any injuries. 

A conclusion should be a brief summary of what has been learnt or develop throughout the session.

Basic warm-up and cool-down

Warm-ups should include a pulse raiser, stretching exercises and activity specific tasks.

Cool-downs should allow the pulse to decrease slowly and to include stretches. 

Skills and technique development

Start with basic skills in basic practices, progress the drills to show more challenge, then incorporate some competition into the practices. These practices will also need have some simplifications for participants who are struggling.

Key Terms

■ **Contingency plan** - a plan designed to take account of a possible future event or circumstance

■ **Appropriate** - suitable or proper in the circumstances

■ **Supervision** - the action of supervising someone or something.

■ **Experienced** - having gained knowledge or skill in a particular field over time.

■ **Risk assessment** - a systematic process of evaluating the potential risks that may be involved in a projected activity or undertaking

■ **Procedures** - an established or official way of doing something.

■ **Objectives** - a thing aimed at or sought; a goal.

R185 | PERFORMANCE AND LEADERSHIP IN SPORTS ACTIVITIES

TOPIC AREA 5

Reviewing your own performance in planning and leading a sports activity session

Planning

Sticking to the plan

Remember, sticking to the original plan may not always work as you may need to **adapt** you session appropriately. Think about these questions below and whether they were **positive** or **negative**:

- Was the original plan detail enough?
- What is the plan clear?
- What there anything else that you would put in the plan?
- Were all the activities suitable? Think about the age and ability of participants.
- Did you follow a sequence? Warm up, skill development, conditioned game, cool down.
- Were the areas you set up suitable for the activities?
- Would have you used different or more equipment?

Leading

Timings

- Did you have enough time for each activity?
- Did the participants get bored because you spent too long on 1 activity?
- Did you have enough progressions so that the group were challenged?

Motivation

- Were all the participants motivated with your activities?
- Did you use any rewards for the participants?
- Could you have tried some more motivational strategies with the group?

Working space

- Did you have enough space for the participants to work in?
- Was the area too big or too small?
- Would you have changed anything about you area sizes next time?

Adapting

- Did you adapt anything during the session?
- Did you put any extra progressions or activities in the session?
- Did you allow the participants to take responsibility for any parts of the session?

Communication/Positioning

- Was your voice clear?
- Did you use verbal and non-verbal communication?
- What was your positioning like during the session?

Improvements

- Would you make any improvements to your session based on the participants ability?
- What would you plan differently for the next session if you were to teach this group again?
- What errors did you make that you would change for next time?

Leadership skills

- How can you develop your leadership skills for next time you deliver a sessions?
- Are there any coaching courses that you can do to improve your leadership?
- What national governing body courses are there that you could attend?
- Does your school provide anything for you develop your leadership skills?

Extra-curricular clubs

- What after school activities can you take part in at school to develop your leadership skills further?
- Have you taken part in any after school clubs that have given you valuable skills to deliver a session?
- How can you help your teachers at after school clubs?

Key Terms

■ **Positive** - a desirable or constructive quality or attribute.

■ **Adaptability** - the quality of being able to adjust to new conditions.

■ **Progressions** - the process of developing or moving gradually towards a more advanced state.

■ **Negative** - not desirable or optimistic.

■ **Strategy** - a plan of action designed to achieve a long-term or overall aim.

■ **Improvements** - the action of improving or being improved.

■ **Leadership** - the action of leading a group of people or an organisation.