



Biology with sports science



Levels 2 and 3

Tutor Documentation

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Produced by



as part of the NLN Materials Development
Programme

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Section 1 – Introduction to Materials

1. Aims and objectives

This suite of learning units is designed to support the teaching and learning of Biology and Sports science subjects within Further Education colleges across the UK. Specifically, the learning materials are aimed at English Intermediate and AS/A2 level students, Scottish SCQF Levels 4-7.

In total there will be 20 hours of online learning materials released in two stages in March and September 2004. A full list of the learning units is included in Section 2. These comprise three distinct types of learning material:

- tutorial learning units
- case studies
- quizzes.

Subject Area	English Curriculum Level	Scottish Equivalent Level
Human Biology / Sports Science / Physical Education	Levels 2 & 3 (AS/A2)	SCQF Levels 4-7 (Intermediate 1, Intermediate 2, Higher, Advanced Higher, HN Units)

Each learning unit is designed to function through the college Virtual Learning Environment (VLE). Your college ILT Champion will know how to access the units and how to download them into the VLE.

The units are divided into self contained sections of learning, each of which can be accessed individually, or as part of the whole unit. Learners have the option of working through the units in a linear manner, or accessing that part of a unit that is most relevant to their learning needs.

Extensive consultation took place with tutors and students to define the subject areas that would be covered by the learning units. This process highlighted a clear lack of supporting material across a broad expanse of the curriculum. In particular, we were urged to create high quality graphical material, with animations that demonstrated some of the more difficult concepts, such as synapses, which students struggle with and which are difficult to teach using traditional methods.

The resulting learning units have been shown to address a shortfall in the provision of learning materials for the subject areas. User trials across the UK with students and tutors have confirmed that the materials are well received by the target audience.

Students have recognised the value of the learning units as revision aids, and have acknowledged the manner in which they help with project or assignment work. Tutors using the materials in the classroom have enthused about the clarity with which they demonstrate complex subjects, and the exceptionally high quality of the graphical content, in particular the animations contained within the tutorial objects.

2. Target audience

The materials are aimed at a target audience of primarily 16-19 year old Further Education students. However, they are equally applicable to older students studying for qualifications at the levels stated. The materials have been shown to be applicable to a broad curriculum including subjects such as:

- Biology
- Sports science
- Care.


3. Screen design and Orientation

All of the screens have been designed to appeal to a wide audience. Many feature graphical content and/or animations to help convey the learning points contained within the text.

The screenshot shows a digital learning interface. At the top, a dark red header bar contains the text 'Cardiovascular Blood, blood vessels and exercise' and several small icons (a square, a speaker, a refresh symbol, and a question mark). Below the header, the page is divided into two main sections. On the left, a light pink box titled 'Learning objectives' contains the following text: 'The purpose of this topic is to introduce you to the structure and function of blood and the network of vessels that carry it around the body.' This is followed by 'Working through this topic will enable you to:' and a bulleted list: '■ identify the components of blood and their functions', '■ describe the way in which blood is carried around the body', and '■ explain the effects of exercise upon blood and blood vessels.' Below the list, it says 'This topic relates closely to the study of the heart and circulation. If that's a subject you haven't already covered, try learning about it after you've finished working through this material.' On the right, there is a large illustration of a red blood vessel with a cross-section showing red blood cells. A small red box above the vessel says 'circulation on/off'. The entire content is set against a light grey background with a subtle grid pattern.

The learning units are designed to be accessible to the widest possible audience.

The screenshot shows a VLE interface for a learning unit titled 'Muscles' with the sub-topic 'Skeletal muscle structure'. At the top right, there are navigation icons: a checkmark, a speaker, a refresh symbol, and a question mark. The main content area is divided into two text boxes. The left box, titled 'Blood and nerve supply', explains that skeletal muscles have a rich supply of blood vessels and nerves, and that a supply of blood is necessary to provide oxygen and nutrients, while also removing waste and heat. The right box states that nerves are necessary for muscle function and that a skeletal muscle fibre must receive an impulse from a motor neurone before it can contract. Below the text is a diagram of a muscle cross-section. It shows a bundle of muscle fibres surrounded by a blood vessel. A magnified view of a single muscle fibre shows a motor neurone ending in a neuromuscular junction. A 'labels on/off' button is located near the diagram.







On-screen guidance on how to use the materials is available by clicking the 'Help' button  which is available on every screen. Further guidance on how to get the most out of the materials if using assistive technologies is available from the link on the Information screen at the start of each learning unit.

4. Navigation and preferences

Users will be able to set preferences using their workstation or VLE functionality. If audio is not required, users can mute the sound function on their workstation, or use the VLE controls to cancel the audio.

Each tutorial object contains a number of standard navigational elements.

These are:

-   this button toggles between the Flash and plain HTML versions of each screen
-   this buttons switches the page audio on and off
-  this button replays the page audio
-  this button accesses the on-screen Help file.

5. Feedback

Feedback is given to the learner at various points throughout the materials. In the tutorials, formative assessments are provided at the end of each small chunk of learning. Summative assessments are included at the conclusion of each tutorial.

The case study learning units are in essence detailed quizzes. They invite the user to examine information about an athlete or team, and make decisions based on their knowledge. The units provide supportive learning materials to help the user answer the questions. Feedback is provided as though a coach was working alongside the user, and compares the coaches decisions with those of the user.

6. Qualification Mapping

The learning units have been mapped at a high level across a range of level 2 and 3 qualifications. At these levels, tutors and students of a variety of qualifications in biology, sport and care have been involved in the design and user trialling of the learning units.

Extensive and highly successful user trialling of the learning materials has taken place across England and Scotland, involving students studying for the following qualifications:

- BTEC National Diploma in Sports Therapy
- BTEC National Diploma in Sport and Exercise Science
- SVQ Activity Leadership
- HNC Coaching with Sports Development
- HND Coaching with Sports Development
- HND Sports Therapy
- A2 Biology
- BTEC National Diploma in Health and Fitness
- BTEC National Diploma in Sports Science
- AVCE Leisure and Recreation
- NVQ 1 Coaching and Allied Occupations
- SGA Sport and Leisure
- HNC Fitness and Exercise
- HND Fitness and Exercise
- HNC Sports Coaching
- HND Sports Coaching.

This list is intended to give an indication of the type of qualification that the learning units have supported. It is not an exhaustive list of all qualifications for which the learning units are suitable.

7. Using the product

a. Methods of use

The product is made up of three different types of learning materials:

- tutorial units
- case study units
- quizzes.

The tutorials and case studies will work with current versions of Virtual Learning Environments (VLEs). They contain formative and summative assessments covering the subject matter. The quizzes, indicated in Section 2 of this document as QTI quizzes (Question Test Interoperability), will function with those VLEs that have a QTI rendering engine within them. You should check with your ILT champion in college to ascertain whether the VLE to which you have access contains this functionality.

An HTML alternative to each of the QTI quizzes has been created for those colleges who do not have access to a QTI rendering engine. This dual formatting will ensure that the questions are available to all users, and those with QTI rendering engines will have the added ability to customise and add to the question bank to suit their individual needs.

(Please note that the quizzes are available in HTML format (July 2004). It is hoped to make them available in QTI format in the future.)

All of the learning units work well as a means of introducing the subject to students. The animations contained within them are particularly effective at demonstrating complex scientific concepts. The case studies are designed to allow users to practice their coaching skills. They feature real athletes, and the feedback contained within the case studies has been provided by their own coaches. The QTI quizzes are highly effective diagnostic and/or revision tools.

b. Preparations for use

No pre-requisite knowledge or skills are required to use these learning resources.

To access this suite of materials you should contact your ILT champion. They will have access to the NLN website www.nln.ac.uk and will be able to obtain download rights directly from NLN. A Technical Document has been prepared to accompany the Tutor Document, and this is also available from the website.

Technical guidelines on how to download the materials are available from the website, and no charge made for accessing the materials.

c. Use in the curriculum

No specific mapping of these materials has been undertaken, but user trials have established that they are highly relevant for use across a wide range of qualifications and qualification types. Please refer to item 6 above and Section 2 below.

d. Possible methods of customisation by the tutor

The tutorials and case studies are not designed to be customisable. The QTI quizzes are highly customisable and you should contact your ILT champion for more information on how best to take advantage of this functionality.

8. Supplier and partners - background and approach

These learning units have been created by a partnership of theWorkshop and COLEG. Details of the organisations and their respective roles within the project are outlined below.

COLEG – Colleges Open Exchange Learning Group

COLEG is a collaborative partnership of 43 Further Education Colleges in Scotland. COLEG was established to develop learning opportunities through member colleges working together to generate, exchange and promote the use of high quality learning materials in a diverse range of media.

COLEG's key responsibilities within the project were to manage and co-ordinate the development of the curricular content, peer review, pedagogical quality review and trialling.

theWorkshop (Sheffield) Limited

theWorkshop is a design communications and learning solutions organisation based in Sheffield. Our team of 38 designers, content managers, programmers and project managers produce solutions for a wide range of clients from the educational and blue chip sectors.

theWorkshop specialises in the development of bespoke learning solutions in any medium. We passionately believe in the unique value of combining rigorous learning principles with creative thinking and technological innovation.

theWorkshop is a qualified supplier of materials development for Ufl, National Learning Network, Learning and Skills Development Agency and Department for Education and Skills. We created the learning objects for the project ensuring that NLN guidelines were adhered to, and that accessibility issues were considered and addressed from the outset of the project.

Royal National College for the Blind (RNC)

We have worked closely with the RNC at all stages of the project. The learning materials have been user trialled by staff and students from the College at each stage of the development, from prototype to final release. They have provided advice and expertise on a range of accessibility issues, and have thoroughly reviewed the learning materials to ensure that they are accessible to the widest possible audience.

9. Publication and copyright information

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Acknowledgements

COLEG and theWorkshop wish to acknowledge the support of the following organisations and individuals who have assisted in the creation of these learning materials:

Royal National College for the Blind
Edinburgh's Telford College
Chesterfield College
British Olympic Medical Centre
West Cheshire College
Swindon College
Henley College Coventry
Stevenson College
Central College Glasgow

Rob Kay
Ian McLean
Sheffield Eagles

theWorkshop



Section 2 – Description of Learning Units

This section contains an overview of the 56 learning units created for the project

(Please note that the quizzes are available in HTML format (July 2004). It is hoped to make them available in QTI format in the future.)

Section	Learning unit title	Level
Muscles		
	Sliding filament theory	3
	Skeletal muscle structure	3
	Movement and types of contraction	3
	Muscles and movement	2
	Movement of the shoulder complex	3
	Movement of the hip and knee	3
	Movement QTI/HTML quiz	2
	Movement QTI/HTML quiz	3
Breathing		
	Lung structure & function	3
	Ventilation & lung capacities	3
	Structure of the breathing system	2
	Breathing and lung capacities	2
	Respiratory system QTI/HTML quiz	2
	Respiratory system QTI/HTML quiz	3
Nervous system		
	Responding to stimuli	2
	Action potentials	3
	Synapses & nervous control of muscle	3
	Nervous system QTI/HTML Quiz	2
	Nervous system QTI/HTML Quiz	3
Cardiovascular		
	Heart, circulation & exercise	2
	Blood, blood vessels and exercise	2
	Respiratory gases, blood flow and exercise	3
	Electrical activity of the heart	3
	The heart and circulatory system QTI/HTML Quiz	2
	The heart and circulatory system QTI/HTML Quiz	3
Psychology		

	Effective leadership	3
	The effective team	3
	Anxiety and stress	3
Training		
	Training methods and programmes	2
	What is skill?	2
	Training principles and practices	3
	Skill and ability	3
	Training principles and practices QTI/HTML quiz	3
Energy		
	Energy systems	3
	Aerobic respiration	3
	Anaerobic respiration	3
	Training the energy systems	3
	Energy QTI/HTML quiz	3
Skeletal system		
	The skeleton	2
	Joint structure and function	3
Fitness		
	Fitness testing	2
	Cardiovascular and respiratory adaptations to exercise	3
	Testing the elite athlete	3
	What is fitness?	2
	Hypokinetic disorders	3
	Fitness QTI/HTML quiz	2
Coaching		
	Coaching and feedback	3
	Coaching styles	3
	Information processing	3
	Coaching QTI/HTML quiz	3
Biomechanics		
	Linear motion and Newton's laws	3
	Levers	3
Case studies		
	Sam 100m hurdler	3
	Sheffield Eagles	3
	Shaun table tennis player	3
	Hayley swimmer	3

Title	Sliding filament theory
Level	3
Curriculum Area	Sports games and recreation
Objectives	<p>The purpose of this learning unit is to introduce the user to the mechanism of skeletal muscle contraction.</p> <p>Working through this unit will help to:</p> <ul style="list-style-type: none"> • explain the roles of actin, myosin, calcium ions and ATP in myofibril contraction • describe the sliding filament theory.
Description	A 20-minute learning unit covering a range of difficult scientific concepts involved in myofibril contraction and sliding filament theory. It contains formative and summative assessments to ensure that the learning objectives are successfully covered.
Suggested Curriculum Use	<p>This learning unit works well as an introduction to the subject matter.</p> <p>Of particular use are the graphical elements which separate out the various elements of muscle tissue to explain how the theory works. Animations help the user to visualise the concepts covered.</p> <p>Feedback from user trials has confirmed that this unit works well as a revision tool. The animations show up well when the unit is projected onto a whiteboard and it has proved to be exceptionally useful as a classroom resource.</p>
Audio	Yes
Accessibility	Fully accessible
Additional Info.	N/a
File Size (uncompressed)	<p>10.4Mb (average).</p> <p>File size is different (increases) when uploaded to Xtensis. This figure is an estimated calculation of the size of a middle-sized unit after uploading.</p>

Title	Skeletal muscle structure
Level	3
Curriculum Area	Sports games and recreation
Objectives	<p>The purpose of this learning unit is to introduce the user to the structure of skeletal muscle and the different muscle fibre types.</p> <p>Working through this unit will help to:</p> <ul style="list-style-type: none"> • describe the gross structure of skeletal muscle (fascia, blood and nerve supply, attachments) and the structure, location and general properties of slow and fast skeletal muscle fibres • explain adaptations to endurance training, including muscle fibre type II changes.
Description	A 20-minute learning unit that explains the components, differences and structure of skeletal muscles. It contains formative and summative assessments to ensure that the learning objectives are successfully covered.
Suggested Curriculum Use	<p>This learning unit works well as an introduction to the subject matter.</p> <p>Of particular use are the graphical cross-sections that help to illustrate the components of skeletal muscles. Animations help the user to visualise the concepts covered.</p> <p>Feedback from user trials has confirmed that this unit works well as a revision tool. The animations show up well when the unit is projected onto a whiteboard and it has proved to be exceptionally useful as a classroom resource.</p>
Audio	Yes
Accessibility	Fully accessible
Additional Info.	N/a
File Size (uncompressed)	<p>10.4Mb (average).</p> <p>File size is different (increases) when uploaded to Xtensis. This figure is an estimated calculation of the size of a middle-sized unit after uploading.</p>

Title	Movement and types of contraction
Level	3
Curriculum Area	Sports games and recreation
Objectives	<p>The purpose of this learning unit is to examine how muscles work together to produce movements and how to use this knowledge to develop training programmes for athletes.</p> <p>Working through this unit will help to:</p> <ul style="list-style-type: none"> • define the terms agonist, antagonist, fixator and synergist • explain the difference between concentric, eccentric, isometric, isokinetic and isotonic contraction • define plyometric training and explain the principles behind it.
Description	A 20-minute learning unit covering the range of muscle contractions involved in movement and how this is applied to plyometric training. It contains formative and summative assessments to ensure that the learning objectives are successfully covered.
Suggested Curriculum Use	<p>This learning unit works well as an introduction to the subject matter.</p> <p>Of particular use are the graphical elements which illustrate the types of muscle contraction and animate to help the user to visualise the concepts covered.</p> <p>Feedback from user trials has confirmed that this unit works well as a revision tool. The animations show up well when the unit is projected onto a whiteboard and it has proved to be exceptionally useful as a classroom resource.</p>
Audio	Yes
Accessibility	Fully accessible
Additional Info.	N/a
File Size (uncompressed)	<p>10.4Mb (average).</p> <p>File size is different (increases) when uploaded to Xtensis. This figure is an estimated calculation of the size of a middle-sized unit after uploading.</p>

Title	Muscles and movement
Level	2
Curriculum Area	Sports games and recreation
Objectives	<p>The purpose of this learning unit is to look at different types of muscle, introduce the main skeletal muscles and understand how different types of muscle fibre contribute to sporting performance.</p> <p>Working through this unit will help to:</p> <ul style="list-style-type: none"> • explain the different purposes of cardiac, involuntary and voluntary muscle • identify the major skeletal muscles and describe their action • outline the different functions of fast twitch and slow twitch fibres.
Description	A 20-minute learning unit which classifies all the bodies muscles into three main groups. It contains formative and summative assessments to ensure that the learning objectives are successfully covered.
Suggested Curriculum Use	<p>This learning unit works well as an introduction to the subject matter.</p> <p>Of particular use are the graphical elements which illustrate the different skeletal muscles in a sporting context. Animations help the user to visualise the concepts covered.</p> <p>Feedback from user trials has confirmed that this unit works well as a revision tool. The animations show up well when the unit is projected onto a whiteboard and it has proved to be exceptionally useful as a classroom resource.</p>
Audio	Yes
Accessibility	Fully accessible
Additional Info.	N/a
File Size (uncompressed)	<p>10.4Mb (average).</p> <p>File size is different (increases) when uploaded to Xtensis. This figure is an estimated calculation of the size of a middle-sized unit after uploading.</p>

Title	Movement of the shoulder complex
Level	3
Curriculum Area	Sports games and recreation
Objectives	<p>The purpose of this learning unit is to examine the shoulder complex and to look at how muscles of the shoulder girdle and the shoulder joint move.</p> <p>Working through this unit will help to:</p> <ul style="list-style-type: none"> • identify the prime movers of the shoulder girdle and shoulder joint • describe the origin, insertion and action of the muscles involved • outline how the movements of the shoulder girdle and the shoulder joint are connected.
Description	A 20-minute learning unit explaining the bones and muscles in the shoulder and the wide range of shoulder movements. It contains formative and summative assessments to ensure that the learning objectives are successfully covered.
Suggested Curriculum Use	<p>This learning unit works well as an introduction to the subject matter.</p> <p>Of particular use are the graphical elements which illustrate the components of the shoulder complex. Animations help the user to visualise the movements.</p> <p>Feedback from user trials has confirmed that this unit works well as a revision tool. The animations show up well when the unit is projected onto a whiteboard and it has proved to be exceptionally useful as a classroom resource.</p>
Audio	Yes
Accessibility	Fully accessible
Additional Info.	N/a
File Size (uncompressed)	<p>10.4Mb (average).</p> <p>File size is different (increases) when uploaded to Xtensis. This figure is an estimated calculation of the size of a middle-sized unit after uploading.</p>

Title	Movement of the hip and knee
Level	3
Curriculum Area	Sports games and recreation
Objectives	<p>The purpose of this learning unit is to examine the hip and knee joints and look at how muscles make the movements of the hip and knee.</p> <p>Working through this unit will help to:</p> <ul style="list-style-type: none"> • identify the prime movers of the hip and knee joints • list the origin, insertion and action of the muscles involved • outline how the hip and knee work together in simple movements.
Description	A 20-minute learning unit explaining the bones and muscles in the hip and knee and the wide range of movements. It contains formative and summative assessments to ensure that the learning objectives are successfully covered.
Suggested Curriculum Use	<p>This learning unit works well as an introduction to the subject matter.</p> <p>Of particular use are the graphical elements which illustrate the components of the hip and knee. Animations help the user to visualise the movements.</p> <p>Feedback from user trials has confirmed that this unit works well as a revision tool. The animations show up well when the unit is projected onto a whiteboard and it has proved to be exceptionally useful as a classroom resource.</p>
Audio	Yes
Accessibility	Fully accessible
Additional Info.	N/a
File Size (uncompressed)	<p>10.4Mb (average).</p> <p>File size is different (increases) when uploaded to Xtensis. This figure is an estimated calculation of the size of a middle-sized unit after uploading.</p>

Title	Movement QTI/HTML Quiz
Level	2
Curriculum Area	Sports games and recreation
Objectives	A general knowledge quiz on the subject of movement aimed at Level 2 students.
Description	A 20-minute learning unit covering a range of topics about movement.
Suggested Curriculum Use	<p>A flexible quiz that may be used for formative and summative assessment, or diagnostic/revision purposes. It aims to ensure that the material covered in the associated learning units is understood.</p> <p>The QTI quizzes are customisable, and you should contact your college ILT champion for more information on how to tailor these quizzes to your specific requirements.</p>
Audio	No
Accessibility	QTI quiz not accessible. HTML quiz fully accessible.
Additional Info.	N/a
File Size (uncompressed)	200 KB (average).

Title	Movement QTI/HTML Quiz
Level	3
Curriculum Area	Sports games and recreation
Objectives	A general knowledge quiz on the subject of movement aimed at Level 3 students.
Description	A 20-minute learning unit covering a range of topics about movement.
Suggested Curriculum Use	<p>A flexible quiz that may be used for formative and summative assessment, or diagnostic/revision purposes. It aims to ensure that the material covered in the associated learning units is understood.</p> <p>The QTI quizzes are customisable, and you should contact your college ILT champion for more information on how to tailor these quizzes to your specific requirements.</p>
Audio	No
Accessibility	QTI quiz not accessible. HTML quiz fully accessible.
Additional Info.	N/a
File Size (uncompressed)	200 KB (average).

Title	Lung structure and function
Level	3
Curriculum Area	Sports games and recreation
Objectives	<p>The purpose of this learning unit is to examine the structure and function of human lungs.</p> <p>Working through this unit will help to:</p> <ul style="list-style-type: none"> • describe how the structure of human lungs is well suited to their function • explain the adaptations required for optimum gas exchange.
Description	A 20-minute learning unit explaining the purpose, components and function of the lungs to supply oxygen to all body cells. It contains formative and summative assessments to ensure that the learning objectives are successfully covered.
Suggested Curriculum Use	<p>This learning unit works well as an introduction to the subject matter.</p> <p>Of particular use are the graphical elements which illustrate the components of the lungs and the concept of respiratory gas diffusion. Animations help the user to visualise the concepts covered.</p> <p>Feedback from user trials has confirmed that this unit works well as a revision tool. The animations show up well when the unit is projected onto a whiteboard and it has proved to be exceptionally useful as a classroom resource.</p>
Audio	Yes
Accessibility	Fully accessible
Additional Info.	N/a
File Size (uncompressed)	<p>10.4Mb (average).</p> <p>File size is different (increases) when uploaded to Xtensis. This figure is an estimated calculation of the size of a middle-sized unit after uploading.</p>

Title	Ventilation and lung capacities
Level	3
Curriculum Area	Sports games and recreation
Objectives	<p>The purpose of this learning unit is to examine the mechanism of ventilation of the lungs and the effect of exercise on rate and depth of breathing.</p> <p>Working through this unit will help to:</p> <ul style="list-style-type: none"> • explain how ventilation of the lungs moves air in and out of the breathing spaces • describe various lung volumes at rest and during exercise.
Description	A 20-minute learning unit covering the concepts of ventilation and lung capacity. It contains formative and summative assessments to ensure that the learning objectives are successfully covered.
Suggested Curriculum Use	<p>This learning unit works well as an introduction to the subject matter.</p> <p>Of particular use are the graphical elements which illustrate the components of the thoracic cavity. Animations help the user to visualise the concepts covered.</p> <p>Feedback from user trials has confirmed that this unit works well as a revision tool. The animations show up well when the unit is projected onto a whiteboard and it has proved to be exceptionally useful as a classroom resource.</p>
Audio	Yes
Accessibility	Fully accessible
Additional Info.	N/a
File Size (uncompressed)	<p>10.4Mb (average).</p> <p>File size is different (increases) when uploaded to Xtensis. This figure is an estimated calculation of the size of a middle-sized unit after uploading.</p>

Title	Structure of the breathing system
Level	2
Curriculum Area	Sports games and recreation
Objectives	<p>The purpose of this learning unit is to introduce the structure and function of human lungs.</p> <p>Working through this unit will help to:</p> <ul style="list-style-type: none"> • describe the structure of human lungs • explain the process of gas exchange • identify how exercise and training improve gas exchange.
Description	A 20-minute learning unit explaining the breathing system. It contains formative and summative assessments to ensure that the learning objectives are successfully covered.
Suggested Curriculum Use	<p>This learning unit works well as an introduction to the subject matter.</p> <p>Of particular use are the graphical elements which illustrate the components of the lungs and thorax. Animations help the user to visualise the concept of respiratory gas exchange.</p> <p>Feedback from user trials has confirmed that this unit works well as a revision tool. The animations show up well when the unit is projected onto a whiteboard and it has proved to be exceptionally useful as a classroom resource.</p>
Audio	Yes
Accessibility	Fully accessible
Additional Info.	N/a
File Size (uncompressed)	<p>10.4Mb (average).</p> <p>File size is different (increases) when uploaded to Xtensis. This figure is an estimated calculation of the size of a middle-sized unit after uploading.</p>

Title	Breathing and lung capacities
Level	2
Curriculum Area	Sports games and recreation
Objectives	<p>The purpose of this learning unit is to examine how humans breathe in and out, and the effect of exercise on how fast and how deeply we breathe.</p> <p>Working through this unit will help to:</p> <ul style="list-style-type: none"> • explain how breathing moves air in and out of the lungs • describe various lung volumes at rest and during exercise.
Description	A 20-minute learning unit explaining the breathing system and the effect of exercise. It contains formative and summative assessments to ensure that the learning objectives are successfully covered.
Suggested Curriculum Use	<p>This learning unit works well as an introduction to the subject matter.</p> <p>Of particular use are the graphical elements which show the breathing system, and the animations that help the user to visualise the effects of exercise.</p> <p>Feedback from user trials has confirmed that this unit works well as a revision tool. The animations show up well when the unit is projected onto a whiteboard and it has proved to be exceptionally useful as a classroom resource.</p>
Audio	Yes
Accessibility	Fully accessible
Additional Info.	N/a
File Size (uncompressed)	<p>10.4Mb (average).</p> <p>File size is different (increases) when uploaded to Xtensis. This figure is an estimated calculation of the size of a middle-sized unit after uploading.</p>

Title	Respiratory system QTI/HTML Quiz
Level	2
Curriculum Area	Sports games and recreation
Objectives	A general knowledge quiz on the subject of the respiratory system aimed at Level 2 students.
Description	A 20-minute learning unit covering a range of topics about the respiratory system.
Suggested Curriculum Use	<p>A flexible quiz that may be used for formative and summative assessment, or diagnostic/revision purposes. It aims to ensure that the material covered in the associated learning units is understood.</p> <p>The QTI quizzes are customisable, and you should contact your college ILT champion for more information on how to tailor these quizzes to your specific requirements.</p>
Audio	No
Accessibility	QTI quiz not accessible. HTML quiz fully accessible.
Additional Info.	N/a
File Size (uncompressed)	200 KB (average).

Title	Respiratory system QTI/HTML Quiz
Level	3
Curriculum Area	Sports games and recreation
Objectives	A general knowledge quiz on the subject of the respiratory system aimed at Level 3 students.
Description	A 20-minute learning unit covering a range of topics about the respiratory system.
Suggested Curriculum Use	<p>A flexible quiz that may be used for formative and summative assessment, or diagnostic/revision purposes. It aims to ensure that the material covered in the associated learning units is understood.</p> <p>The QTI quizzes are customisable, and you should contact your college ILT champion for more information on how to tailor these quizzes to your specific requirements.</p>
Audio	No
Accessibility	QTI quiz not accessible. HTML quiz fully accessible.
Additional Info.	N/a
File Size (uncompressed)	200 KB (average).

Title	Responding to stimuli
Level	2
Curriculum Area	Sports games and recreation
Objectives	<p>The purpose of this learning unit is to introduce the structure and function of the human nervous system.</p> <p>Working through this unit will help to:</p> <ul style="list-style-type: none"> • identify the main components and functions of the nervous system • explain how information is transmitted through the nervous system • describe a reflex arc and differentiate between involuntary (reflex) and voluntary responses.
Description	A 20-minute learning unit explaining how information is transmitted through the human nervous system. It contains formative and summative assessments to ensure that the learning objectives are successfully covered.
Suggested Curriculum Use	<p>This learning unit works well as an introduction to the subject matter.</p> <p>Of particular use are the graphical elements which illustrate the components of the nervous system. Animations help the user to visualise the transfer of information through the neurones in the nervous system.</p> <p>Feedback from user trials has confirmed that this unit works well as a revision tool. The animations show up well when the unit is projected onto a whiteboard and it has proved to be exceptionally useful as a classroom resource.</p>
Audio	Yes
Accessibility	Fully accessible
Additional Info.	N/a
File Size (uncompressed)	<p>10.4Mb (average).</p> <p>File size is different (increases) when uploaded to Xtensis. This figure is an estimated calculation of the size of a middle-sized unit after uploading.</p>

Title	Action potentials
Level	3
Curriculum Area	Sports games and recreation
Objectives	<p>The purpose of this learning unit is to explain the electrochemical process by which impulses (also known as action potentials) travel along a neurone.</p> <p>Working through this unit will help to:</p> <ul style="list-style-type: none"> • identify the structures involved in the transmission of impulses within a neurone • describe the mechanism by which an impulse is generated and transmitted.
Description	A 20-minute learning unit explaining action potentials, their purpose and how they are generated. It contains formative and summative assessments to ensure that the learning objectives are successfully covered.
Suggested Curriculum Use	<p>This learning unit works well as an introduction to the subject matter.</p> <p>Of particular use are the graphical elements which illustrate the components of the nervous system and the animations that help the user to visualise the electrochemical process by which the impulses travel along a neurone.</p> <p>Feedback from user trials has confirmed that this unit works well as a revision tool. The animations show up well when the unit is projected onto a whiteboard and it has proved to be exceptionally useful as a classroom resource.</p>
Audio	Yes
Accessibility	Fully accessible
Additional Info.	N/a
File Size (uncompressed)	<p>10.4Mb (average).</p> <p>File size is different (increases) when uploaded to Xtensis. This figure is an estimated calculation of the size of a middle-sized unit after uploading.</p>

Title	Synapses and nervous control of muscles
Level	3
Curriculum Area	Sports games and recreation
Objectives	<p>The purpose of this learning unit is to explore the means by which electrical impulses are transmitted between nerve cells and to muscles.</p> <p>Working through this unit will help to:</p> <ul style="list-style-type: none"> • explain the process of synaptic transmission • describe how the nervous system interacts with muscles at neuromuscular junctions.
Description	A 20-minute learning unit explaining the action that occurs at synapses and the effects of muscles. It contains formative and summative assessments to ensure that the learning objectives are successfully covered.
Suggested Curriculum Use	<p>This learning unit works well as an introduction to the subject matter. However, to get the most out of this unit, it is advised that the user already has a basic understanding of the nervous system and action potentials.</p> <p>Of particular use are the graphical elements which illustrate the neurones and synapses and the animations that help the user to visualise the action at the synapses in transmitting impulses.</p> <p>Feedback from user trials has confirmed that this unit works well as a revision tool. The animations show up well when the unit is projected onto a whiteboard and it has proved to be exceptionally useful as a classroom resource.</p>
Audio	Yes
Accessibility	Fully accessible
Additional Info.	N/a
File Size (uncompressed)	<p>10.4Mb (average).</p> <p>File size is different (increases) when uploaded to Xtensis. This figure is an estimated calculation of the size of a middle-sized unit after uploading.</p>

Title	Nervous system QTI/HTML Quiz
Level	2
Curriculum Area	Sports games and recreation
Objectives	A general knowledge quiz on the subject of the nervous system aimed at Level 2 students.
Description	A 20-minute learning unit covering a range of topics about the nervous system.
Suggested Curriculum Use	<p>A flexible quiz that may be used for formative and summative assessment, or diagnostic/revision purposes. It aims to ensure that the material covered in the associated learning units is understood.</p> <p>The QTI quizzes are customisable, and you should contact your college ILT champion for more information on how to tailor these quizzes to your specific requirements.</p>
Audio	No
Accessibility	QTI quiz not accessible. HTML quiz fully accessible.
Additional Info.	N/a
File Size (uncompressed)	200 KB (average).

Title	Nervous system QTI/HTML Quiz
Level	3
Curriculum Area	Sports games and recreation
Objectives	A general knowledge quiz on the subject of the nervous system aimed at Level 3 students.
Description	A 20-minute learning unit covering a range of topics about the nervous system.
Suggested Curriculum Use	<p>A flexible quiz that may be used for formative and summative assessment, or diagnostic/revision purposes. It aims to ensure that the material covered in the associated learning units is understood.</p> <p>The QTI quizzes are customisable, and you should contact your college ILT champion for more information on how to tailor these quizzes to your specific requirements.</p>
Audio	No
Accessibility	QTI quiz not accessible. HTML quiz fully accessible.
Additional Info.	N/a
File Size (uncompressed)	200 KB (average).

Title	Heart, circulation and exercise
Level	2
Curriculum Area	Sports games and recreation
Objectives	<p>The purpose of this learning unit is to introduce the human heart, circulation and the effects of exercise on the circulatory system.</p> <p>Working through this unit will help to:</p> <ul style="list-style-type: none"> • identify the main structures in the system • describe the double circulatory system • explain the effects of exercise on the circulatory system.
Description	A 20-minute learning unit explaining the structure and function of the heart. It contains formative and summative assessments to ensure that the learning objectives are successfully covered.
Suggested Curriculum Use	<p>This learning unit works well as an introduction to the subject matter. This unit ties in closely with the study of blood and blood vessels.</p> <p>Of particular use are the graphical elements which illustrate the components of the heart and circulatory system. Animations help the user to visualise the heart's three-stage pumping cycle, and the effect of exercise on the heart rate.</p> <p>Feedback from user trials has confirmed that this unit works well as a revision tool. The animations show up well when the unit is projected onto a whiteboard and it has proved to be exceptionally useful as a classroom resource.</p>
Audio	Yes
Accessibility	Fully accessible
Additional Info.	N/a
File Size (uncompressed)	<p>10.4Mb (average).</p> <p>File size is different (increases) when uploaded to Xtensis. This figure is an estimated calculation of the size of a middle-sized unit after uploading.</p>

Title	Blood, blood vessels and exercise
Level	2
Curriculum Area	Sports games and recreation
Objectives	<p>The purpose of this learning unit is to introduce the structure and function of blood and the network of vessels that carry it around the body.</p> <p>Working through this unit will help to:</p> <ul style="list-style-type: none"> • identify the components of blood and their functions • describe the way in which blood is carried around the body • explain the effects of exercise upon blood and blood vessels.
Description	A 20-minute learning unit explaining the components of blood and how it is carried around the body. It contains formative and summative assessments to ensure that the learning objectives are successfully covered.
Suggested Curriculum Use	<p>This learning unit works well as an introduction to the subject matter. This unit relates closely to the study of the heart and circulation.</p> <p>Of particular use are the graphical elements which illustrate the components of blood and the vascular system. Animations help the user to visualise the flow of blood through the blood vessels.</p> <p>Feedback from user trials has confirmed that this unit works well as a revision tool. The animations show up well when the unit is projected onto a whiteboard and it has proved to be exceptionally useful as a classroom resource.</p>
Audio	Yes
Accessibility	Fully accessible
Additional Info.	N/a
File Size (uncompressed)	<p>10.4Mb (average).</p> <p>File size is different (increases) when uploaded to Xtensis. This figure is an estimated calculation of the size of a middle-sized unit after uploading.</p>

Title	Respiratory gases, blood flow and exercise
Level	3
Curriculum Area	Sports games and recreation
Objectives	<p>The purpose of this learning unit is to explain how oxygen and carbon dioxide are transported and managed by the body, and the implications for physical exercise and training.</p> <p>Working through this unit will help to:</p> <ul style="list-style-type: none"> • identify the respiratory gases and their means of transport around the body • explain how haemoglobin collects and releases oxygen depending on the needs of particular tissues • describe the ways in which blood flow accommodates to the demands of exercise.
Description	A 20-minute learning unit explaining how respiratory gases are transported around the body via the blood. It contains formative and summative assessments to ensure that the learning objectives are successfully covered.
Suggested Curriculum Use	<p>This learning unit works well as an introduction to the subject matter. However, to get the most out of this unit, it is advised that the user already has a basic understanding of the structure and function of the heart and circulatory system.</p> <p>Of particular use are the graphical elements and animations which help the user to visualise the components of the blood and blood flow.</p> <p>Feedback from user trials has confirmed that this unit works well as a revision tool. The animations show up well when the unit is projected onto a whiteboard and it has proved to be exceptionally useful as a classroom resource.</p>
Audio	Yes
Accessibility	Fully accessible
Additional Info.	N/a
File Size (uncompressed)	<p>10.4Mb (average).</p> <p>File size is different (increases) when uploaded to Xtensis. This figure is an estimated calculation of the size of a middle-sized unit after uploading.</p>

Title	Electrical activity of the heart
Level	3
Curriculum Area	Sports games and recreation
Objectives	<p>The purpose of this learning unit is to explain the electrical activity of the heart and how this relates to its role as the body's pump.</p> <p>Working through this unit will help to:</p> <ul style="list-style-type: none"> • describe how the heart is specialised to generate and conduct electrical impulses • describe the cardiac cycle and how this relates to electrical stimulation and conduction in the heart • interpret an ECG trace in terms of the cardiac cycle and electrical activity • explain how exercise affects homeostatic control of the heart.
Description	A 20-minute learning unit that describes the structure of the body's pump, the cardiac cycle and the cardiac conduction system. It contains formative and summative assessments to ensure that the learning objectives are successfully covered.
Suggested Curriculum Use	<p>This learning unit works well as an introduction to the subject matter. However, to get the most out of this unit, it is advised that the user already has a basic understanding of the heart, circulatory system, electrical impulses and muscular contraction.</p> <p>Of particular use are the graphical cross-sections that help to illustrate the components of the heart, and the animations that help the user to visualise the cardiac cycle and conduction system.</p> <p>Feedback from user trials has confirmed that this unit works well as a revision tool. The animations show up well when the unit is projected onto a whiteboard and it has proved to be exceptionally useful as a classroom resource.</p>
Audio	Yes
Accessibility	Fully accessible
Additional Info.	N/a

File Size (uncompressed)	10.4Mb (average). File size is different (increases) when uploaded to Xtensis. This figure is an estimated calculation of the size of a middle-sized unit after uploading.
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Title	The heart and circulatory system QTI/HTML Quiz
Level	2
Curriculum Area	Sports games and recreation
Objectives	A general knowledge quiz on the subject of the heart and circulatory system aimed at Level 2 students.
Description	A 20-minute learning unit covering a range of topics about the heart and circulatory system.
Suggested Curriculum Use	<p>A flexible quiz that may be used for formative and summative assessment, or diagnostic/revision purposes. It aims to ensure that the material covered in the associated learning units is understood.</p> <p>The QTI quizzes are customisable, and you should contact your college ILT champion for more information on how to tailor these quizzes to your specific requirements.</p>
Audio	No
Accessibility	QTI quiz not accessible. HTML quiz fully accessible.
Additional Info.	N/a
File Size (uncompressed)	200 KB (average).

Title	The heart and circulatory system QTI/HTML Quiz
Level	3
Curriculum Area	Sports games and recreation
Objectives	A general knowledge quiz on the subject of the heart and circulatory system aimed at Level 3 students.
Description	A 20-minute learning unit covering a range of topics about the heart and circulatory system.
Suggested Curriculum Use	<p>A flexible quiz that may be used for formative and summative assessment, or diagnostic/revision purposes. It aims to ensure that the material covered in the associated learning units is understood.</p> <p>The QTI quizzes are customisable, and you should contact your college ILT champion for more information on how to tailor these quizzes to your specific requirements.</p>
Audio	No
Accessibility	QTI quiz not accessible. HTML quiz fully accessible.
Additional Info.	N/a
File Size (uncompressed)	200 KB (average).

Title	Effective leadership
Level	3
Curriculum Area	Sports games and recreation
Objectives	<p>The purpose of this learning unit is to introduce the user to the psychology of leadership.</p> <p>Working through this unit will help to:</p> <ul style="list-style-type: none"> • define leadership • explain the role of leadership in sport • describe and compare different theories of leadership • use an interactional model to explore effective leadership.
Description	A 20-minute learning unit covering what makes a good leader, theories and leadership characteristics. It contains formative and summative assessments to ensure that the learning objectives are successfully covered.
Suggested Curriculum Use	<p>This learning unit works well as an introduction to the subject matter. It relates closely to the study of team psychology.</p> <p>Of particular use are the graphical elements which help the user to visualise the different examples of social learning.</p> <p>Feedback from user trials has confirmed that this unit works well as a revision tool. The animations show up well when the unit is projected onto a whiteboard and it has proved to be exceptionally useful as a classroom resource.</p>
Audio	Yes
Accessibility	Fully accessible
Additional Info.	N/a
File Size (uncompressed)	<p>10.4Mb (average).</p> <p>File size is different (increases) when uploaded to Xtensis. This figure is an estimated calculation of the size of a middle-sized unit after uploading.</p>

Title	The effective team
Level	3
Curriculum Area	Sports games and recreation
Objectives	<p>The purpose of this learning unit is to introduce the psychological factors that affect groups such as teams.</p> <p>Working through this unit will help to:</p> <ul style="list-style-type: none"> • appreciate that individuals function differently when in a group • identify characteristics of group behaviour • recognise factors that hinder a team's performance • explore strategies that will help to create an effective team.
Description	A 20-minute learning unit that explains a number of factors that impact on team effectiveness. It contains formative and summative assessments to ensure that the learning objectives are successfully covered.
Suggested Curriculum Use	<p>This learning unit works well as an introduction to the subject matter.</p> <p>Of particular use are the graphical which illustrate the group roles and the animations that demonstrate individuals working together as a team.</p> <p>Feedback from user trials has confirmed that this unit works well as a revision tool. The animations show up well when the unit is projected onto a whiteboard and it has proved to be exceptionally useful as a classroom resource.</p>
Audio	Yes
Accessibility	Fully accessible
Additional Info.	N/a
File Size (uncompressed)	<p>10.4Mb (average).</p> <p>File size is different (increases) when uploaded to Xtensis. This figure is an estimated calculation of the size of a middle-sized unit after uploading.</p>

Title	Anxiety and stress
Level	3
Curriculum Area	Sports games and recreation
Objectives	<p>The purpose of this learning unit is to explore the nature, effects and management of anxiety and stress in sport.</p> <p>Working through this unit will help to:</p> <ul style="list-style-type: none"> • define and distinguish between arousal, anxiety and stress • outline the types and components of anxiety • explore some theoretical explanations of anxiety and their application to sport • examine the impact and management of anxiety and stress.
Description	A 20-minute learning unit covering the types and theories of anxiety and stress, and how to measure and manage them. It contains formative and summative assessments to ensure that the learning objectives are successfully covered.
Suggested Curriculum Use	<p>This learning unit works well as an introduction to the subject matter.</p> <p>Of particular use are the graphical elements which illustrate the effects of anxiety and stress on different athletes. Animations help the user to visualise the concepts covered.</p> <p>Feedback from user trials has confirmed that this unit works well as a revision tool. The animations show up well when the unit is projected onto a whiteboard and it has proved to be exceptionally useful as a classroom resource.</p>
Audio	Yes
Accessibility	Fully accessible
Additional Info.	N/a
File Size (uncompressed)	<p>10.4Mb (average).</p> <p>File size is different (increases) when uploaded to Xtensis. This figure is an estimated calculation of the size of a middle-sized unit after uploading.</p>

Title	Training methods and programmes
Level	2
Curriculum Area	Sports games and recreation
Objectives	<p>The purpose of this learning unit is to introduce the user to the significance of training for an athlete. It outlines some of the methods used and how training can be structured and planned.</p> <p>Working through this unit will help to:</p> <ul style="list-style-type: none"> • define training and identify its purpose for an athlete • describe some key training methods • explain how and why training should be planned.
Description	A 20-minute learning unit covering a variety of training methods and guidance on planning training sessions. It contains formative and summative assessments to ensure that the learning objectives are successfully covered.
Suggested Curriculum Use	<p>This learning unit works well as an introduction to the subject matter. However, to get the most out of this unit, it is advised that the user already has a basic understanding of muscles, the respiratory system, the cardiovascular system and fitness.</p> <p>Of particular use are the graphical elements which illustrate the different training methods, and the animations showing the breakdown of glucose in the blood.</p> <p>Feedback from user trials has confirmed that this unit works well as a revision tool. The animations show up well when the unit is projected onto a whiteboard and it has proved to be exceptionally useful as a classroom resource.</p>
Audio	Yes
Accessibility	Fully accessible
Additional Info.	N/a
File Size (uncompressed)	<p>10.4Mb (average).</p> <p>File size is different (increases) when uploaded to Xtensis. This figure is an estimated calculation of the size of a middle-sized unit after uploading.</p>

Title	What is skill?
Level	2
Curriculum Area	Sports games and recreation
Objectives	<p>The purpose of this learning unit is to introduce the user to skill.</p> <p>Working through this unit will help to:</p> <ul style="list-style-type: none"> • define skill • classify skill • describe how a skill is learned.
Description	A 20-minute learning unit covering the different types of skill, transfer of skills and how skills are learned. It contains formative and summative assessments to ensure that the learning objectives are successfully covered.
Suggested Curriculum Use	<p>This learning unit works well as an introduction to the subject matter. However, to get the most out of this unit, it is advised that the user relates the content to their experience of performing in a sport.</p> <p>Of particular use are the graphical elements and animations which illustrate the different types of skill and help the user visualise the concepts covered.</p> <p>Feedback from user trials has confirmed that this unit works well as a revision tool. The animations show up well when the unit is projected onto a whiteboard and it has proved to be exceptionally useful as a classroom resource.</p>
Audio	Yes
Accessibility	Fully accessible
Additional Info.	N/a
File Size (uncompressed)	<p>10.4Mb (average).</p> <p>File size is different (increases) when uploaded to Xtensis. This figure is an estimated calculation of the size of a middle-sized unit after uploading.</p>

Title	Training principles and practices
Level	3
Curriculum Area	Sports games and recreation
Objectives	<p>The purpose of this learning unit is to develop the user's understanding of the principles underlying training for sport, and to explore some of the methods and planning practices used.</p> <p>Working through this unit will help to:</p> <ul style="list-style-type: none"> • describe the principles that guide good training practice • identify a variety of training methods • explain the effects of different training methods • outline the importance and features of training plans.
Description	A 20-minute learning unit describing a variety of training principles and training methods. It contains formative and summative assessments to ensure that the learning objectives are successfully covered.
Suggested Curriculum Use	<p>This learning unit works well as an introduction to the subject matter. However, to get the most out of this unit, it is advised that the user already has a basic understanding of the cardio respiratory system, physiological adaptations to exercise and the basics of fitness.</p> <p>Of particular use are the graphical elements and animations which illustrate the different training methods.</p> <p>Feedback from user trials has confirmed that this unit works well as a revision tool. The animations show up well when the unit is projected onto a whiteboard and it has proved to be exceptionally useful as a classroom resource.</p>
Audio	Yes
Accessibility	Fully accessible
Additional Info.	N/a

File Size (uncompressed)	10.4Mb (average). File size is different (increases) when uploaded to Xtensis. This figure is an estimated calculation of the size of a middle-sized unit after uploading.
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Title	Skill and ability
Level	3
Curriculum Area	Sports games and recreation
Objectives	<p>The purpose of this learning unit is to introduce the user to skill and ability and to the different factors that make a performer skilful.</p> <p>Working through this unit will help to:</p> <ul style="list-style-type: none"> • define different types of skill • classify the different types of skill • understand the relationship between skill and ability.
Description	A 20-minute learning unit covering the definition, types and classification of skill, and the elements of ability. It contains formative and summative assessments to ensure that the learning objectives are successfully covered.
Suggested Curriculum Use	<p>This learning unit works well as an introduction to the subject matter. However, to get the most out of this unit, it is advised that the user relates the content to their experience of performing in a sport.</p> <p>Of particular use are the graphical elements and animations which help the user to visualise the range of skills in sports.</p> <p>Feedback from user trials has confirmed that this unit works well as a revision tool. The animations show up well when the unit is projected onto a whiteboard and it has proved to be exceptionally useful as a classroom resource.</p>
Audio	Yes
Accessibility	Fully accessible
Additional Info.	N/a
File Size (uncompressed)	<p>10.4Mb (average).</p> <p>File size is different (increases) when uploaded to Xtensis. This figure is an estimated calculation of the size of a middle-sized unit after uploading.</p>

Title	Training principles and practices QTI/HTML Quiz
Level	3
Curriculum Area	Sports games and recreation
Objectives	A general knowledge quiz on the subject of training principles and practices aimed at Level 3 students.
Description	A 20-minute learning unit covering a range of topics about training principles and practices.
Suggested Curriculum Use	<p>A flexible quiz that may be used for formative and summative assessment, or diagnostic/revision purposes. It aims to ensure that the material covered in the associated learning units is understood.</p> <p>The QTI quizzes are customisable, and you should contact your college ILT champion for more information on how to tailor these quizzes to your specific requirements.</p>
Audio	No
Accessibility	QTI quiz not accessible. HTML quiz fully accessible.
Additional Info.	N/a
File Size (uncompressed)	200 KB (average).

Title	Energy systems
Level	3
Curriculum Area	Sports games and recreation
Objectives	<p>The purpose of this learning unit is to explore the energy systems used in cells.</p> <p>Working through this unit will help to:</p> <ul style="list-style-type: none"> • know how energy is transferred during respiration • explain how ATP can provide the energy for cellular activities.
Description	A 20-minute learning unit covering the concepts of energy transfer and ATP. It contains formative and summative assessments to ensure that the learning objectives are successfully covered.
Suggested Curriculum Use	<p>This learning unit works well as an introduction to the subject matter.</p> <p>Of particular use are the graphical elements which help to explain ATP, oxidation and reduction. Animations help the user to visualise the concepts covered.</p> <p>Feedback from user trials has confirmed that this unit works well as a revision tool. The animations show up well when the unit is projected onto a whiteboard and it has proved to be exceptionally useful as a classroom resource.</p>
Audio	Yes
Accessibility	Fully accessible
Additional Info.	N/a
File Size (uncompressed)	<p>10.4Mb (average).</p> <p>File size is different (increases) when uploaded to Xtensis. This figure is an estimated calculation of the size of a middle-sized unit after uploading.</p>

Title	Aerobic respiration
Level	3
Curriculum Area	Sports games and recreation
Objectives	<p>The purpose of this learning unit is to explain how ATP is produced during aerobic respiration.</p> <p>Working through this unit will help to:</p> <ul style="list-style-type: none"> • describe the biochemical pathway of aerobic respiration • explain how ATP is produced during the oxidation of glucose.
Description	A 20-minute learning unit covering aerobic respiration and how ATP is produced. It contains formative and summative assessments to ensure that the learning objectives are successfully covered.
Suggested Curriculum Use	<p>This learning unit works well as an introduction to the subject matter.</p> <p>Of particular use are the graphical elements which help to illustrate the concepts of glycolysis, the link reaction and the Krebs cycle. Animations help the user to visualise these key stages of aerobic respiration.</p> <p>Feedback from user trials has confirmed that this unit works well as a revision tool. The animations show up well when the unit is projected onto a whiteboard and it has proved to be exceptionally useful as a classroom resource.</p>
Audio	Yes
Accessibility	Fully accessible
Additional Info.	N/a
File Size (uncompressed)	<p>10.4Mb (average).</p> <p>File size is different (increases) when uploaded to Xtensis. This figure is an estimated calculation of the size of a middle-sized unit after uploading.</p>

Title	Anaerobic respiration
Level	3
Curriculum Area	Sports games and recreation
Objectives	<p>The purpose of this learning unit is to explore the release of energy by anaerobic respiration.</p> <p>Working through this unit will help to:</p> <ul style="list-style-type: none"> • describe how ATP is formed during anaerobic respiration • explain how anaerobic respiration leads to muscle fatigue • explain how athletes recover from the effects of anaerobic respiration.
Description	A 20-minute learning unit covering aerobic and anaerobic respiration and the onset of blood lactate accumulation (OBLA). It contains formative and summative assessments to ensure that the learning objectives are successfully covered.
Suggested Curriculum Use	<p>This learning unit works well as an introduction to the subject matter. However, to get the most out of this unit, it is advised that the user already has a basic understanding of aerobic respiration and energy systems.</p> <p>Of particular use are the graphical elements and animations which illustrate what happens during aerobic and anaerobic respiration.</p> <p>Feedback from user trials has confirmed that this unit works well as a revision tool. The animations show up well when the unit is projected onto a whiteboard and it has proved to be exceptionally useful as a classroom resource.</p>
Audio	Yes
Accessibility	Fully accessible
Additional Info.	N/a
File Size (uncompressed)	<p>10.4Mb (average).</p> <p>File size is different (increases) when uploaded to Xtensis. This figure is an estimated calculation of the size of a middle-sized unit after uploading.</p>

Title	Training the energy systems
Level	3
Curriculum Area	Sports games and recreation
Objectives	<p>The purpose of this learning unit is to explore various methods of training and to explain the increases in performance that result.</p> <p>Working through this unit will help to:</p> <ul style="list-style-type: none"> • know how ATP is made during various types of exercise • explain how different energy systems require training in different ways • know the adaptations that result from training.
Description	A 20-minute learning unit describing ATP and the effects of aerobic and anaerobic exercise. It contains formative and summative assessments to ensure that the learning objectives are successfully covered.
Suggested Curriculum Use	<p>This learning unit works well as an introduction to the subject matter. However, to get the most out of this unit, it is advised that the user already has a basic understanding of energy systems and aerobic and anaerobic respiration.</p> <p>Of particular use are the graphical cross-sections of untrained and anaerobically trained muscle cells. Animations help the user to visualise the concepts covered.</p> <p>Feedback from user trials has confirmed that this unit works well as a revision tool. The animations show up well when the unit is projected onto a whiteboard and it has proved to be exceptionally useful as a classroom resource.</p>
Audio	Yes
Accessibility	Fully accessible
Additional Info.	N/a
File Size (uncompressed)	<p>10.4Mb (average).</p> <p>File size is different (increases) when uploaded to Xtensis. This figure is an estimated calculation of the size of a middle-sized unit after uploading.</p>

Title	Energy QTI/HTML Quiz
Level	3
Curriculum Area	Sports games and recreation
Objectives	A general knowledge quiz on the subject of energy aimed at Level 3 students.
Description	A 20-minute learning unit covering a range of topics about energy.
Suggested Curriculum Use	<p>A flexible quiz that may be used for formative and summative assessment, or diagnostic/revision purposes. It aims to ensure that the material covered in the associated learning units is understood.</p> <p>The QTI quizzes are customisable, and you should contact your college ILT champion for more information on how to tailor these quizzes to your specific requirements.</p>
Audio	No
Accessibility	QTI quiz not accessible. HTML quiz fully accessible.
Additional Info.	N/a
File Size (uncompressed)	200 KB (average).

Title	The skeleton
Level	2
Curriculum Area	Sports games and recreation
Objectives	<p>The purpose of this learning unit is to look at the skeleton.</p> <p>Working through this unit will help to:</p> <ul style="list-style-type: none"> • list the functions of the skeleton • identify bones in the skeleton • describe different types of joint.
Description	A 20-minute learning unit covering the function and parts of the skeleton. It contains formative and summative assessments to ensure that the learning objectives are successfully covered.
Suggested Curriculum Use	<p>This learning unit works well as an introduction to the subject matter.</p> <p>Of particular use are the graphical elements which illustrate the skeletal structure and the types and composition of bones. Animations help the user to visualise the concepts covered.</p> <p>Feedback from user trials has confirmed that this unit works well as a revision tool. The animations show up well when the unit is projected onto a whiteboard and it has proved to be exceptionally useful as a classroom resource.</p>
Audio	Yes
Accessibility	Fully accessible
Additional Info.	N/a
File Size (uncompressed)	<p>10.4Mb (average).</p> <p>File size is different (increases) when uploaded to Xtensis. This figure is an estimated calculation of the size of a middle-sized unit after uploading.</p>

Title	Joint structure and function
Level	3
Curriculum Area	Sports games and recreation
Objectives	<p>The purpose of this learning unit is to examine the structure and function of different types of joints.</p> <p>Working through this unit will help to:</p> <ul style="list-style-type: none"> • identify different types of joint in the body • describe different types of synovial joint and relate them to a sporting context • discuss the stability/mobility trade-off at joints and how this affects sports.
Description	A 20-minute learning unit explaining the variety of joints in the body. It contains formative and summative assessments to ensure that the learning objectives are successfully covered.
Suggested Curriculum Use	<p>This learning unit works well as an introduction to the subject matter. However, to get the most out of this unit, it is advised that the user already has a knowledge of the meaning of abduction, adduction, flexion, extension and circumduction.</p> <p>Of particular use are the graphical elements which illustrate the variety of joints and show them in a sporting context. Animations help the user to visualise the movement in each type of joint.</p> <p>Feedback from user trials has confirmed that this unit works well as a revision tool. The animations show up well when the unit is projected onto a whiteboard and it has proved to be exceptionally useful as a classroom resource.</p>
Audio	Yes
Accessibility	Refer to Accessibility Specification Document
Additional Info.	N/a
File Size (uncompressed)	<p>10.4Mb (average).</p> <p>File size is different (increases) when uploaded to Xtensis. This figure is an estimated calculation of the size of a middle-sized unit after uploading.</p>

Title	Fitness Testing
Level	2
Curriculum Area	Sports games and recreation
Objectives	<p>The purpose of this learning unit is to introduce the user to methods of testing different aspects of fitness.</p> <p>Working through this unit will help to:</p> <ul style="list-style-type: none"> • describe a variety of fitness tests available to athletes • explain which fitness tests are used to test different aspects of fitness.
Description	A 20-minute learning unit covering aspects of fitness, and a variety of fitness tests. It contains formative and summative assessments to ensure that the learning objectives are successfully covered.
Suggested Curriculum Use	<p>This learning unit works well as an introduction to the subject matter. However, to get the most out of this unit, it is advised that the user already has a basic understanding of what is meant by fitness.</p> <p>Of particular use are the graphical elements and animations which help the user to visualise the different fitness tests.</p> <p>Feedback from user trials has confirmed that this unit works well as a revision tool. The animations show up well when the unit is projected onto a whiteboard and it has proved to be exceptionally useful as a classroom resource.</p>
Audio	Yes
Accessibility	Fully accessible
Additional Info.	N/a
File Size (uncompressed)	<p>10.4Mb (average).</p> <p>File size is different (increases) when uploaded to Xtensis. This figure is an estimated calculation of the size of a middle-sized unit after uploading.</p>

Title	Cardiovascular and respiratory adaptations to exercise
Level	3
Curriculum Area	Sports games and recreation
Objectives	<p>The purpose of this learning unit is to explore how exercise and training improve physical efficiency.</p> <p>Working through this unit will help to:</p> <ul style="list-style-type: none"> • identify short-term and long-term adaptations of the heart, circulation and respiration system during exercise and after prolonged physical training • explain how the cardiovascular and respiratory systems work together to improve efficiency during exercise and training.
Description	A 20-minute learning unit covering the respiratory and cardiovascular systems, and the effects of exercise and training. It contains formative and summative assessments to ensure that the learning objectives are successfully covered.
Suggested Curriculum Use	<p>This learning unit works well as an introduction to the subject matter. However, to get the most out of this unit, it is advised that the user already has a basic understanding of the anatomy and function of the heart, circulatory system, airways, lungs and muscles.</p> <p>Of particular use are the graphical elements which illustrate the adaptations of the heart, circulation and respiratory systems during and after exercise. Animations help the user to visualise the concepts covered.</p> <p>Feedback from user trials has confirmed that this unit works well as a revision tool. The animations show up well when the unit is projected onto a whiteboard and it has proved to be exceptionally useful as a classroom resource.</p>
Audio	Yes
Accessibility	Fully accessible
Additional Info.	N/a

File Size (uncompressed)	10.4Mb (average). File size is different (increases) when uploaded to Xtensis. This figure is an estimated calculation of the size of a middle-sized unit after uploading.
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Title	Testing the elite athlete
Level	3
Curriculum Area	Sports games and recreation
Objectives	<p>The purpose of this learning unit is to examine some tests that are performed on elite athletes and understand what is being measured and how it affects performance.</p> <p>Working through this unit will help to:</p> <ul style="list-style-type: none"> • define VO_2 max, how to measure it, and the factors that affect it • describe the importance of the lactic acid threshold, how it is measured, and how training can increase it • discuss the information that haematology gives about an athlete.
Description	A 20-minute learning unit covering VO_2 max, OBLA and the lactic acid threshold. It contains formative and summative assessments to ensure that the learning objectives are successfully covered.
Suggested Curriculum Use	<p>This learning unit works well as an introduction to the subject matter. However, to get the most out of this unit, it is advised that the user already has a basic understanding of the function of the human heart, the circulatory system and the respiratory system.</p> <p>Of particular use are the graphical elements which illustrate VO_2 max and OBLA and how training affects the lactic acid threshold. Animations help the user to visualise the concepts covered.</p> <p>Feedback from user trials has confirmed that this unit works well as a revision tool. The animations show up well when the unit is projected onto a whiteboard and it has proved to be exceptionally useful as a classroom resource.</p>
Audio	Yes
Accessibility	Fully accessible
Additional Info.	N/a

File Size (uncompressed)	10.4Mb (average). File size is different (increases) when uploaded to Xtensis. This figure is an estimated calculation of the size of a middle-sized unit after uploading.
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Title	What is fitness?
Level	2
Curriculum Area	Sports games and recreation
Objectives	<p>The purpose of this learning unit is to introduce the user to the study of fitness in sport.</p> <p>Working through this unit will help to:</p> <ul style="list-style-type: none"> • explain the meaning and importance of fitness • outline the body's system for adapting to the demands of exercise and training • describe the elements of physical and motor fitness • explore the ways in which fitness can be measured and improved.
Description	A 20-minute learning unit covering physical and motor fitness, and how to measure and improve fitness. It contains formative and summative assessments to ensure that the learning objectives are successfully covered.
Suggested Curriculum Use	<p>This learning unit works well as an introduction to the subject matter. However, to get the most out of this unit, the user is advised to study the crucial roles played by the heart, circulatory system and respiratory system in exercise and training.</p> <p>Of particular use are the graphical elements which illustrate the components of physical and motor fitness. Animations help the user to visualise the concepts covered.</p> <p>Feedback from user trials has confirmed that this unit works well as a revision tool. The animations show up well when the unit is projected onto a whiteboard and it has proved to be exceptionally useful as a classroom resource.</p>
Audio	Yes
Accessibility	Fully accessible
Additional Info.	N/a

File Size (uncompressed)	10.4Mb (average). File size is different (increases) when uploaded to Xtensis. This figure is an estimated calculation of the size of a middle-sized unit after uploading.
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Title	Hypokinetic disorders
Level	3
Curriculum Area	Sports games and recreation
Objectives	<p>The purpose of this learning unit is to introduce the user to hypokinetic disorders.</p> <p>Working through this unit will help to:</p> <ul style="list-style-type: none"> • define hypokinetic disorders • classify the different types of hypokinetic disorders • understand which training regimes can help combat hypokinetic disorders.
Description	A 20-minute learning unit covering postural defects, osteoporosis, osteoarthritis, obesity and cardiovascular disorders. It contains formative and summative assessments to ensure that the learning objectives are successfully covered.
Suggested Curriculum Use	<p>This learning unit works well as an introduction to the subject matter.</p> <p>Of particular use are the graphical elements and animations which help the user to visualise the variety of disorders.</p> <p>Feedback from user trials has confirmed that this unit works well as a revision tool. The animations show up well when the unit is projected onto a whiteboard and it has proved to be exceptionally useful as a classroom resource.</p>
Audio	Yes
Accessibility	Fully accessible
Additional Info.	N/a
File Size (uncompressed)	<p>10.4Mb (average).</p> <p>File size is different (increases) when uploaded to Xtensis. This figure is an estimated calculation of the size of a middle-sized unit after uploading.</p>

Title	Fitness QTI/HTML Quiz
Level	2
Curriculum Area	Sports games and recreation
Objectives	A general knowledge quiz on the subject of fitness aimed at Level 2 students.
Description	A 20-minute learning unit covering a range of topics about fitness.
Suggested Curriculum Use	<p>A flexible quiz that may be used for formative and summative assessment, or diagnostic/revision purposes. It aims to ensure that the material covered in the associated learning units is understood.</p> <p>The QTI quizzes are customisable, and you should contact your college ILT champion for more information on how to tailor these quizzes to your specific requirements.</p>
Audio	No
Accessibility	QTI quiz not accessible. HTML quiz fully accessible.
Additional Info.	N/a
File Size (uncompressed)	200 KB (average).

Title	Coaching and feedback
Level	3
Curriculum Area	Sports games and recreation
Objectives	<p>The purpose of this learning unit is to introduce the user to the different levels of motor control and different types of feedback. It explains how different forms of feedback can be used by a coach.</p> <p>Working through this unit will help to:</p> <ul style="list-style-type: none"> • define what feedback is and its purpose within the coaching process • identify how a coach uses different forms of feedback to enhance the skill or technique of the learner.
Description	A 20-minute learning unit explaining the effects of different types of coaching feedback. It contains formative and summative assessments to ensure that the learning objectives are successfully covered.
Suggested Curriculum Use	<p>This learning unit works well as an introduction to the subject matter. However, to get the most out of this unit, it is advised that the user already has a basic understanding of the information processing model. The user is also advised to relate the content of this learning unit to any feedback they may have received as a performer.</p> <p>Of particular use are the graphical elements and animations which help the user to visualise the feedback techniques in sport.</p> <p>Feedback from user trials has confirmed that this unit works well as a revision tool. The animations show up well when the unit is projected onto a whiteboard and it has proved to be exceptionally useful as a classroom resource.</p>
Audio	Yes
Accessibility	Fully accessible
Additional Info.	N/a
File Size	10.4Mb (average).

(uncompressed)	File size is different (increases) when uploaded to Xtensis. This figure is an estimated calculation of the size of a middle-sized unit after uploading.
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Title	Coaching styles
Level	3
Curriculum Area	Sports games and recreation
Objectives	<p>The purpose of this learning unit is to introduce the user to different coaching styles and how different forms of guidance are used by a coach.</p> <p>Working through this unit will help to:</p> <ul style="list-style-type: none"> • identify how a coach adapts their style of coaching to suit the performer • identify the different forms of guidance a coach uses, according to either the task being coached and/or the ability of the performer.
Description	A 20-minute learning unit covering styles or coaching, phases of learning and types of guidance. It contains formative and summative assessments to ensure that the learning objectives are successfully covered.
Suggested Curriculum Use	<p>This learning unit works well as an introduction to the subject matter. However, to get the most out of this unit, it is advised that the user already has a basic understanding of the information processing model. The user is also advised to relate the content of this learning unit to any coaching they may have received as a performer.</p> <p>Of particular use are the graphical elements which illustrate the coaching styles and types of guidance. Animations help the user to visualise the concepts covered.</p> <p>Feedback from user trials has confirmed that this unit works well as a revision tool. The animations show up well when the unit is projected onto a whiteboard and it has proved to be exceptionally useful as a classroom resource.</p>
Audio	Yes
Accessibility	Fully accessible
Additional Info.	N/a

File Size (uncompressed)	10.4Mb (average). File size is different (increases) when uploaded to Xtensis. This figure is an estimated calculation of the size of a middle-sized unit after uploading.
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Title	Information processing
Level	3
Curriculum Area	Sports games and recreation
Objectives	<p>The purpose of this learning unit is to introduce the user to the key elements of information processing, the way performers utilise information and the stages a performer goes through to produce a motor output.</p> <p>Working through this unit will help to:</p> <ul style="list-style-type: none"> • define what information processing is and its purpose within the coaching process.
Description	A 20-minute learning unit covering the three basic stages of information processing: stimulus identification, response selection and response programming. It contains formative and summative assessments to ensure that the learning objectives are successfully covered.
Suggested Curriculum Use	<p>This learning unit works well as an introduction to the subject matter. However, to get the most out of this unit, it is advised that the user already has a basic understanding of coaching and learning. The user is also advised to relate the content of this learning unit to any coaching they may have received as a performer.</p> <p>Of particular use are the graphical elements which illustrate the concept of information processing in sport. Animations help the user to visualise the concepts covered.</p> <p>Feedback from user trials has confirmed that this unit works well as a revision tool. The animations show up well when the unit is projected onto a whiteboard and it has proved to be exceptionally useful as a classroom resource.</p>
Audio	Yes
Accessibility	Fully accessible
Additional Info.	N/a

File Size (uncompressed)	10.4Mb (average). File size is different (increases) when uploaded to Xtensis. This figure is an estimated calculation of the size of a middle-sized unit after uploading.
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Title	Coaching QTI/HTML Quiz
Level	3
Curriculum Area	Sports games and recreation
Objectives	A general knowledge quiz on the subject of coaching aimed at Level 3 students.
Description	A 20-minute learning unit covering a range of topics about coaching.
Suggested Curriculum Use	<p>A flexible quiz that may be used for formative and summative assessment, or diagnostic/revision purposes. It aims to ensure that the material covered in the associated learning units is understood.</p> <p>The QTI quizzes are customisable, and you should contact your college ILT champion for more information on how to tailor these quizzes to your specific requirements.</p>
Audio	No
Accessibility	QTI quiz not accessible. HTML quiz fully accessible.
Additional Info.	N/a
File Size (uncompressed)	200 KB (average).

Title	Linear motion and Newton's laws
Level	3
Curriculum Area	Sports games and recreation
Objectives	<p>The purpose of this learning unit is to examine how biomechanics can increase understanding of sporting activities.</p> <p>Working through this unit will help to:</p> <ul style="list-style-type: none"> • describe what a force is • explain linear motion • outline Newton's three laws of motion.
Description	A 20-minute learning unit covering biomechanics and Newton's three laws of motion. It contains formative and summative assessments to ensure that the learning objectives are successfully covered.
Suggested Curriculum Use	<p>This learning unit works well as an introduction to the subject matter.</p> <p>Of particular use are the graphical elements and animations which help the user to visualise the forces upon athletes as they perform their sport.</p> <p>Feedback from user trials has confirmed that this unit works well as a revision tool. The animations show up well when the unit is projected onto a whiteboard and it has proved to be exceptionally useful as a classroom resource.</p>
Audio	Yes
Accessibility	Fully accessible
Additional Info.	N/a
File Size (uncompressed)	<p>10.4Mb (average).</p> <p>File size is different (increases) when uploaded to Xtensis. This figure is an estimated calculation of the size of a middle-sized unit after uploading.</p>

Title	Levers
Level	3
Curriculum Area	Sports games and recreation
Objectives	<p>The purpose of this learning unit is to introduce the user to levers, principles of moments and the moment of a force.</p> <p>Working through this unit will help to:</p> <ul style="list-style-type: none"> • define levers, moments and forces • classify the different types of lever • understand the relationship between moments and forces.
Description	A 20-minute learning unit covering the definition and classification of levers, and examples of forces in muscles. It contains formative and summative assessments to ensure that the learning objectives are successfully covered.
Suggested Curriculum Use	<p>This learning unit works well as an introduction to the subject matter. However, to get the most out of this unit, it is advised that the user relates the content of this learning unit to any experience of movement and lifting objects.</p> <p>Of particular use are the graphical elements which illustrate levers, force, effort, pivot and resistance. Animations help the user to visualise the variety of levers in the body.</p> <p>Feedback from user trials has confirmed that this unit works well as a revision tool. The animations show up well when the unit is projected onto a whiteboard and it has proved to be exceptionally useful as a classroom resource.</p>
Audio	Yes
Accessibility	Fully accessible
Additional Info.	N/a
File Size (uncompressed)	<p>10.4Mb (average).</p> <p>File size is different (increases) when uploaded to Xtensis. This figure is an estimated calculation of the size of a middle-sized unit after uploading.</p>

Title	Sam 100m hurdler
Level	3
Curriculum Area	Sports games and recreation
Objectives	<p>The purpose of this learning unit is to apply knowledge learned on a sports science course to an athlete.</p> <p>In this case study the user will apply their knowledge of:</p> <ul style="list-style-type: none"> ▪ periodisation, progression and tapering of training ▪ plyometric, aerobic, anaerobic and weight training.
Description	A 20-minute learning unit looking at the athlete's training schedule over a year. It explores different parts of the schedule, from intense training periods to tapering off before an event.
Suggested Curriculum Use	<p>This learning unit could be used as an introduction to the subject matter in a whole class situation or as a way of consolidating learning as the student progresses through the curriculum.</p> <p>The case study contains video of the athlete training.</p> <p>Feedback from user trials has confirmed that this unit works well as a revision tool. The animations show up well when the unit is projected onto a whiteboard and it has proved to be exceptionally useful as a classroom resource.</p>
Audio	Yes
Accessibility	Fully accessible
Additional Info.	N/a
File Size (uncompressed)	<p>18Mb (average).</p> <p>File size is different (increases) when uploaded to Xtensis. This figure is an estimated calculation of the size of a middle-sized unit after uploading.</p>

Title	Sheffield Eagles rugby team
Level	3
Curriculum Area	Sports games and recreation
Objectives	<p>The purpose of this learning unit is to apply knowledge learned on a sports science course to an athlete.</p> <p>In this case study the user will apply their knowledge of:</p> <ul style="list-style-type: none"> ▪ the physiological impact of rugby on the players ▪ how to prevent injury ▪ leadership on and off the pitch ▪ aggression ▪ supporting your team through the first match.
Description	<p>The Sheffield Eagles case study weaves the passion that rugby players have for their game with the difficulties of how to build a winning team. The case study looks at leadership styles, aggression in sport and how to prepare a team physically to play when each player has different requirements during a game. During the case study students can sharpen their judgement by looking at videos of different players to assess what is required of them and access research done into the physiological demands a game of rugby makes on its players.</p>
Suggested Curriculum Use	<p>This learning unit could be used as an introduction to the subject matter in a whole class situation or as a way of consolidating learning as the student progresses through the curriculum.</p> <p>The case study adds depth and breadth to the sports science curriculum bringing different aspects of the curriculum to life.</p> <p>Feedback from user trials has confirmed that this unit works well as a revision tool. The animations show up well when the unit is projected onto a whiteboard and it has proved to be exceptionally useful as a classroom resource.</p>
Audio	Yes
Accessibility	Fully accessible

Additional Info.	N/a
File Size (uncompressed)	21Mb (average). File size is different (increases) when uploaded to Xtensis. This figure is an estimated calculation of the size of a middle-sized unit after uploading.

Title	Shaun table tennis player
Level	3
Curriculum Area	Sports games and recreation
Objectives	<p>The purpose of this learning unit is to apply knowledge learned on a sports science course to an athlete.</p> <p>In this case study the user will apply their knowledge of:</p> <ul style="list-style-type: none"> ▪ learning theories ▪ skill and skill analysis.
Description	Shaun is a 17-year-old table tennis player whose goal is to play for England. The students evaluate what is required of a successful table tennis player and examine his training schedule. The students also evaluate Shaun's skill level and decide how a coach would support a table tennis player at his level.
Suggested Curriculum Use	<p>This learning unit could be used as an introduction to the subject matter in a whole class situation or as a way of consolidating learning as the student progresses through the curriculum.</p> <p>The case study adds depth and breadth to the sports science curriculum bringing different aspects of the curriculum to life.</p> <p>Feedback from user trials has confirmed that this unit works well as a revision tool. The videos show up well when the unit is projected onto a whiteboard and it has proved to be exceptionally useful as a classroom resource.</p>
Audio	Yes
Accessibility	Fully accessible
Additional Info.	N/a
File Size (uncompressed)	<p>17Mb (average).</p> <p>File size is different (increases) when uploaded to Xtensis. This figure is an estimated calculation of the size of a middle-sized unit after uploading.</p>

Title	Hayley swimmer
Level	3
Curriculum Area	Sports games and recreation
Objectives	<p>The purpose of this learning unit is to apply knowledge learned on a sports science course to an athlete.</p> <p>In this case study the user will apply their knowledge of:</p> <ul style="list-style-type: none"> ▪ developing training schedules ▪ testing elite athletes ▪ sports psychology.
Description	<p>Hayley is training to swim breaststroke in the Olympics in 2008. She trains for 25 hours a week. Students can explore her training regime and look at the results of her physiological tests to apply their physiological knowledge. However, athletes aren't robots. All swimmers at Hayley's level have physical ability, but do they have the mental and emotional capability to succeed? How would you as a coach support an athlete mentally?</p>
Suggested Curriculum Use	<p>This learning unit could be used as an introduction to the subject matter in a whole class situation or as a way of consolidating learning as the student progresses through the curriculum.</p> <p>The case study adds depth and breadth to the sports science curriculum bringing different aspects of the curriculum to life.</p> <p>Feedback from user trials has confirmed that this unit works well as a revision tool. The videos show up well when the unit is projected onto a whiteboard and it has proved to be exceptionally useful as a classroom resource.</p>
Audio	Yes
Accessibility	Fully accessible
Additional Info.	N/a

File Size (uncompressed)	15Mb (average). File size is different (increases) when uploaded to Xtensis. This figure is an estimated calculation of the size of a middle-sized unit after uploading.
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Appendix 1 – Technical specifications

Machine Specification:	Pentium II, 300 Mhz, 16-Bit Soundcard,
Recommended Screen Resolution:	800x600
Browser Compatibility:	
Microsoft Internet Explorer 4.x	Yes
Microsoft Internet Explorer 5.0x	Yes
Microsoft Internet Explorer 5.5	Yes
Microsoft Internet Explorer 6.x	Yes
Netscape Communicator 4.x	No
Netscape Navigator 6.x	No
Netscape Navigator 7.0x	Yes
Netscape Navigator 7.1x	Yes
Accessibility:	Please refer to the Accessibility Specification Document

Plug Ins Required:	
Shockwave	No
Flash	Yes
Real Player	No
QuickTime	No
Microsoft Speech tool	No
Text to speech engine	No
Shockwave Extras	No
Macromedia Authorware	No
Other Plug-ins	No
Webplayer	Flash 6.0 or greater
Minimum Specification	These materials are designed to be run within your college VLE. For further information contact your VLE vendor and compare the production specification against the NLN Materials Specification and Application Profile for Content Packaged Learning Objects.
VLE tracking Information	When the learning object is first initialised, it attempts to locate and initialise communication with the host LMS.
Known Issues:	

