



ICT in Physical Education at Key Stage 1 & 2

Physical education develops pupils' physical competence and confidence, and their ability to use these to perform in a range of activities. Pupils learn how to think in different ways to suit a wide variety of creative, competitive and challenging activities. They learn how to plan, perform and evaluate actions, ideas and performances to improve their quality and effectiveness. Through this process pupils discover their aptitudes, abilities and preferences, and make choices about how to get involved in lifelong physical activity. From Key stage 2, children should know how to improve aspects of the quality of their work, using information provided by the teacher and information and communication technology (ICT) opportunities, and increasingly help themselves and others to perform effectively.

The QCA Schemes of Work

The QCA schemes of work identify four main areas of ICT activity that are required to support work in Physical Education.

- Use of a cassette or CD player, video camera and playback equipment and the use of an electronic keyboard as a source of music. (Dance KS1 & 2)
- CD-ROMS and the Internet for research (KS2)
- Use of a digital video camera and an interactive whiteboard to record their performances and compare their techniques with professional players (KS2)
- Use monitors to record their own and others' heartbeat and pulse rates. (KS2)

The following paragraphs identify the PE Units where ICT can be used, and give a brief description of how it could be used.

Dance activities – (Units 1-4 Yrs1–4) (Units 5-6 Yr5 Yr6)

Might require the use of a cassette or CD player, video camera and playback equipment and the use of an electronic keyboard as a source of music.

Dance activities – (Units 5-6-Yr5 Yr6)

In **Unit 5** Children could use different databases to get ideas for their movement patterns and motifs, and as stimuli for dances. They could also use a digital still or video camera to record, compare and contrast their own and other's techniques and motifs.

In **Unit 6** Children put together a database of visual images, sounds and actions that they could link to music. They could use a tape recorder to record different sound then store, repeat and reorganise these to accompany their dance phrases. They could also use a digital still or video camera to record, compare and contrast their own variations of motifs.

Games activities – (Unit 1-Yr1)

Computer simulations or computer games that are similar to the games played could be used in non-active lessons. This can help children develop their understanding of games and their control of a keyboard and joystick.

Games activities – (Unit 2-Yr2)

Give the children opportunities to explain and record the rules for different games. They could use graphics and word processing packages to draw layouts of their own games. Electronic notepads could be used to keep the score.

Gymnastic activities – (Unit 1-Yr1)(Unit 2-Yr2)

They could use a database of still shapes and balances for ideas. A digital camera could be used to record the children's still shapes and balances, so they can see their own performances.

Gymnastic activities – (Unit 2-Yr2)

Children could use a collage of clip art software to record apparatus layouts.

Swimming activities and water safety – (Unit 1-Yr1, 2 or 3)

Children could use ICT to design their own certificates of achievement, or design a poster about water safety.

Invasion Games – (Unit 1-Yr3)(Unit 2-Yr4)

The children could use a database of different techniques for invasion games.

Invasion Games – (Unit 2-Yr4)

The children could set up a record of scores and players on a database.

Invasion Games – (Unit 3-Yr5)(Unit 4-Yr6)

Pupils could use the Internet to research the rules of mini games. They could use a video and an interactive whiteboard to record their performances and compare their techniques with professional players.

Striking and fielding games – (Unit 1-Yr3 or 4)

The children could use a database of different techniques for striking and fielding games. They could set up a record of scores and players on a database. The children could use pulse monitors to observe the effects of activity on their heart.

Striking and fielding games – (Unit 2-Yr3, 4, 5 or 6)

Children could use: a video camera to record their performances and compare their techniques with professional players; the internet to research the rules of mini games; also design their own recording system for scoring, which could be used to organise a competition.

Net/wall games – (Unit 1-Yr3 or 4)

The children could use a database of different techniques for net games. They could use graphics and word processing packages for recording the rules for games.

Net/wall games – (Unit 2-Yr5 or 6)

Children could use: a digital video camera and an interactive whiteboard to record their performances and compare their techniques with professional players.

Gymnastic activities – (Unit 3-Yr3)

A digital camera could be used to record their still shapes and balances, so that they can see their own performance. The children could use a database of appropriate actions, shapes and balances that they could copy.

Gymnastic activities – (Unit 4-Yr4) (Unit 5-Yr5) (Unit 6-Yr6)

The children could use a graphics package to record different apparatus layouts and to map sequence pathways. They could use a digital camera to record sequences and combinations of actions. They could also put together a class database of digital camera photos scanned onto CD-ROM, which they could then use to compare and contrast different movements and sequences.

Swimming activities and water safety – (Unit 2-Yr3, 4, 5 or 6)

Databases could be used to bring together information on swimming techniques, skills and styles, for groups to draw on in their own work. Children could learn how to use monitors to record their own and others' heartbeat and pulse rates.

Athletic activities – (Unit 2-Yr3 or 4) (Unit 3-Yr5 or 6)

The children could design a spreadsheet to record their performance and record and interpret their results. They could also use a spreadsheet for organising competitions.

A CD-ROM could be used to show the Human Body in action.

Athletic activities – (Unit 3-Yr5 or 6)

They could use ICT devices such as stopwatches or light gates to measure speed, e.g. at take off. They could compare their own and other performances using an interactive whiteboard.

Outdoor and adventurous activities – (Unit 1-Yr3)

They could use simple ICT map-making software to record where they went

Outdoor and adventurous activities – (Unit 2-Yr3 or 4) (Unit 3-Yr5 or 6)

Children could be introduced to a map-making ICT programme. They could reinforce their planning skills through computer simulations.

Outdoor and adventurous activities – (Unit 3-Yr5 or 6)

Children could use a word processing package to support their planning and could reinforce their planning skills through computer simulations. Children could use Logo to practice getting their bearings, following directions and understanding angles. Children could also use the Internet and CD-ROMS to help them research, record and check information for their journey.

Dance activities – (link Unit-Yr6 or 7)

The children could use databases with visual images as stimuli. They could research dance crazes on CD-ROMs and on the Internet. Produce an end of Unit video presentation of all their dances.

Games activities – (link Unit Yr6 or 7)

The children could use the Internet to research the rules of mini games. They could use game analysis software to track and analyse players' performances.

Gymnastic activities – (link Unit Yr6 or 7)

The children could use a pulse monitor to check their heart rates as they warm up to identify which activities are gentle or vigorous. The children could use a digital video or stills camera to record sequences and combinations of actions. They could use a graphics package to record different apparatus layouts and to map sequence pathways.

Long term planning

At KS1 & 2 the ICT Units that support the Physical Education activities should be planned so they occur before them.

In Year1 some aspects of ICT Unit 2C Finding information should be covered to enable pupils to use CD-ROMs effectively.

Some aspects of Unit 6D Using the Internet to search large databases to find information, needs to be addressed as early as Year 3.

Hardware

A cassette or CD player and the use of an electronic keyboard are needed to provide a source of music. Pulse rate monitors are required at KS2 to allow data to be collected and used effectively.

A digital still or video camera and suitable playback equipment enables children to record their performances and compare their techniques with professional players at KS2. An interactive whiteboard enhances whole class observation and discussion of this activity.

Assessment

At KS1 & 2 the ICT needed to support the PE units will usually have been taught separately, and should be assessed during ICT lessons. When assessing PE work that has involved ICT it is important to assess the achievement of Physical Education objectives and not ICT objectives. Some teachers may wish to combine teaching of ICT and PE. In this case it is important to assess achievement of ICT and PE objectives separately.

Key Stage 1 & 2 Software audit for Physical Education

Key Stage 1

QCA Unit of work		
Dance activities: - Units 1 & 2	Cassette or CD player, video camera and playback equipment	
Games activities: - Unit 1 Yr1	Computer games and their control of a keyboard and joystick	
Gymnastic activities: - Unit 1 Yr1 Unit 2 Yr2	Paint package, Word processor Use a database of still shapes and balances for ideas	

Key Stage 2

Dance activities: - Units 5-6 Yr5 Yr6	Use a database of still shapes and balances for ideas, video camera	
Invasion Games: - Unit 1 Yr3 Unit 2 Yr4	CD-ROM	
Invasion Games: - Unit 2 Yr4	Database use	
Invasion Games: - Unit 3 Yr5 Unit 4 Yr6	Internet access	
Striking and fielding games: - Unit 1 Yr3 or 4	CD-ROM	
Striking and fielding games: - Unit 2 Yr3, 4, 5 or 6	Digital still or video camera Internet access	
Net/wall games: - Unit 1 Yr3 or 4	CD-ROM Graphics and word processing	
Net/wall games: - Unit 2 Yr5 or 6	Digital still or video camera	
Gymnastic activities: - Unit 3 Yr3	Digital still or video camera Use a database of still shapes and balances for ideas	
Gymnastic activities: - Unit 4 Yr4 Unit 5 Yr5 Unit 6 Yr6	Graphics package Digital still or video camera	
Swimming activities and water safety: - Unit 2 Yr3, 4, 5 or 6	CD-ROM Pulse monitors	
Athletic activities: - Unit 2 Yr3 or 4 Unit 3 Yr5 or 6	Spreadsheet CD-ROM	
Athletic activities: - Unit 3 Yr5 or 6	Stopwatches or light gates	
Outdoor and adventurous activities: - Unit 1 Yr3	Map making software	
Outdoor and adventurous activities - Unit 2 Yr3 or 4 Unit 3 Yr5 or 6	Map making software	
Outdoor and adventurous activities - Unit 3 Yr5 or 6	Word Processor, LOGO Internet, CD-ROM	
Dance activities - link Unit Yr6 or 7	Internet, CD-ROM	
Games activities - link Unit Yr6 or 7	Internet, CD-ROM	
Gymnastic activities - link Unit Yr6 or 7	Pulse monitors, digital still or video camera, graphics package	

