

National Unit Specification

General information

Unit title: Gameplay (SCQF level 5)

Unit code: HY2F 45

Superclass:	СВ
Publication date:	May 2018
Source:	Scottish Qualifications Authority
Version:	02

Unit purpose

The purpose of this unit is to allow learners to experience and evaluate a variety of types of computer games, from different genres and themes. Learners should play and observe games being played with a view to identifying and exploring different game characteristics.

Learners will develop an understanding of the characteristics in games and identify the factors that lead to an entertaining, engaging and captivating gaming experience. These factors should include game mechanics, gameplay, digital art amongst others. Learners will identify benchmarks (such as replay value and visual impact) that can be used to evaluate how well these factors have been implemented in different games. Learners will also learn to create content using a game engine. In doing so they will put into practice what they have learned about effective game design.

This is a **specialist** unit, intended for learners who wish to study computer games development or pursue a career in the computer games industry.

The unit covers the following knowledge and skills:

- Types and characteristics of computer games
- Computer game genres and themes
- Game mechanics and visual impact of games
- Benchmarks for evaluating games
- Create content using a game engine

On completion of this unit, learners will know about a variety of types of computer games and be able to make content for some of them using a game engine.

Learners may progress to HX9X 45 NC Computer Games Development at SCQF level 6 or GM09 15 HNC Computer Games Development at level 7.

National Unit Specification: General information (cont)

Unit title: Gameplay (SCQF level 5)

Outcomes

On successful completion of the unit, the learner will be able to:

- 1 Evaluate a variety of computer games.
- 2 Plan the creation of content using a computer game engine.
- 3 Create content using a computer game engine.

Credit points and level

1 National Unit credit(s) at SCQF level 5: (6 SCQF credit points at SCQF level 5).

Recommended entry to the unit

Entry is at the discretion of the centre and no previous knowledge or experience is required, but it is recommended that learners possess a basic level of ICT skills in using a computer within a modern OS. Experience of playing modern computer games is also advantageous.

Core Skills

Achievement of this Unit gives automatic certification of the following:

Complete Core Skill	Problem Solving at SCQF level 4
Core Skill component	Providing/Creating Information at SCQF level 4

Opportunities to develop aspects of Core Skills are highlighted in the Support Notes for this Unit specification.

Context for delivery

If this unit is delivered as part of a group award, it is recommended that it should be taught and assessed within the subject area of the group award to which it contributes.

The Assessment Support Pack (ASP) for this unit provides assessment and marking guidelines that exemplify the national standard for achievement. It is a valid, reliable and practicable assessment. Centres wishing to develop their own assessments should refer to the ASP to ensure a comparable standard. A list of existing ASPs is available to download from SQA's website (http://www.sqa.org.uk/sqa/46233.2769.html).

Equality and inclusion

This unit specification has been designed to ensure that there are no unnecessary barriers to learning or assessment. The individual needs of learners should be taken into account when planning learning experiences, selecting assessment methods or considering alternative evidence.

Further advice can be found on our website www.sqa.org.uk/assessmentarrangements.

National Unit Specification: Statement of standards

Unit title: Gameplay (SCQF level 5)

Acceptable performance in this unit will be the satisfactory achievement of the standards set out in this part of the unit specification. All sections of the statement of standards are mandatory and cannot be altered without reference to SQA.

Where evidence for outcomes is assessed on a sample basis, the whole of the content listed in the performance criteria section must be taught and available for assessment. Learners should not know in advance the items on which they will be assessed and different items should be sampled on each assessment occasion.

Outcome 1

Evaluate a variety of computer games.

Performance criteria

- (a) Play a variety of computer games
- (b) Describe game characteristics of different game types and genres
- (c) Identify benchmarks for reviewing games
- (d) Evaluate games using benchmarks

Outcome 2

Plan the creation of content using a computer game engine.

Performance criteria

- (a) Produce a proposal outlining the content for a computer game
- (b) Produce a visual representation of the proposed content
- (c) Gather peer feedback on the proposed content

Outcome 3

Create content using a computer game engine.

Performance criteria

- (a) Create game content based on the proposal produced
- (b) Test the computer game content created
- (c) Produce a test log to record any faults identified
- (d) Evaluate the content created, identifying its relative strengths and weaknesses

Evidence requirements for this unit

Learners will need to provide evidence to demonstrate the performance criteria across all outcomes.

Evidence is required to demonstrate that learners have achieved all outcomes and performance criteria. Assessors should use their professional judgement, subject knowledge and experience, and understanding of their learners to determine the most appropriate ways to generate evidence and the conditions and contexts in which they are used.

National Unit Specification: Statement of standards

Unit title: Gameplay (SCQF level 5)

The evidence requirements for this unit will consist of two types of evidence: **knowledge** evidence and **product** evidence.

The **knowledge** evidence for this unit may be written or oral or a combination of these. Evidence may be captured, stored and presented in a range of media (including audio and video) and formats (analogue and digital). Particular consideration should be given to digital formats and the use of multimedia.

The **knowledge evidence** will relate to Outcome 1. It will comprise the knowledge required in Outcome 1 and must satisfy all of the associated performance criteria, except those relating explicitly to practical skills.

Sampling of knowledge is permissible in certain contexts, such as when traditional testing is used to generate the evidence. When sampling is used, the sampling frame must be broad enough to ensure that every performance criterion is covered. In this circumstance, the test must be carried out under controlled, supervised and timed conditions, without access to reference materials. Where traditional testing is used, this must be carried out in a single assessment occasion ('sitting') and an appropriate pass mark should be set. Where reassessment is required, it should contain a different sample from that previously used.

The **knowledge** evidence will be required to demonstrate that the learner can:

- describe game characteristics of at least two different game types and at least two different game genres
- identify at least five characteristics when describing a game, such as:
 - aims, objectives, challenges, goals
 - rules, mechanics, game boundaries/world limits, camera views
 - environments
 - tools, equipment, components
 - rewards, consequences, collectables/powerups
 - single/multiplayer, co-operative
 - storyline, characters
- identify benchmarks for reviewing games, such as graphics, art style, music, sound effects, cinematics, storyline, content, control scheme, gameplay, replayability, etc
- evaluate at least two computer games against the benchmarks

Game types should refer more to the gameplay, whereas genre should describe the theme or the way in which the game story is told. However, since game type, genre and theme are so often confused, even within the games industry, it is therefore allowable for the learner to describe the characteristics of **at least four** different game types and/or game genres.

The **product** evidence will relate to Outcomes 2 and 3, and will take the form of **one game proposal** and **game content** for the proposed computer game. It will demonstrate that the learner can plan and create content using a game engine. It must satisfy all performance criteria in Outcomes 2 and 3.

National Unit Specification: Statement of standards

Unit title: Gameplay (SCQF level 5)

The **product** evidence will be required to demonstrate that the learner can:

- produce **at least one** short proposal outlining the content that the learner plans to create. This should include the name of the game engine, the game type/genre, the type of content and a description of the content.
- produce at least one visual representation of the proposed content. This could be a sketch of a level design or a level map, it will depend on the type of content being created. It should include all main details of the planned content.
- obtain peer feedback on the proposed content from **at least two** peers. It should include what changes the learner plans to make based on the feedback.
- create content for at least one computer game in an appropriate digital format (which should be based on the proposed content from Outcome 2).
- test log or record, which should include any faults found and how they were corrected.
- evaluate the content created, identifying its relative strengths and weaknesses.

Apart from the first part of Outcome 1, the evidence for all outcomes should be generated under open-book conditions with access to suitable materials. Whether this need be under supervised or unsupervised conditions is at the discretion of the assessor and the centre; however, evidence must be produced under controlled conditions whenever possible and where appropriate. Learners are allowed access to suitable online and offline materials during open-book assessments.

The SCQF level (Level 5) of this unit provides additional context on the nature of the required evidence and the associated standards. The SCQF level descriptors (http://scqf.org.uk/wp-content/uploads/2014/03/SCQF-Level-Descriptors-WEB-Aug-2015.pdf) should be used (explicitly or implicitly) when making judgements about the evidence.

When evidence is produced in uncontrolled or loosely controlled conditions it must be authenticated. The *Guide to Assessment* provides further advice on methods of authentication (https://www.sqa.org.uk/files_ccc/Guide_To_Assessment.pdf).

The *Guidelines on Approaches to Assessment* (see the support notes section of this specification) provides specific examples of instruments of assessment.



National Unit Support Notes

Unit title: Gameplay (SCQF level 5)

Unit support notes are offered as guidance and are not mandatory.

While the exact time allocated to this unit is at the discretion of the centre, the notional design length is 40 hours.

Guidance on the content and context for this unit

The purpose of this unit is to allow learners to experience and evaluate a variety of types of computer games, from different genres and themes. Learners should play and observe games being played with a view to identifying and exploring different game characteristics.

Please note that the following guidance, relating to specific outcomes, does not seek to explain each performance criterion, which is left to the professionalism of the teacher. It seeks to clarify the statement of standards where it is potentially ambiguous. It also focuses on non-apparent teaching and learning issues that may be over-looked, or not emphasised, during unit delivery. As such, it is not representative of the relative importance of each outcome or performance criterion.

Outcome 1

Although it is likely that most learners will have access to games at home or on portable devices, it is anticipated that centres will provide various gaming devices for learners to use, which could include gaming consoles and gaming PCs. Centres should also provide a variety of computer games, to ensure that learners can experience different game types and game genres.

At the time of writing, the most popular gaming devices are:

- Windows PCs with dedicated Nvidia or AMD graphics cards
- PlayStation PS4 and PS4 Pro
- Microsoft Xbox One and Xbox One X
- Nintendo Switch
- iOS and Android tablets
- iOS and Android smartphones

Game types should refer more to gameplay, whereas genre should describe the theme or the way in which the game story is told. However, game type, genre and theme are often confused, even within the games industry.

Some examples of game types are: action, first-person shooter, third-person shooter, adventure, puzzle, role playing, simulation and strategy. These are general types but games are often classed, more specifically, as a combination of these. For instance, *Tomb Raider* is often referred to as an action-adventure game, but it could also be classed as an action-adventure, third-person shooter game with puzzle elements.

Unit title: Gameplay (SCQF level 5)

Game genres could include: drama, crime, fantasy, horror, mystery, science fiction, war, espionage/spy and survival.

Learners should acquire knowledge of what characteristics make a game suitable for classification within a certain game type and/or genre. For same categories of game type and genre, this is very straightforward; for instance, a first-person shooter should have a first-person camera viewpoint of the character being controlled and the player should be able to shoot. However, other categories can be more subjective and can straddle multiple types and genres. So, when describing a game, genres and types can be combined, for instance *Resident Evil 7: Biohazard* can be described as a survival horror, first-person shooter.

How games are judged or rated is very subjective, just as is the case for any artform. Centres should guide students as to commonly used benchmarks, but should not suggest that there is one set of uniform benchmarks that everybody should adhere too. Games are generally judged on their art (graphics, animation, music, sound effects, video) and how they play. However, both of these can be broken down into many different benchmarks. Some commonly used benchmarks for games are:

- Graphics
- Art style
- Visual impact
- Animation
- Music
- Sound effects
- Video/cut scenes
- Gameplay or playability
- Replayability or replay value
- Story
- Overall score or rating

This is not an extensive list, but includes most of the main benchmarks that are generally applied. Many would argue that you cannot judge a game on its individual parts, but only as a whole, which is a valid viewpoint and assessors should be aware of this. Moreover, when reviewing a game, marks (out of 10) should not just be allocated for each benchmark; instead, a written review may be produced which describes the qualities, or lack thereof, of some of these benchmarks.

Learners should develop an understanding of how the characteristics of popular games contribute to creating an entertaining, engaging and captivating gaming experience. Therefore, when reviewing a game, they should consider what factors made the game fun and gave it that replay value, which meant players kept coming back for more.

Outcomes 2 and 3

In Outcomes 2 and 3, learners will plan the creation of content and create that content using a game engine. The focus of this unit is not on programming and game engines generally allow game designers to further develop their games or customise them using their own code. However, although this unit does not preclude learners from coding, the focus of this unit is not programming and, therefore, it is expected that the focus will be more on drag-and-drop environments where, for instance, a game designer can create a game map.

Unit title: Gameplay (SCQF level 5)

It is expected that the game engine will be a modern game engine. At the time of writing, these include:

- Unreal Engine
- Unity
- CryEngine
- GameMaker
- Havok
- Marmalade SDK
- GameSalad

The first three engines account for the vast majority of games currently on the market. So, it would be recommended that one of those engines be considered for this unit. All three are free to education at present.

Learners should also learn about different ways to present their game ideas/content and different ways of visually representing them, which could include concept art, such as sketches, level design or level map diagrams/drawings, etc.

There are opportunities to use this unit in conjunction with other units on the NC Computer Games Development award to enhance learner's experience. For instance, Unity could be used as the game engine for this unit, to learn how to do the design/drag-and-drop side of Unity. Then, in a unit, such as FN8R 11 *Games Programming*, learners could experience coding using the same game engine. Then in HX9X 45 *Computer Games: Development*, they could combine both things to produce a game.

Guidance on approaches to delivery of this unit

It is anticipated that learners would complete the Outcomes sequentially, so they would complete Outcome 1, before moving onto Outcome 2, before finally moving onto Outcome 3. Therefore, the knowledge and skills for Outcome 1 should be covered first, at which point it is anticipated that summative assessment may occur before moving onto Outcome 2. However, given that Outcomes 2 and 3 are closely linked, it is expected that learners will cover the knowledge and skills required for Outcomes 2 and 3 before attempting the summative assessments for those outcomes.

For **Outcome 1** learners should play and experience a variety of games on a variety of gaming devices. Learners should play several contemporary games on current generation gaming devices but may also play retro/legacy games on 'old' devices. Although a considerably part of Outcome 1 is playing games and observing games being played, learners should be doing this with a view to helping them identify game types, genres and the factors that lead to an entertaining, engaging and captivating gaming experience. This is so that they can apply those characteristics when they create their own content in Outcome 3.

Learners must learn to identify characteristics of different game types and genres and be able to describe the game type and genre of games they play, by identifying the relevant game characteristics in those games. Learners should receive guidance and instruction on the characteristics that make a game classify as a particular type or genre.

Unit title: Gameplay (SCQF level 5)

The final part of Outcome 1 involves learners familiarising themselves with and identifying benchmarks for reviewing games. Learners should consider the various approaches and criteria that can be used to identify games, so that they can then evaluate games using a number of benchmarks that they are familiar with.

For **Outcomes 2 and 3**, learners should learn to use at least one modern game engine to create game content. They must become proficient enough in that game engine, so that they can create content of sufficient complexity for the level of this unit. This could be by using Unreal Engine to create game maps with spawn points, pickups, obstacles, rooms and so on. It could also be by using GameMaker to design a game with an appropriate level of complexity.

Learners should also learn about, and practice, different ways of visually representing a plan for the creation of game content in a game engine. Approaches such as concept art, sketches, level designs, level maps are all valid approaches, but that does not exclude other approaches, which may be just as valid.

A suggested distribution of time, across the outcomes, is:

Outcome 1: 10 hours Outcome 2: 12 hours Outcome 3: 18 hours

Summative assessment may be carried out at any time. However, when testing is used (see evidence requirements) it is recommended that this is carried out towards the end of the unit (but with sufficient time for remediation and re-assessment). When continuous assessment is used (such as the use of a web log), this could commence early in the life of the unit and be carried out throughout the life of the unit.

There are opportunities to carry out formative assessment at various stages in the unit. For example, formative assessment could be carried out on the completion of each outcome to ensure that learners have grasped the knowledge contained within it. This would provide assessors with an opportunity to diagnose misconceptions, and intervene to remedy them before progressing to the next outcome.

Guidance on approaches to assessment of this unit

Evidence can be generated using several types of assessment. The following are suggestions only. There may be other methods that would be more suitable to learners. Assessment evidence is required at all stages and outcomes. It must be documented and recorded electronically or in written/printed form. However, centres are encouraged to look at alternate approaches making use of modern technology.

The amount of control will vary from context to context. However, in every case, the conditions of assessment must be controlled to some extent. Where the amount of control is low, the amount of authentication should rise. It is not acceptable to produce evidence in lightly controlled conditions with little authentication.

Unit title: Gameplay (SCQF level 5)

Authentication may take various forms including, but not limited to, oral questioning and plagiarism checks. Some forms of evidence generation (such as video recordings) have intrinsic authentication and would require no further means of verification. Where evidence is not generated under closely controlled conditions (for example, out of class) then a statement of authenticity should be provided by the learner to verify the work as their own, and state any necessary sources and permissions.

It is important, in terms of assessment, that Outcome 2 is completed before Outcome 3, as Outcome 3 builds on Outcome 2, so needs completed first. Outcome 1 can be completed at any point; however, it would be advisable to do it first, as it is assumed that learners will apply some of the good practice they have learned from it in the planning and creation of the game content for Outcomes 2 and 3.

Learners should be encouraged to submit evidence for all three outcomes electronically. Submission via a virtual learning environment or cloud service is preferable.

The knowledge evidence for Outcome 1 could be assessed via:

1 A constructed response test comprising of a number of short answers, marked and assessed traditionally (although the preferred method of assessment would be via an online form of some sort). The test could comprise of 10 questions, requiring a response comprising of no more than one or two paragraphs. An appropriate pass mark of at least 60% should be set and it should be completed within a single assessment occasion ('sitting'), within a set time limit of no more than 60 minutes under supervised, closed-book conditions. This test must allow the learner to provide evidence of their knowledge of game characteristics and to demonstrate the minimum evidence requirements stated earlier. This includes describing the game characteristics of at least two game types, two game genres and five characteristics of at least one game.

For the second part of Outcome 1, learners should write or record a report where they review at least two games using benchmarks which they have set. This part would be carried out under open-book conditions.

2 The whole of Outcome 1 could be achieved via a report, where learners write or record a review of at least two games using benchmarks they have set. In the report, learners must also describe game characteristics of at least two game types, two game genres and five characteristics of a game(s). This would be carried out under open-book conditions.

The evidence for **Outcomes 2 and 3** could be assessed holistically as a single assessment where the learner must create a game proposal and game content under open-book conditions. Learners should be provided with a brief for the planning and creation of game content within a game engine.

The brief should require the learners to create a short proposal outlining the content they plan to create, which should include the game engine, game type and genre, the type of content (game map, game mod, etc) and a description of what the content itself will consist of. As part of the proposal, learners must also produce a visual representation of the proposed content, which could be a sketch, level design or level map, or any other valid visual.

Unit title: Gameplay (SCQF level 5)

Once the proposal and visuals have been created, learners should gather peer feedback on it and should record that feedback and what changes they plan to make based on that feedback.

The brief should also require that they then create the planned content in a game engine and submit it in a digital format as evidence to the assessor. The brief should set out the required complexity of the content, which would vary depending on the type of content required and the game engine being used.

They are also required to test the content and record faults, which again should be done electronically, wherever possible. Finally, learners must evaluate the content they have created, identifying its strengths and weaknesses.

Evidence for the reports in Outcome 1, as well as the proposal and evaluation for Outcomes 2 and 3, could be in the form of a typed (word-processed), written, audio or video report. If an audio format is chosen, it could be submitted as a podcast. If a video format is chosen, it could be submitted as a YouTube video or via a similar video file-sharing website or cloud service.

Centres are reminded that prior verification of centre-devised assessments would help to ensure that the national standard is being met. Where learners experience a range of assessment methods, this helps them to develop different skills that should be transferable to work or further and higher education.

A more contemporary approach to assessment would involve the use of a web log (blog) to record learning (and the associated activities) throughout the life of the unit. The blog would provide knowledge evidence (in the descriptions evaluations) and product evidence (using, for example, video recordings). The blog should be assessed using defined criteria to permit a correct judgement about the quality of the evidence. In this scenario, every performance criterion must be evidenced; sampling would not be appropriate.

Formative assessment could be used to assess learners' knowledge at various stages throughout the life of the unit. An ideal time to gauge their knowledge would be at the end of each outcome.

If a blog is used for summative assessment, it would also facilitate formative assessment, since learning (including misconceptions) would be apparent from the blog, and intervention could take place to correct misunderstandings on an on-going basis.

Opportunities for e-assessment

E-assessment may be appropriate for some assessments in this unit. By e-assessment we mean assessment which is supported by Information and Communication Technology (ICT), such as e-testing or the use of e-portfolios or social software.

Centres which wish to use e-assessment must ensure that the national standard is applied to all learner evidence and that conditions of assessment as specified in the evidence requirements are met, regardless of the mode of gathering evidence. The most up-to-date guidance on the use of e-assessment to support SQA's qualifications is available at **www.sqa.org.uk/e-assessment**.

Unit title: Gameplay (SCQF level 5)

Opportunities for developing Core and other essential skills

This unit provides opportunities to develop some of the following Core Skills:

- Communication (SCQF Level 4)
- Information and Communication Technology (SCQF Level 5)
- Problem Solving (SCQF Level 4)

There are opportunities within Outcomes 1, 2 and 3 to develop the Written Communication and/or Oral Communication components of the *Communication* Core Skill. Learners need to describe, propose, plan and evaluate, and they do so by reporting back either by written or verbal communication. They also have to peer evaluate in Outcome 2, which again will help develop communication skills.

Both components of *Information and Communication Technology* (Accessing Information and Processing Information) can be developed in all 3 Outcomes. In Outcome 1, learners need to identify benchmarks and apply them. In Outcome 2, they need to propose content for a game, which will most likely involve the creation of some digital art or digital drawing to illustrate the proposed content. In Outcome 3, they will make use of a computer game engine to create content.

The Planning and Organising, and Reviewing and Evaluating, components of *Problem Solving* can be developed in Outcomes 1, 2 and 3 through the planning, creation and evaluation of game content.

This Unit has the Core Skill of Problem Solving embedded in it, so when learners achieve this Unit their Core Skills profile will be updated to show that they have achieved Problem Solving at SCQF level 4.

This Unit has the Providing/Creating Information component of Information and Communication Technology embedded in it. This means that when learners achieve the Unit, their Core Skills profile will also be updated to show they have achieved Providing/Creating Information at SCQF level 4.

History of changes to unit

Version	Description of change	Date
02	Core Skills Component Providing/Creating Information at SCQF level 4 embedded.	31/05/18
	Core Skill Problem Solving at SCQF level 4 embedded.	

© Scottish Qualifications Authority 2018.

This publication may be reproduced in whole or in part for educational purposes provided that no profit is derived from reproduction and that, if reproduced in part, the source is acknowledged.

Additional copies of this unit specification can be purchased from the Scottish Qualifications Authority. Please contact the Business Development and Customer Support team, telephone 0303 333 0330.

General information for learners

Unit title: Gameplay (SCQF level 5)

This section will help you decide whether this is the unit for you by explaining what the unit is about, what you should know or be able to do before you start, what you will need to do during the unit and opportunities for further learning and employment.

The purpose of this unit is to allow you to experience and evaluate a variety of types of computer games, from different genres and themes. You should play and observe games being played with a view to identifying and exploring different game characteristics.

You will develop an understanding of the characteristics in games and identify the factors that lead to an entertaining, engaging and captivating gaming experience. These factors should include game mechanics, gameplay and digital art, amongst others. You will identify benchmarks (such as replay value and visual impact) that can be used to evaluate how well these factors have been implemented in different games. You will also learn how to create content using a game engine. In doing so, you will put into practice what you have learned about effective game design.

This is a **specialist** unit, suitable if you who wish to study computer games development or pursue a career in the computer games industry.

The unit covers the following knowledge and skills:

- Types and characteristics of computer games
- Computer game genres and themes
- Game mechanics and visual impact of games
- Benchmarks for evaluating games
- Create content using a game engine

On successful completion of the unit, you will be able to:

- 1 Evaluate a variety of computer games.
- 2 Plan the creation of content using a computer game engine.
- 3 Create content using a computer game engine.

In preparation for Outcome 1, you will be required to play a variety of games on a variety of gaming devices, both in your centre and out with, where possible. In preparation for the assessment for Outcomes 2 and 3, you will also learn how to use and create game content using at least one modern game engine, such as: Unreal Engine, Unity, CryEngine or GameMaker.

You may progress to HX9X 45 NC Computer Games Development at SCQF level 6 or GM09 15 HNC Computer Games Development at level 7.

This Unit has the Core Skill of Problem Solving embedded in it, so when learners achieve this Unit their Core Skills profile will be updated to show that they have achieved Problem Solving at SCQF level 4.

This Unit has the Providing/Creating Information component of Information and Communication Technology embedded in it. This means that when you achieve the Unit, your Core Skills profile will also be updated to show you have achieved Providing/Creating Information at SCQF level 4.