



## **National Unit specification: general information**

**Unit title:** Jewellery: Gemstones (SCQF level 6)

**Unit code:** H0A1 12

**Superclass:** JH

**Publication date:** December 2011

**Source:** Scottish Qualifications Authority

**Version:** 01

## **Summary**

This Unit will teach the candidate how to correctly describe and visually identify the range of common gemstones encountered in the jewellery trade. The Unit will also cover the properties of a gemstone which influence quality and associated value and cost of gemstones and also the geographical locations of important sources of gem materials.

## **Outcomes**

- 1 Describe physical and optical properties which contribute to the appearance of gemstones.
- 2 Describe the origin of common gemstone varieties.
- 3 Identify cuts commonly applied to gemstones.
- 4 Use inspection techniques to identify a range of common gemstones.

## **Recommended entry**

Entry is at the discretion of the centre.

## **Credit points and level**

1 credit at SCQF level 6 (6 SCQF credit points at SCQF level 6)

*\*SCQF credit points are used to allocate credit to qualifications in the Scottish Credit and Qualifications Framework (SCQF). Each qualification in the Framework is allocated a number of SCQF credit points at an SCQF level. There are 12 SCQF levels, ranging from Access 1 to Doctorates.*

## **General information (cont)**

**Unit title:** Jewellery: Gemstones (SCQF level 6)

### **Core Skills**

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

There is no automatic certification of Core Skills or Core Skill components in this Unit.

## **National Unit specification: statement of standards**

### **Unit title: Jewellery: Gemstones (SCQF level 6)**

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.

#### **Outcome 1**

Describe physical and optical properties which contribute to the appearance of gemstones.

##### **Performance Criteria**

- (a) Describe correctly Mohs' of mineral hardness with gemstone samples.
- (b) Describe correctly the optical properties which influence the appearance of a gemstone.
- (c) Describe correctly the attributes which influence the cost and value of a gemstone.

#### **Outcome 2**

Describe the origin of common gemstone varieties.

##### **Performance Criteria**

- (a) Describe inorganic gemstone origin in terms of natural, synthetic and man-made.
- (b) Describe organic gemstone origin in terms of the organic source.

#### **Outcome 3**

Identify cuts commonly applied to gemstones.

##### **Performance Criteria**

- (a) List and describe the range of cuts applied to common gemstones.
- (b) Describe the properties which influence the selection of cut for given gemstones.
- (c) Identify and name cuts applied to gemstone samples.

#### **Outcome 4**

Use inspection techniques to identify a range of common gemstones.

##### **Performance Criteria**

- (a) Correctly use simple items of gem testing equipment.
- (b) Correctly apply a range of gem testing techniques to identify a selection of gemstones.

## National Unit specification: statement of standards (cont)

**Unit title:** Jewellery: Gemstones (SCQF level 6)

### Evidence Requirements for this Unit

Evidence is required to demonstrate that candidates have achieved all Outcomes and Performance Criteria.

#### Outcomes 1 and 2

Written or oral evidence gathered under open-book conditions. Candidates must name and describe the appearance (colour, transparency, lustre) and physical properties (durability, hardness) of the following list of common gemstones:

- ◆ Diamond
- ◆ Corundum (Ruby and Sapphire)
- ◆ Beryl (Emeralds and Aquamarine)
- ◆ Quartz (Amethyst, Citrine, Smoky Quartz)
- ◆ Garnet
- ◆ Opal
- ◆ Tourmaline
- ◆ Topaz
- ◆ Peridot
- ◆ Spinel
- ◆ Feldspar (Moonstone)
- ◆ Jade (Jadeite And Nephrite)
- ◆ Chrysoberyl
- ◆ Turquoise
- ◆ Malachite
- ◆ Zircon

Candidates must comment on issues relating to quality and value of gemstones (colour, clarity, cut).

Candidates must comment on the origin of at least one of the following material types: natural, synthetic and man-made and provide three examples of each.

Candidates must describe the occurrence and natural circumstances under which the following range of organic gem materials occur: pearl, amber, coral, ivory, jet.

#### Outcomes 3 and 4

Performance evidence generated under closed-book conditions is required.

Candidates must correctly identify 12 common gemstones and correctly name the cut applied to each gemstone and briefly explain a reason for why this has been used (hardness, colour, and transparency).

Candidates will be provided with simple gem testing equipment in the form of a 10x lens and tweezers and good lighting and be asked to correctly identify a range of natural, synthetic and artificial gemstones.

## National Unit specification: support notes

### Unit title: Jewellery: Gemstones (SCQF level 6)

This part of the Unit specification is offered as guidance. The support notes 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

This Unit is designed to permit the candidate to undertake a period of study on common gemstones found in the jewellery industry. Candidates will be provided with a variety of information on gemmology as well as practical experience of handling precious gemstone samples from a variety of species and varieties.

Issues such as body colour, hardness and optical properties should be explored in the context of identification as well as the less scientific but important jewellery trade issues such as quality, cost/value and methods of estimating and calculating the value of any given specimen.

Initially candidates will be introduced to the naming systems applied to gemstones and distinction will be made between gem species and varieties. The correct mineralogical terminology will be used along with the contemporary retail names that are used within the jewellery trade: for example the correct term for a red garnet may be 'almandine' in the mineralogy context where the more attractive term 'rhodolite' may be used within the retail context.

Candidates will also be provided with information in relation to gemstone 'origin' (natural, synthetic, etc) and also with regards to occurrence and locations of recovery (diamond from South Africa/emerald from Columbia, etc)

After the initial phase of delivery candidates will be provided with images and details of the variety of cuts applied to gemstones and during practical laboratory sessions candidates will be expected to identify various cuts based on shape, appearance and material choice. Candidates will also be expected to comment on the suitability of gemstone cut in relation to physical properties such as hardness and durability and optical properties such as colour, lustre and specific optical effects such as cat's eye or iridescence.

Candidates will be asked to research and provide descriptions of a restricted range of important inorganic gemstones such as diamond, corundum, beryl, quartz and others

Candidates will also be asked to research the origin of and provide descriptions of a limited range of organic gem materials such as pearl, amber, coral, etc.

The final assessment for this Unit should take the form of a closed-book practical exercise whereby candidates have to correctly identify 12 gemstone samples and state the cut which has been applied to each of these samples. It should be stressed that all considerations of identification will be made on a common sense basis and that assessment samples should be provided which allow the candidate a reasonable chance of correct identification aided only with the use of simple equipment such as a 10x lens and tweezers.

## National Unit specification: support notes (cont)

**Unit title:** Jewellery: Gemstones (SCQF level 6)

This Unit aligns to the following National Occupational Standard for Jewellery from Creative and Cultural Skills:

J2.11 Identify and secure stones in settings

J3.20 Set gemstones by hand

J4.17 Set gemstones using advanced setting techniques.

### Guidance on learning and teaching approaches for this Unit

It is suggested that a blended approach should be adopted to delivering this Unit and that a mix of brief presentations using presentation software should be supplemented with reading materials and gemstone sample sets to allow the candidate as much practical experience as possible. The use of a camera for group work to allow all candidates to view the same specimen would be beneficial.

### Guidance on approaches to assessment for this Unit

Outcome 1: Assessed using short answer questions.

Outcome 2: Candidates should prepare a comprehensive list of gemstones and descriptions under open-book conditions.

Outcome 3: Candidates should undertake a practical test under closed-book conditions.

Outcome 4: Candidates should undertake a practical test under closed-book conditions.

Outcomes 1 and 2 and Outcomes 3 and 4 can be integrated.

### Opportunities for the use of 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 candidate evidence and that conditions of assessment as specified in the Evidence Requirements are met, regardless of the mode of gathering evidence. Further advice is available in *SQA Guidelines on Online Assessment for Further Education (AA1641, March 2003)*, *SQA Guidelines on e-assessment for Schools (BD2625, June 2005)*.

## National Unit specification: support notes (cont)

**Unit title:** Jewellery: Gemstones (SCQF level 6)

### Opportunities for developing Core Skills

This Unit will teach the candidate how to correctly describe and visually identify the range of common gemstones encountered in the jewellery trade. The Unit will also cover the properties of a gemstone which influence quality and associated value and cost of gemstones and also the geographical locations of important sources of gem materials.

Candidates will:

- ◆ Accurately measure gemstone samples and use formulae to calculate volumes and weights in metric carats.
- ◆ Examine a range of gemstones using simple equipment, analyse the appearance and characteristics of the stone and correctly identify the material.
- ◆ Candidates must describe the origin and appearance of a range of organic and inorganic gemstones.
- ◆ Candidates will work in groups using gemstone samples and equipment.
- ◆ Candidates will use the internet to research the appearance and properties of gemstones.

As candidates are doing this Unit they will be developing aspects of the Core Skills in *Problem Solving; Working with Others; Numeracy; Information and Communication Technology (ICT) and Communication.*

### Disabled candidates and/or those with additional support needs

The additional support needs of individual candidates should be taken into account when planning learning experiences, selecting assessment instruments, or considering whether any reasonable adjustments may be required. Further advice can be found on our website [www.sqa.org.uk/assessmentarrangements](http://www.sqa.org.uk/assessmentarrangements)

## History of changes to Unit

Version	Description of change	Date

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