



# **National 3 Science: Understanding the next steps for session 2016–17**

Early in 2016, each subject area was reviewed and the results published in individual [Subject Review Reports](#) in May. Some actions applied immediately for candidates in session 2016–17, other actions were for later years.

This Guidance note explains the impact on assessment for candidates being presented in session 2016–17 and must be read in conjunction with the Subject Review Report as the principal guide to arrangements for this year.

(Previously published subject documents affected by the subject changes will be amended in due course. There may be a period of misalignment.)

# Session 2016–17

## Unit assessment

### ◆ Outcome 1

Candidates are no longer required to show full mastery of the Assessment Standards to achieve Outcome 1. Instead, four out of the five Assessment Standards for Outcome 1 must be met to achieve a pass.

Assessment Standard	Achieved (✓ or x)				
1.1	x	✓	✓	✓	✓
1.2	✓	x	✓	✓	✓
1.3	✓	✓	x	✓	✓
1.4	✓	✓	✓	x	✓
1.5	✓	✓	✓	✓	x
<b>Pass/Fail</b>	Pass	Pass	Pass	Pass	Pass

**Important note:** There is still the requirement for candidates to be given the opportunity to meet all Assessment Standards. The above threshold has been put in place to reduce the volume of re-assessment, where that is required.

### **Re-assessment**

Candidates may be given the opportunity to re-draft their original Outcome 1 report or to carry out a new experiment/practical investigation.

◆ **Outcome 2**

**Assessment Standards 2.2 and 2.3**

Assessment Standards 2.2 and 2.3 have been **removed**. Candidates are therefore no longer required to produce a short report(s) covering these Assessment Standards.

**Assessment Standards 2.1 and 2.4**

Assessment Standards 2.1 (making accurate statements) and 2.4 (solving problems) are no longer required to be passed independently. Assessment Standards 2.1 and 2.4 can now be assessed by means of a single assessment for each Unit.

Outcome 2 will now consist of two Assessment Standards, Assessment Standard 2.1 (making accurate statements) and Assessment Standard 2.4 (solving problems).

During session 2016–17, centres have two possible options when assessing Outcome 2 (AS 2.1 and 2.4). Option 1 is detailed on pages 3–6 and Option 2 on page 7.

## Option 1: Assessment

Candidates can be assessed by means of a single test that contains marks and a cut-off score. A suitable Unit assessment will cover all of the key areas (AS 2.1) **and** assess each of the problem solving skills (AS 2.4).

Where a candidate achieves 50% or more of the total marks available in a single Unit assessment they will pass Outcome 2 for that Unit. Existing Unit assessment support packs can be used during session 2016–17. Guidance on the use of each pack is noted below.

### (a) Unit assessment support pack 1 (Unit-by-Unit approach)

As these packages contain questions on all of the key areas (AS 2.1) and questions covering each of the problem solving skills (AS 2.4), Unit assessment support pack 1 **is suitable** for use as a single assessment for its associated Unit.

The number of marks available for each question should be combined to give the total number of marks available. A cut-off score of 50% should be applied to each of these Unit assessments.

Where a centre is using Unit assessment support pack 1 they should apply the cut-off scores shown in the following table:

Unit assessment support pack 1 (V 1.2)		Total number of marks available (AS 2.1 + AS 2.4)	Cut-off score
H267 73 Fragile Earth	Energy & Metals	10	5/10
	Energy & Food	11	6/11
	Energy & Water	10	5/10
	Metals & Water	10	5/10
	Metals & Food	11	6/11
	Water & Food	11	6/11
H268 73 Human Health		11	6/11
H269 73 Applications of Science		11	6/11

**Important note:** For Fragile Earth candidates are required to answer a set of questions which provides them with opportunities to make accurate statements about **two** of the four key areas of this Unit (two from: Energy, Metals, Water, Food).

**(b) Unit assessment support pack 2 (combined approach)**

As these packages contain questions covering only Assessment Standard 2.1 they are **not suitable** for use as a single assessment for their associated Units.

If a centre wishes to use Unit assessment support pack 2 as a single Unit assessment, questions covering each of the three problem solving skills would need to be added. A **minimum of 1 mark per problem solving skill per Unit** would be acceptable.

The following table indicates the total number of marks available for the key areas (AS 2.1) in each of these Unit assessments. These marks should be combined with the marks added to assess the problem solving skills (AS 2.4) before the 50% cut-off score is applied.

<b>Unit assessment support pack 2 (V 1.2)</b>		<b>Total number of marks available (AS 2.1)</b>
H267 73 Fragile Earth	Energy & Metals	5
	Energy & Food	7
	Energy & Water	6
	Metals & Water	5
	Metals & Food	6
	Water & Food	7
H268 73 Human Health		10
H269 73 Applications of Science		9

**Important note:** For Fragile Earth candidates are required to answer a set of questions which provides them with opportunities to make accurate statements about **two** of the four key areas of this Unit (two from: Energy, Metals, Water, Food).

**(c) Unit assessment support pack 3 (portfolio approach)**

It is still acceptable for centres to use this method of assessment.

Candidates should be given the opportunity to make accurate statements for all of the key areas of each Unit (AS 2.1). They must also be given opportunities throughout the Course to answer questions on each of the three problem solving skills (AS 2.4).

Evidence should be collected as candidates progress through the Course. For Assessment Standard 2.1, candidates must achieve 50% or more of the total KU marks available for **each** Unit. For Assessment Standard 2.4, candidates must achieve 50% or more of the **total** marks available for all three problem solving skills.

Examples are given below:

◆ **Example A**

This candidate has passed Outcome 2 for all three Units as they have achieved 50% or more of the total KU marks available for each Unit **and** 50% or more of the total marks available for all three problem solving skills across the three Units.

Unit	Assessment Standard (marks achieved)	
	2.1	2.4
H267 73 Fragile Earth	4/7	3/6
H268 73 Human Health	8/10	
H269 73 Applications of Science	7/9	

◆ **Example B**

This candidate has not passed Outcome 2 for all three Units, as although they have achieved 50% or more of the total KU marks available, they have not achieved 50% or more of the total marks available for all three problem solving skills across the three Units.

Unit	Assessment Standard (marks achieved)	
	2.1	2.4
H267 73 Fragile Earth	5/7	1/6
H268 73 Human Health	6/10	
H269 73 Applications of Science	5/9	

**Important note:** For Fragile Earth candidates are required to answer a set of questions which provides them with opportunities to make accurate statements about **two** of the four key areas of this Unit (two from: Energy, Metals, Water, Food).

### **Option 1: Re-assessment**

SQA's guidance on re-assessment is that there should be one or, in exceptional circumstances, two re-assessment opportunities. Re-assessment should be carried out under the same conditions as the original assessment. It is at a centre's discretion as to how they re-assess their candidates. Candidates may be given a full re-assessment opportunity, or be re-assessed on individual key areas and/or problem solving skills. Regardless of which option is chosen, candidates must achieve 50% or more of each re-assessment opportunity.

## Option 2: Assessment

Centres can continue to use the Unit assessment support packs from SQA's secure site or their own centre devised assessments in the same way as before.

If this option is chosen, 50% or more of the KU statements (AS 2.1) made by candidates must be correct in the Unit assessment and at least one correct response for each problem solving skill (AS 2.4) is required to pass Outcome 2. However, if a candidate is given more than one opportunity in a Unit assessment to provide a response for a problem solving skill, then they must answer 50% or more correctly.

**Important note:** For Fragile Earth candidates are required to answer a set of questions which provides them with opportunities to make accurate statements about **two** of the four key areas of this Unit (two from: Energy, Metals, Water, Food).

## Option 2: Re-assessment

SQA's guidance on re-assessment is that there should be one or, in exceptional circumstances, two re-assessment opportunities. Re-assessment should be carried out under the same conditions as the original assessment. It is at a centre's discretion as to how they re-assess their candidates. Candidates may be given a full re-assessment opportunity, or be re-assessed on individual key areas and/or problem solving skills. Regardless of which KU option is chosen, candidates must achieve 50% or more of each re-assessment opportunity.

**Important note:** During session 2016–17 existing Unit assessment support packs will be amended to incorporate the changes outlined in the Science Review Report. Unit assessment support pack 1, for all Units, will be amended to ensure that each pack has the same total number of marks. Unit assessment support pack 2, for all Units, will be amended to include questions covering each of the problem solving skills as well as ensuring that each pack has the same total number of marks.

## **Understanding Standards packs**

Existing Understanding Standards packs are still current and will be updated in due course.