



GCSE and A level Science qualifications in England

Simon Banks
Senior Manager, Standards, Ofqual

Contents

- Ofqual's role in reforming qualifications
- Timetable of reform
- Summary of changes to GCSEs
- Summary of changes to AS and A levels
- The new GCSE in Food Preparation and Nutrition
- Assessment of practical skills in reformed Sciences
- Where to go for more information



Responsibilities for reform of GCSEs, AS and A levels



Government – Department for Education

- Decides overall policy on qualifications
- Arrangements for content/curriculum development

Ofqual

- Sets the rules for the design of qualifications (eg how they are structured and assessed) and accepts new qualifications onto the 'Register for Regulated Qualifications' through accreditation
- Oversees awarding of GCSEs, AS and A levels to ensure standards are maintained consistently and fairly

Exam boards

- Design and deliver qualifications



Reforms to GCSE, AS and A level Science subjects

Timetable

September 2015

First teaching of reformed A levels in Biology, Chemistry, Physics

September 2016

First teaching of reformed GCSEs in Biology, Chemistry, Physics, Combined Science, Food Preparation and Nutrition

September 2017

First teaching of reformed GCSEs and A levels in Design and Technology

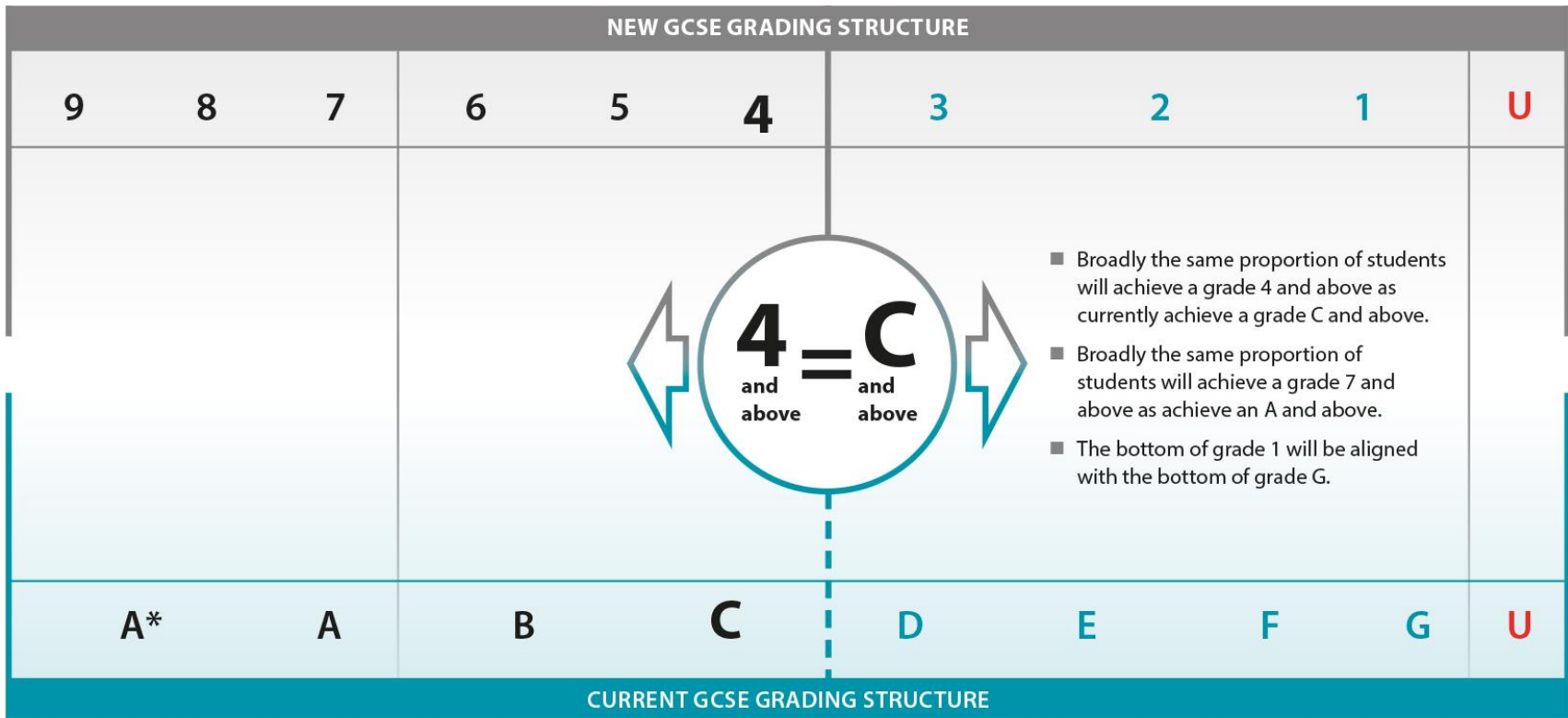


What will new GCSEs look like?

- **Structure** – linear (not broken into separately assessed units), with all exams in the summer at the end of the course
- **Assessment** – exam where possible, other forms of assessment only where necessary to assess essential subject skills
- **Tiered assessments** – only where necessary
- **Standard** – accessible to the same proportion of Key Stage 4 students as at present
- **Grading** – new numbered scale from 9 to 1 (plus U), 9 is the highest



Grading the New GCSEs in 2017



Purpose of A level qualifications

A levels should:

- define and assess achievement of the knowledge, skills and understanding needed by students planning to progress to undergraduate study at a UK higher education establishment, particularly (although not only) in the same subject area
- set out a robust and internationally comparable post-16 academic course of study to develop that knowledge, skills and understanding
- permit UK universities to accurately identify the level of attainment of students
- provide a basis for school and college accountability measures at age 18 and
- provide a benchmark of academic ability for employers



What will reformed A levels look like?

- **Content** – for new A levels has been updated
- **Structure** – decoupled from AS qualifications, all exams in the summer at the end of the course
- **Assessment**
 - exam where possible, other forms of assessment only where necessary to assess essential subjects skills
 - Synoptic questions/tasks and more extended responses
 - In science subjects, a minimum proportion of marks must be allocated to mathematical tasks
- **Grading** – staying the same as now, A* - E (& U)
- **Demand** – same level of challenge as current A levels



GCSE Food Preparation and Nutrition



- GCSEs in Food Preparation and Nutrition will be assessed through 50% exams and 50% non-exam assessment
- **The non-exam assessment will comprise 2 tasks:**
 - Plan a menu of three dishes, then prepare, cook and present it in a 3-hour period (the 'Food Preparation Assessment' worth 35% of the total marks)
 - Investigate and evaluate the working characteristics, functional and chemical properties of ingredients to achieve a particular result related to the preparation and cooking of food, and produce a report of 1,500 to 2,000 words setting out their findings (the 'Food Investigation Assessment', worth 15% of the total marks)



Practical skills in reformed Biology, Chemistry and Physics

- Practical skills are integral to science learning
- We need arrangements that will give students the opportunity to experience a wide range of practical work
- Assessments of that work need to be valid, reliable and manageable, as well as supporting the curriculum intentions



Practical skills in reformed Science A levels (1)

- HE representatives said that the technical and manipulative skills of students entering courses are generally not strong enough
- Existing arrangements of practical skills do not discriminate effectively between students

In the reformed A level science subjects:

- Students taking each of Biology, Chemistry and Physics will have to complete at least 12 practical activities during the course, but not limited to those specified
- These activities must enable students to engage with a list of specific apparatus and techniques
- Students' practical skills will be assessed in two main ways:



Practical skills in reformed Science A levels (2)

- The written exams for Biology, Chemistry and Physics will include questions about the theory and application of practical skills
- These will address requirements such as commenting on experimental design and evaluating scientific methods
- They will form at least 15% of the total marks for each of Biology, Chemistry and Physics



Practical skills in reformed Science A levels (3)

- Students' practical skills for Biology, Chemistry and Physics will be directly assessed by teachers
- The skills will include making and recording observations, applying investigative approaches and methods to practical work, as well as working safely using instruments
- Attainment in these practical skills will be reported alongside the qualification grade rather than contributing to it.



Practical skills in reformed Science GCSEs

- Students taking each of Biology, Chemistry and Physics at GCSE will have to complete at least 8 practical activities for single sciences and at least 16 for Combined Science
- The written exams for Biology, Chemistry and Physics will include questions about the theory and application of practical skills
- GCSE does not have a separate result for practical skills
- In considering whether to have a separate result or not, factors which were considered included entry size and cohort profile
- There is a requirement for schools to confirm each year that they have given each student the opportunity to do the required practical work



Find out more



■ Keep up to date on qualification reform:

www.ofqual.gov.uk/qualifications-and-assessments/qualification-reform/

■ Read and respond to our consultations: <http://comment.ofqual.gov.uk/>

■ See which qualifications have been accredited:

<http://ofqual.gov.uk/qualifications-and-assessments/qualification-reform/accredited-reformed-qualifications/>

■ Questions?

call Ofqual's helpdesk – 0300 303 3346

email – public.enquiries@ofqual.gov.uk

tweet – @ofqual

