The Royal Society of Chemistry's response to **Qualifications Wales** GSCE 'The Sciences' proposals **consultation**

December 2022

Note: All questions have a scale of agreement from strongly agree to strongly disagree, with a follow-up question asking you to explain your answer. For each answer below, our level of agreement is shown in italics.

Neither agree or disagree

*We agree with the new qualification being called "***The S***ciences" rather than "***S***cience" as it makes* clear each of the sciences is a separate disciplinary area within the single route.

The inclusion of the 'double award' wording has caused confusion and misinterpretation in the teacher community. Teachers have expressed their concern over 'taking away the option of triple' and only allowing pupils to take the 'double course', despite the intention of the new qualification to reflect the best features of the old GCSEs it is replIE4 (IE4 (IE4ni44 005)q0 0 595.4 841.8 reW*nBT/TT0 10 Tf211.48 42072.7[it is

Agree

Our position is that a single GCSE science qualification ensures equity of access to the sciences. The single qualification route must maintain disciplinary identity for each of the sciences

As a general principle, any programme of assessment should include assessment of understanding of and ability in practical work, and appreciation of the impacts of chemistry on society. A combination of a broad range of types of assessment is recommended, to cover a variety of competences, cater for a wide diversity of learners, and minimise the effect of any negative impacts associated with particular tasks.

We have spoken to some teachers, and they raise concerns over both options presented and instead propose a third option of separate exams for each subject spread across years 10 and 11. They feel that learners need that motivational push of sitting exams early, and they feel the current assessment model is working quite well for them. However, we have also heard that some teachers feel the modular examination model goes against the ethos of Curriculum for Wales, as it forces schools to follow the same path, teach things in the same order etc, therefore removing the possibility of schools having autonomy and control over their curriculum. Linear exams at the end of year 11 would allow this freedom, and also give teachers (and learners) more time to prepare for external exams. They also raised the issue that exams at the end of year 10 would force schools to make early decisions about a learner's pathway through the qualification, such as tier of entry, which could disadvantage learners who develop at a different rate.

Neither agree or disagree

The marks awarded for practical work should reflect its central place in the sciences, and act as a driver for its completion in schools.

Any prescribed practical activities and assessments should be fully funded, so that schools in challenging circumstances are not disadvantaged. Ideally, any practical assessment should assess skills and knowledge from all three of the sciences. Including only one of the sciences in the assessment could result in a lack of time afforded to practical skills development for the remaining two sciences.

We call for an effective assessment system, which will allow the majority of pupils to obtain a GCSE qualification. Some feel a two-tier assessment system is the best approach, as it will allow for a greater degree of stretch and challenge in the assessment items, while also allowing for lower-achieving students to receive a grade demonstrating their level of achievement. However, some international examples suggest that a single tier of entry is the most effective, as all of the content is potentially accessible to all. Some argue this allows learners to access any questions on content they feel comfortable with (rather than their tier of entry dictating which questions are most suitable), giving them more opportunities to gain marks. There is evidence supporting both approaches, so Qualifications Wales should consider all options and decide which is most appropriate for Curriculum for Wales.

Neither agree or disagree

This qualification should be a continuation and assessment of science that has been covered in progression step 4 (and 3, 2 and 1). There are likely to be differences in how/what has been taught in different settings – for example, teachers are encouraged to use local contexts, so learners around Swansea might learn about how science is used in the steelworks, whereas learners on Anglesey might learn about science in the context of nuclear power. Careful consideration will be needed to ensure that the assessment does not put either learner at a disadvantage.

The new qualification must be accessible, and support progression to the next stage, whether academic or vocational. Progression can be supported if the content choice is informed by the foundational knowledge and skills of chemistry; due regard should be given to ensuring content is included at a level that is accessible. As previously mentioned, the level of demand should be aspirational but also allow an educational experience that is inclusive of the vast majority of learners and aligned appropriately with the wider curriculum in related subjects.

Members of our teaching community have raised concerns over whether the new GCSE caters for learners at either extreme of ability. They are concerned over how accessible the new course will be for learners who may need more time to grasp the content; those who currently opt for a single award qualification so that they can move through at a slower pace (for example entry to a single GCSE science subject). Similarly, some teachers in our community worry about progression to A level and how learners may not be as well prepared as, for example, their peers across the border in England (this stems from fears over (perceived) reduced content and mathematical rigour). We ask for