SCORE principles: the assessment of practical work

Practical work refers to those activities in which students manipulate and observe real objects and materials in the laboratory and the field.

Teaching through practical work
Practical work in the science subjects sits within thinking and working scientifically and is intrinsic to a full learning experience for students; it is not an additional component of teaching and learning.

Teaching about practical work
Practical work is integral to the sciences; it underpins the development of associated skills and procedural knowledge and understanding, reinforcing the important idea that the sciences are empirical and must explain phenomena.

Assessing practical work
Assessment largely determines what students are taught, and has an enormous influence on the style and emphasis of teaching and learning. Therefore it is essential that awarding organisations, Ofqual and the Department for Education work together across organisations, and with others, to ensure that an effective, evidence-based mechanism for assessing practical work is developed alongside content.

SCORE believes that effective practical work comprises:

Technical and manipulative skills
There should be an expectation that on completing the course students are able to perform a range of scientific procedures with due regard for accuracy and risk management. They should have hands on experience of conducting specific technical and manipulative tasks.

Extended investigation
Students should be given the opportunity to undertake work in which they make their own decisions, for example through an investigation of their choosing over an extended period of time. They should be assessed on their ability to plan, observe, record, analyse, communicate and evaluate through this activity.

Development of conceptual understanding
A range of practical activities should be incorporated into the teaching of scientific ideas to enable students to develop their understanding through interacting with apparatus, objects and observations.

SCORE principles: the assessment of practical work

1. Practical science framework
An essential first step is to develop a common framework for the purposes, methods and learning goals of practical work in science. These should be identified through consultation and collaboration with stakeholders in order to ensure that students experience a range of practical activities.

2. Uniformity in assessment schemes across awarding organisations
There must be uniformity in the assessment schemes offered by different awarding organisations. Schools should not be able to choose a course based on the method of assessment and awarding organisations should not be able to compete on the cost or ease of implementation of their schemes for assessing practical work.

3. Validity and reliability
SCORE believes that direct assessment should remain a component of assessment of practical work. To remain valid, assessment needs to sample a range of activities in different contexts. To underpin reliability of the assessment, appropriate moderation procedures should be put in place to ensure fairness in school assessment is maintained.