

Technical  
Education  
Networks



Route: Health & Science

# Health and Science T-levels

Guide to T-level curriculum macro-sequencing

This slide deck offers an overview of the components for the Health and Science T-level curriculum.

# Where did we get the information from?

- The Association of Colleges (AoC) and Gatsby partnered with T-level providers to explore current practices in macro-sequencing of curriculum delivery models between January and August 2024.
- 55 providers took part in the research: 24 completed a survey, 51 had in-depth interviews, and 55 attended focus groups to create the delivery models presented and insight in this presentation.
- Feedback on emerging models was provided by delegates at Gatsby's Technical Education Networks (TEN) Conference in July 2024.
- Gatsby plan to review and update this insight annually. For more details, please contact [TEN@gatsby.org.uk](mailto:TEN@gatsby.org.uk)

# Health and Science T-levels

The Health and Science route includes three T-levels:

1. T Level Health (NCFE)
2. T Level Science (NCFE)
3. T Level Healthcare Science (NCFE)



# T Level Health

## Qualification information

The technical qualification is organised into eleven areas in Section A and two areas in Section B of the core, an employer set project and has two occupational specialism.

The overall grading for the technical qualification is on a scale of Pass, Merit, Distinction, Distinction\*, with the Core graded A\*–E and the Occupational Specialism graded Pass, Merit, Distinction, Distinction\*.

Core knowledge and skills support threshold competence in the health industry and are assessed through two examinations and the Employer Set Project.

## Core exam overview

Exam Paper A – Core elements A1–A11	Exam Paper B – Core elements B1 and B2
Section A – Working in the healthcare sector	Section A – Body Systems 1
Section B – Managing personal information and data in the healthcare sector	Section B – Body Systems 2
Section C – Health and safety in the healthcare sector	Section C – Body Systems 3
Section D – Person-centered care in the healthcare sector	

# Employer Set Project (ESP)

The Employer Set Project (ESP) assesses core knowledge and six main skills.

- Skill 1: Demonstrate person-centered care skills
- Skill 2: Communicating
- Skill 3: Team working
- Skill 4: Reflective evaluation
- Skill 5: Researching
- Skill 6: Presenting

The ESP can be completed in the Autumn or Summer Assessment Sessions and there are six tasks to the assessment. Students are permitted 14 hours and 30 minutes to complete the ESP and are given 2 hours preparation time (16 hours 30 minutes in total).

- Task 1: 2 hours
- Task 2a: 2 hours
- Task 2b: 2 hours 30 minutes
- Task 3a: 3 hours 30 minutes
- Task 3b: 2 hours 30 minutes
- Task 4: 2 hours

# T Level Science

## Qualification information

The technical qualification is organised into ten areas in Section A and two areas in Section B of the core, an employer set project and has three occupational specialism.

The overall grading for the technical qualification will be on a scale of Pass, Merit, Distinction, Distinction\*, with the Core graded A\*–E and the Occupational Specialism graded Unclassified, Pass, Merit, Distinction, Distinction\*.

Core knowledge and skills supports threshold competence in the science industry and are assessed through two examinations and the Employer Set Project.

## Core exam overview

Exam Paper A – Core elements A1–A10	Exam Paper B – Core elements B1 and B2
Section A – Working in the science sector	Section A – B1 Biology
Section B – Ethics, data and managing personal information in the science sector	Section B – B1 Chemistry
Section C – Health and safety in the science sector	Section C – B1 Physics
Section D – Scientific methodology, equipment and techniques	Section D – B2 Further Scientific Concepts



# Employer Set Project (ESP)

The Employer Set Project (ESP) assesses core knowledge and seven main skills.

- Skill 1: Project management
- Skill 2: Researching
- Skill 3: Working with others
- Skill 4: Creativity and innovation
- Skill 5: Problem solving
- Skill 6: Communication
- Skill 7: Reflective evaluation

The ESP can be completed in the Autumn or Summer Assessment Sessions. The brief and tasks are contextualised around an occupational area and chosen by the student ahead of the assessment window. Students are permitted 18 hours to complete the ESP.

# What is macro-sequencing?

Macro-sequencing is a structured and logical progression of the programme informed by strong pedagogical decisions.

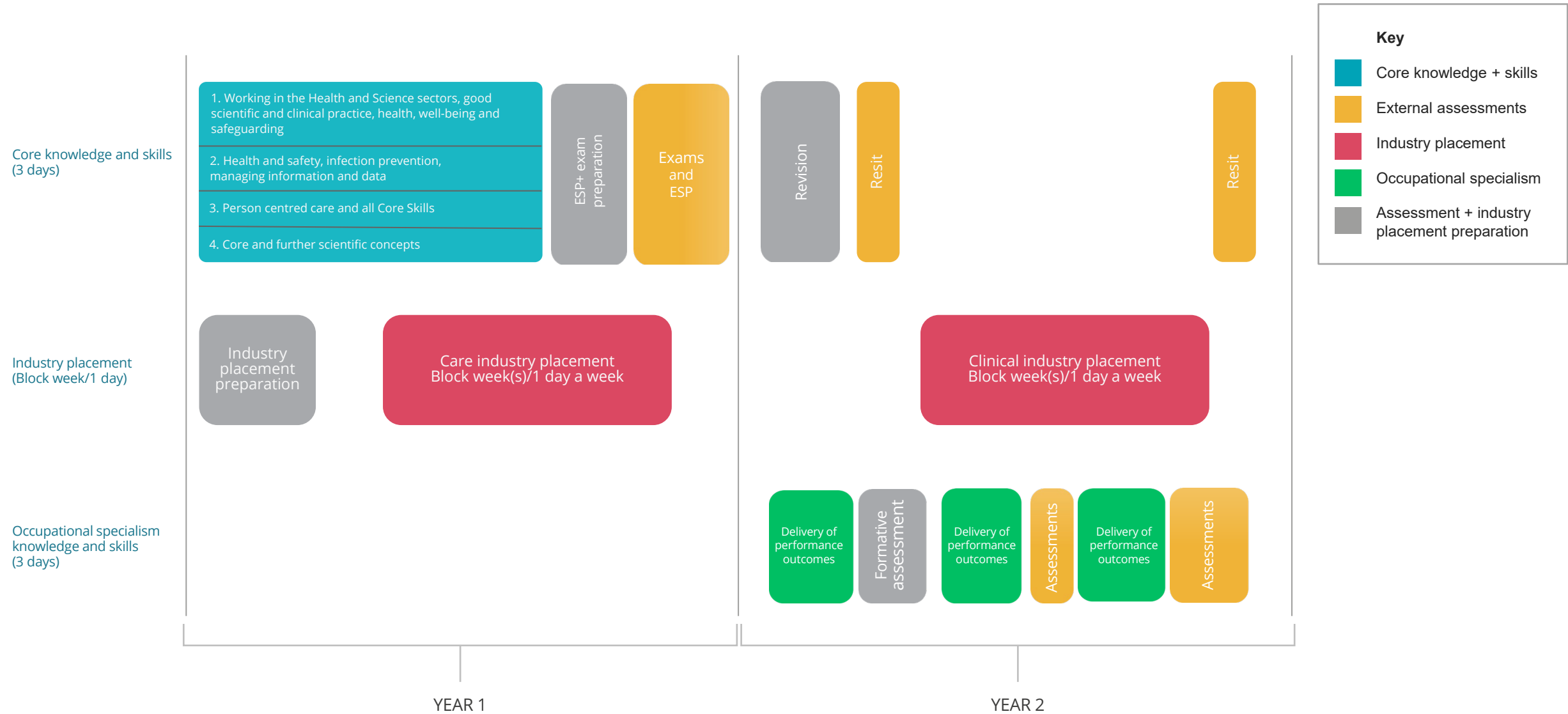
The following models summarise provider feedback on their sequencing of the macro components of the T-level, including the core, occupational specialism and industry placement.

The following slides and assessment elements provide two suggested curriculum models for the macro sequencing of the T-level in Health with the occupational specialism supporting the adult nursing team and two suggested curriculum models for the T-level in Science for the occupational specialism laboratory sciences.



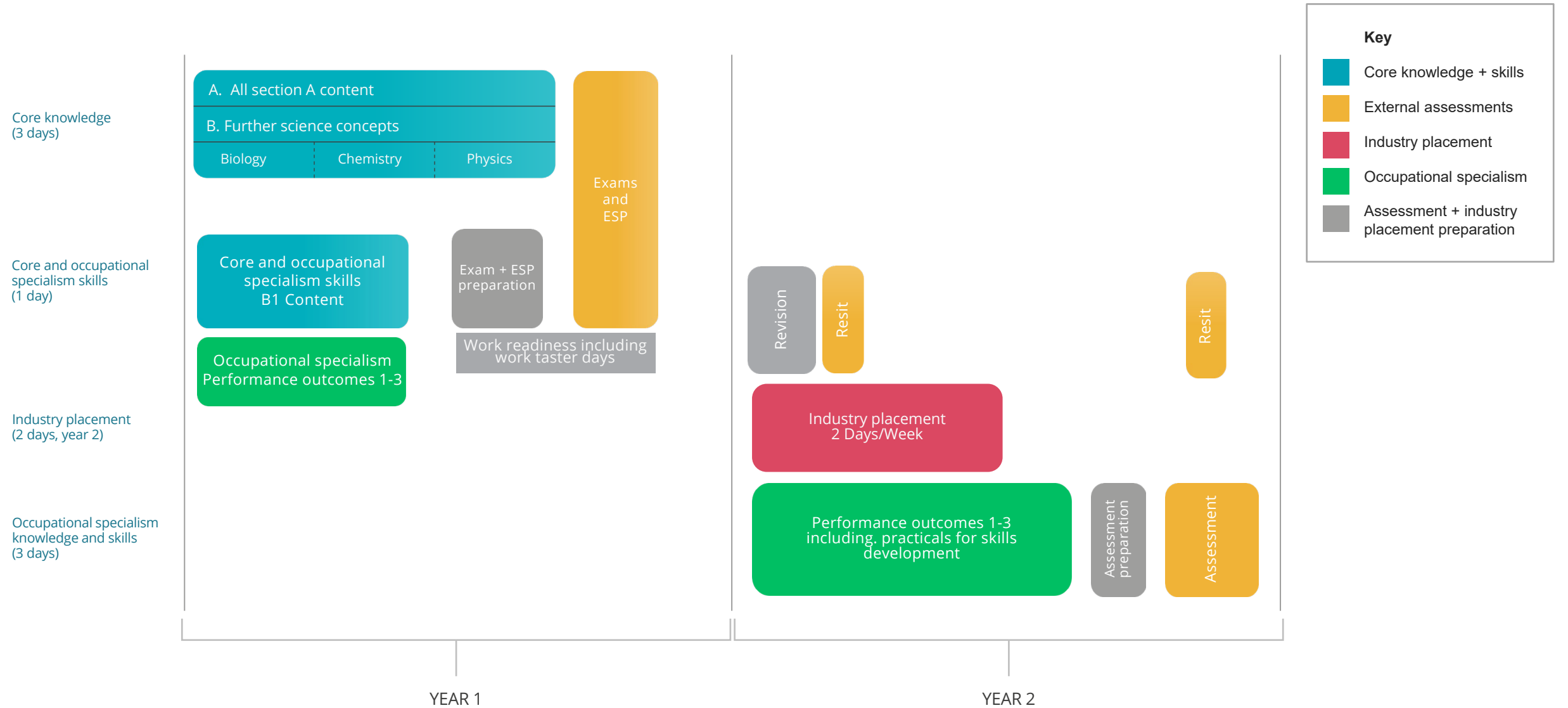
# HEALTH – Occupational Specialism – Supporting the Adult Nursing Team

## MODEL 1



# HEALTH – Occupational Specialism – Supporting the Adult Nursing Team

## MODEL 2



# Feedback on implementing diagnostic assessments

## **Initiate and enhance diagnostic assessment**

Start with initial assessments in English and maths to establish students' starting points. Develop contextualised T Level Health diagnostic strategies by including report writing assessments to check spelling, punctuation, and grammar, and evaluate students' understanding of core science concepts and associated practical skills.

## **Assess and develop professional skills**

Conduct initial assessments to gauge students' interactions with a range of individuals, especially in patient and service user scenarios. Evaluate professional behaviour and attitudes in real-world settings like hospital wards and laboratories. Utilise specialised introductory programmes, such as a 2-week pre-T-level summer school, to focus on professional conduct in authentic healthcare environments before starting the programme.

## **Apply assessment insights for personalised learning**

Use the insights gained from these assessments to inform and tailor individual learning objectives for each student. Ensure that every student's educational journey is customised according to their strengths and needs, providing a more personalised and effective learning experience.

# Feedback on sequencing core knowledge content

## **Split core content delivery**

Separate the core content into Sections A and B. Assign teaching of Section B to specialist science curriculum staff.

## **Adaptable delivery approaches for Section A**

**Approach 1:** Allocate the eleven components of Section A among staff based on their expertise, adjusting the delivery order for optimal learning and placement requirements.

**Approach 2:** Group Section A components thematically, based on staff expertise and the needs of placements that enhances learning progression rather than strictly following the exam order.

## **Flexible delivery of Section B**

Begin with core component B1, covering Biology, Chemistry, and Physics, or integrate topics for a more cohesive learning experience. Apply real-world contexts to Section B topics, making the content more engaging and relevant to industry.

## **Effective time management and resit strategy**

Allocate additional teaching time for Section B as needed, especially for students lacking foundational science knowledge. Plan content delivery in line with the summer assessment window for the Employer Set Project and core exams, including scheduling mock assessments. Manage resit opportunities strategically, considering their impact on future year delivery and placements, and align resits with the next year's cohort where feasible.

# Feedback on embedding skills in the curriculum

## **Holistic integration of skills**

Incorporate technical and essential skills into core and occupational specialism content, focusing on skills crucial for placement success first and meeting employer expectations.

## **Development of practical technical skills**

Conduct practical technical skills training using simulated wards initially to build confidence and evolve these through the objectives set on industry placements, ensuring these skills support both core content and the occupational specialism.

## **Specialisation in core skills for Employer Set Project**

Allocate specific Employer Set Project skills to teachers for regular content delivery and organise dedicated sessions for comprehensive Employer Set Project preparation, including mock assessments.

## **Emphasis on self-reflection and person-centered care**

Highlight the importance of self-reflection in Employer Set Project tasks and integrate person-centred care skills into the curriculum for a well-rounded learning experience.

## **Collaborative skills enhancement and alignment with employment standards**

Regularly include essential skills training, such as communication and teamwork, in collaboration with curriculum staff and employers. Utilise employer insights for real-world relevance and include training for certifications like the care certificate to align with requirements to enter the future workforce.

# Feedback on sequencing occupational specialism (OS) content

## **Dual sequencing approaches**

Begin OS delivery focusing on the three core performance outcomes. Alternatively, plan your teaching to align with specific assessment tasks and their schedules. Adapt your approach based on the resources available and the size of your student cohort.

## **Transitioning from core to optional performance outcomes**

After covering the core performance outcomes, move on to the three option-specific performance outcomes. Adjust your teaching strategy as necessary, based on staff expertise and the pace of student learning. You may choose to sequence some OS content/skills in the first year of delivery to support student engagement in their chosen career path, e.g. Adult Nursing.

## **Assessment schedule alignment**

Utilise the OS assessment schedule, available early in the academic year, to sequence your content delivery from the first assessment window. Ensure that students are well-prepared and confident for their assessments.

## **Collaboration and resource management**

Manage logistics and resources effectively, especially for practical activities, to ensure smooth assessment periods. Promote collaboration between Year 1 and Year 2 students by aligning Year 2's OS content with Year 1's Employer Set Project. Encourage activities like peer assessment and patient role-playing to enhance learning and skill development across both cohorts.

# Feedback on implementing industry placements

The sequencing and delivery models for the industry placement varied across the providers interviewed and reflects the needs and requirement of the different employers that providers are working with.

## **One employer approach**

Providers who were using this approach tended to have developed this with a local NHS Trust, with students following an intensive pre-placement preparation programme involving employer input in Year 1. This programme often included early taster activities and work shadowing as well as an application and interview process. Students then began the placement for a combination of block weeks and day release agreed with individual NHS trusts.

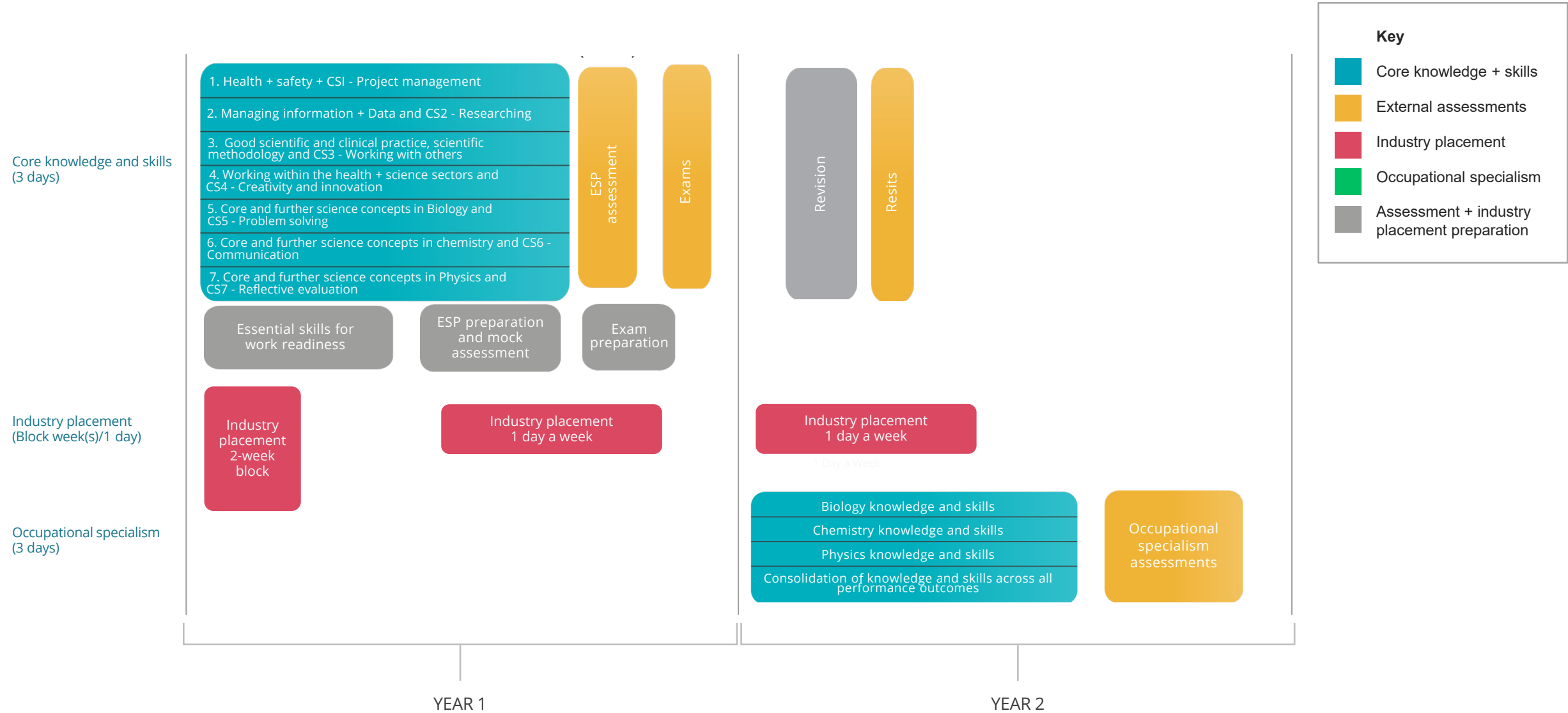
## **Two employer approach**

Providers using this approach usually had the first employer from a generic care setting, and the second employer from the NHS. Providers felt this approach allowed students to develop and hone their skills, particularly in relation to communication, team working and person-centred care and introduced them to being in a workplace away from the familiar college setting. Often providers using this model indicated that students were on a 1 day a week placement in the care setting and then a block placement in the NHS.



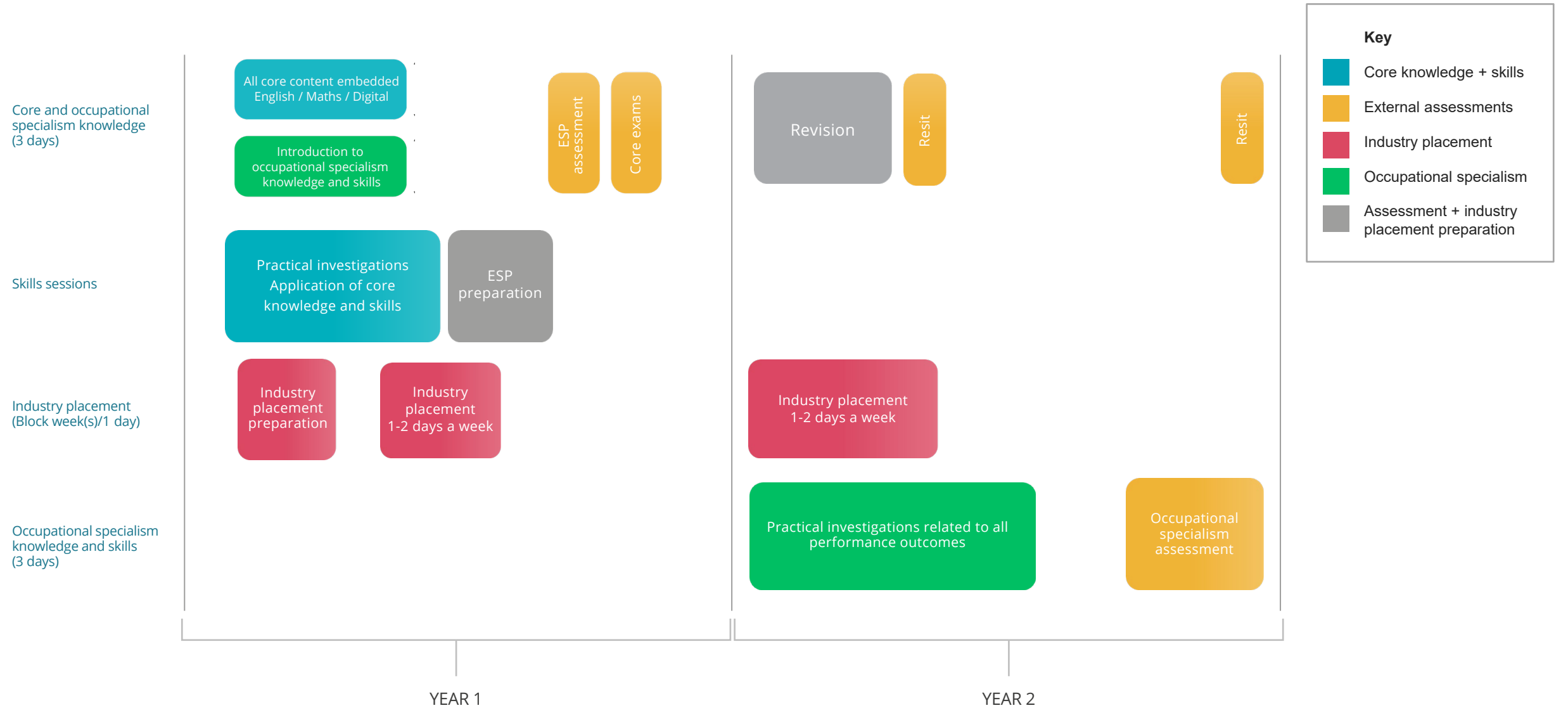
# SCIENCE – Occupational Specialism – Laboratory Sciences

## MODEL 1



# SCIENCE – Occupational Specialism – Laboratory Sciences

## MODEL 2



# Feedback on implementing diagnostic assessments

## **Initiate and enhance diagnostic assessment**

Start with initial assessments in English and maths to establish student's starting points. Develop contextualised T Level Science diagnostic strategies by including report writing assessments to check spelling, punctuation, and grammar, and evaluate students' understanding of core science concepts and their ability to perform laboratory experiments.

## **Assess science knowledge starting points**

Use science knowledge diagnostic assessments, including for GCSE Science content. These assessments highlight the differences between those students who had completed foundation tier papers and those who have taken higher tier papers. This provided useful information for providers and was used to inform planning and sequencing of Section B core content.

## **Apply assessment insights for personalised learning**

Use the insights gained from these assessments to inform and tailor individual learning objectives for each student. Ensure that every student's educational journey is customised according to their strengths and needs, providing a more personalised and effective learning experience.

# Feedback on sequencing core knowledge content

## Split core content delivery

Separate the core content into Sections A and B. Assign teaching of Section B to specialist science curriculum staff.

## Adaptable delivery approaches for Section A

**Approach 1:** Allocate the ten components of Section A based on themes outlined per core exam that could include one teacher delivering working within the science sector (A1, A2 and A8), a second teacher delivering ethics, data and managing personal information in the science sector (A5, A6 and A7), a third delivering health and safety in the science sector (A5, A6 and A7) and a fourth teacher delivering scientific methodology, equipment and techniques (A9 and A10). Section B content could then split into Biology, Chemistry and Physics, with one teacher responsible for the delivery of both B1 and B2 core content for a specific discipline. Not all content with this approach is equally weighted in terms of guided learning hours so teachers supplemented delivery with employer input, including visits and master classes.

**Approach 2:** A more integrated approach to the delivery of Section A and B core content. The focus was to give relevance to Section A content which for many students may be quite abstract as they had no knowledge of working in the science sector. Providers noted that some Section A components were difficult to integrate and were delivered as stand-alone sessions or were incorporated within industry placement learning objectives. With this model, providers commented on the importance of delivering health and safety early on, so this could then be referenced in any practical sessions.

**Approach 3:** The aim was on developing students for the role of laboratory scientist, a holistic approach based on scientific investigations. The core content for Sections A and B, core skills, embedded English, maths and digital and some occupational specialism knowledge and skills were all delivered in Year 1. It was acknowledged that there is potentially duplication of content between the core content and the occupational specialism and therefore relationships and patterns were identified to avoid duplication of delivery. This approach and the practical sessions, which focussed on scientific investigations, delivered the content in an integrated way which students found motivating and engaging and was key to developing the ethos of working as a laboratory technician.

# Feedback on embedding skills in the curriculum

## **Scientific technical skills developed through practical investigations**

Practical sessions were used by providers to support learning of core content and to develop the required skills and behaviours that students needed to be successful on the industry placement. Usually, these practical activities were not separately timetabled sessions as they were incorporated into the schemes of learning for Section A and B delivery.

## **Utilising specialist equipment and facilities**

Those adopting a holistic approach on scientific investigations did have specific timetabled sessions for scientific technical skills and students spent most of their time in a dedicated science facility with scientific equipment and IT facilities to support scientific investigation. This facility provided students with the opportunity to undertake activities that reflected the experience and environment they were likely to encounter on their industry placement.

## **Embedding skills into curriculum**

Embed the skills assessed in the Employer Set Project assessment into core content. Providers noted that they made use of naturally occurring opportunities to develop skills such as communication and researching. There were examples where specific teachers had taken responsibility for a particular skill alongside their delivery, especially in scientific methodology.

## **Industry placement preparation**

Develop bespoke sessions for employability skills in preparation for industry placements including creating/updating CVs and cover letters and mock interviews. In many instances these sessions were co-delivered with input from employers. Providers described how these sessions provided time and opportunity for students to build up their confidence levels and develop the ability to communicate effectively in work environments.

# Feedback on sequencing occupational specialism (OS) content

## **Segment the content into the three disciplines**

All providers were delivering OS content in Year 2 of the programme and split the occupational specialism delivery into Biology, Chemistry, and Physics disciplines, rather than a by performance outcome approach. Some providers supplemented this approach by timetabling an extra session which consolidated this learning in relation to the performance outcomes and requirements of OS assessment tasks.

## **A holistic approach to scientific investigations**

Following a holistic approach to sequencing scientific investigations in the core and occupational specialism in Year 1 (Approach 3 Slide 19) enabled delivery focused on more complex scientific investigations in Year 2, building on the practical activities completed in the first year. These second-year practical investigations, which were often devised by the students themselves, were related to all three performance outcomes and noted students were more familiar with scientific investigations (planning, performing, reviewing, and identifying errors), so they were able to perform to a high standard in the OS assessments.

## **Importance of external assessments**

It is important to note the external assessment dates and work backwards from these so there is appropriate time to cover all content and prepare students for the requirements of the OS assessment. Providers did also indicate that a lot of OS content is a repetition of core content but at a more in-depth level, so moving some of the OS content into Year 1 would ensure there was adequate time in Year 2.

# Feedback on implementing industry placements

## **Collaborate with employers to align to their needs**

An example included an initial 2-week block to ensure students had completed all the required induction activities at the employer setting initially. Students then continued with the same employer, 1 day a week throughout the first year and the second year until the occupational specialism assessment period. This provided the opportunity for students to develop the required knowledge and application of skills to be fully prepared for their occupational specialism assessment.

## **Day release and block placements**

All providers were using the one employer approach for the industry placements. Some providers opted for 2 days a week throughout Year 2 when sequencing the industry placements so students had the underpinning knowledge from their first year as a foundation.

## **Flexibility in the sequencing**

Some providers were able to be flexible in the way placements were completed. A provider timetabled students in college 3 days a week to allow flexibility in how the placement worked for individual students. Some students had 2 days a week on their placement and completed earlier in the year, some students had a 1 day a week placement over a longer period, including during provider holidays. This approach also enabled some employers to take more than one student on different days to support scaling-up of placements.

## **Use a range of employers for placements**

Providers had made use of hospital diagnostic laboratories, school and university science teaching laboratories for the placements. All providers had set learning objectives with employers to ensure placements were supporting understanding and honing the skills required for the T Level Science.



# Further information on T-levels

- [Technical Qualification in Health \(Version 3.1 January 2024\)](#)
- [Technical Qualification in Science \(Version 2.0 June 2023\)](#)
- [A guidance to effective practice in curriculum planning \(January 2023\)](#)
- [T Level industry placements delivery guidance \(June 2023\)](#)