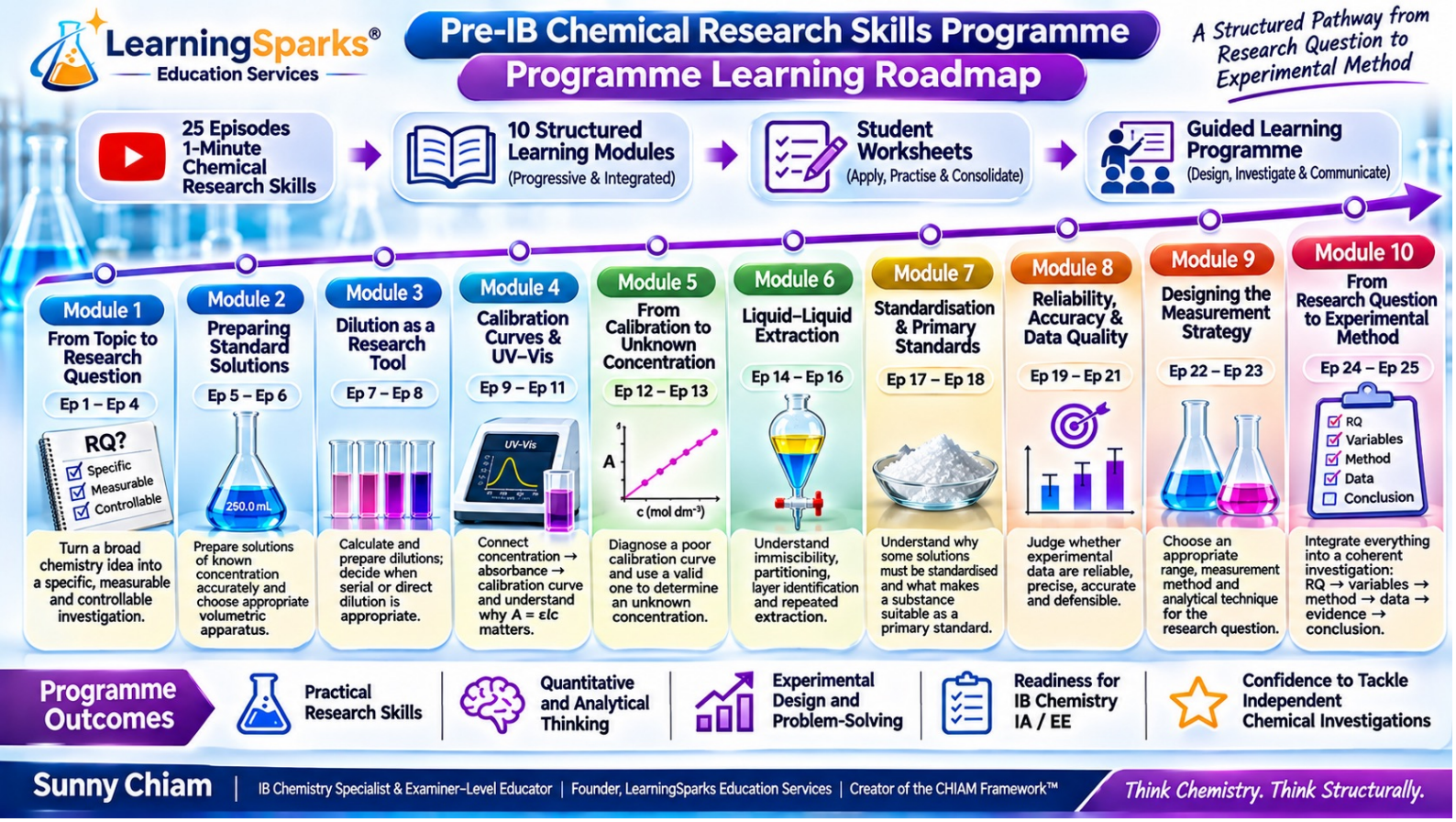


Programme Learning Roadmap

A Structured Pathway from Research Questions to Independent Chemical Investigation

The Pre-IB Chemical Research Skills Programme is designed as a progressive learning journey that equips students with the essential knowledge, practical techniques, and scientific reasoning skills required for independent chemical investigations.

Through 25 episodes of 1-Minute Chemical Research Skills, students are introduced to fundamental research concepts, which are subsequently developed in greater depth across 10 carefully structured learning modules.

The programme begins with formulating meaningful research questions and progresses through preparing standard solutions, dilution techniques, calibration curves, quantitative analysis, liquid–liquid extraction, standardisation, and experimental data evaluation. The final two modules bring these skills together, guiding students in selecting appropriate measurement strategies and designing scientifically defensible experimental methods.

Each module is supported by student worksheets, guided exercises, and practical applications, allowing students to consolidate their understanding and progressively develop greater independence in scientific thinking.

Rather than teaching experimental techniques as isolated skills, the programme emphasises how each stage of chemical research connects to the next — from asking the right question to collecting reliable evidence and drawing meaningful conclusions.

Our ultimate objective is to prepare students not merely to perform experiments, but to understand, design, justify, and critically evaluate them.

This structured foundation supports a more confident transition into IB Chemistry, particularly in preparation for future Internal Assessment (IA) and Extended Essay (EE) investigations.

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