1B: Numeracy and literacy in Year 8 Physics

Date of evidence	School(s)	My Role(s)	Year Level(s)/Learning area(s)/Subject(s)
2021	[redacted]	Team member of Year 8 Science	Year 8 Physics

Artefacts	Annotation	Standard Descriptors Evidenced
Artefact 1B(1): Numeracy in Year 8 Physics Artefact 1B(1) - Nu...	**Artefact 1B(1)** demonstrates working with and supporting colleagues with numeracy in the Year 8 Physics unit in 2021. Evidence from a Teams chat shows how I **worked with colleagues to review the teaching and learning program using knowledge of curriculum (3.6)**, discussing the scope of program content, particularly the inclusion of calculations of gravitational potential energy (GPE), which is usually part of Year 10 Physics. Further to this discussion I attended a QCAA PD **opportunity to improve practice (6.2)** in data literacy in 7-10 Science, during which Sankey diagrams were a suggested tool for supporting data literacy. I drew on this learning and subsequently created two lessons for the teaching team incorporating these content inclusions - Sankey diagrams and calculations of GPE. To **develop a culture of high expectations (3.1)**, lesson objectives and success criteria **modelled and set challenging learning goals (3.1)** for students to apply numeracy concepts successfully in Science. In order to achieve the learning goals, the lessons **supported colleagues to implement effective teaching strategies for numeracy development (2.5)** including highlighted formula, defined terms and variables, guided thinking steps, worked examples, and opportunities for guided practice, individual practice and independent review (video). Samples of student work from these lessons and the end of term examination demonstrate that these teaching strategies were effective for improving numeracy achievement as students demonstrated the ability to successfully calculate GPE and interpret Sankey diagrams. **226 words**	2.5 Support colleagues to implement effective teaching strategies to improve students literacy and numeracy achievement 3.1 Develop a culture of high expectations for all students by modelling and setting challenging learning goals 3.6 Work with colleagues to review current teaching and learning programs using student feedback, student assessment data, knowledge of curriculum and workplace practices 6.2 Plan for professional learning by accessing and critiquing relevant research, engage in high quality targeted opportunities to improve practice and offer quality placements to pre-service teachers
Artefact 1B(2): Literacy strategy for exam responses Year 8 Physics Artefact 1B(2) - Lit...	As part of the same 2021 Physics unit I implemented a lesson focused on **teaching strategies for improving student literacy (2.5)** around assessment responses. Students drafted their own "explain" response from an energy flow chart stimulus, and were then shown comparisons of "describe" and "explain" responses, and their relationship to assessment achievement descriptors. Noun groups, drawn from the English curriculum, were utilised as a strategy to build information rich scientific writing. Students were then asked to critique their own work and produce a second response. **Artefact 1B(2)** shows how I **supported a colleague to implement this strategy (2.5)** through observing my lesson in 2021, and she then implemented this lesson with her own class, and repeated it again in 2022, which I was able to observe. Samples of student work from her lesson demonstrate improvement in student writing from pre to post strategy implementation. **142 words**	2.5 Support colleagues to implement effective teaching strategies to improve students literacy and numeracy achievement