# Science 7–10 (2023): Bibliography

ACARA (Australian Curriculum, Assessment and Reporting Authority) (2022) *Australian curriculum: Science 7–10 version 9*, ACARA website, accessed 21 June 2022 https://v9.australiancurriculum.edu.au/

Australian Government (2005) The *Disability Standards for Education 2005*, Department of Education and the Department of Employment and Workplace Relations website, accessed 11 February 2022 <https://www.education.gov.au/disability-standards-education-2005>

——(2019) *The Alice Springs (Mparntwe) Education Declaration*, Department of Education, Skills and Employment website, accessed 12 February 2022 <https://www.education.gov.au/alice-springs-mparntwe-education-declaration/resources/alice-springs-mparntwe-education-declaration/>

Belenguer-Sapiña C, Briz-Redón Á and Domínguez-Sales MC (2021) 'Do social chemophobic attitudes influence the opinions of secondary school students?', *Journal of Chemical Education*, 98(7):2176–2187, doi:10.1021/acs.jchemed.0c01352.

Bennett LM and Gadlin H (2012) 'Collaboration and team science', *Journal of Investigative Medicine*, 60(5):768–775, doi:10.2310/JIM.0b013e318250871d.

Berry A and van Driel JH (2012) 'Teaching about teaching science: aims, strategies, and backgrounds of science teacher educators', *Journal of Teacher Education*, 64(2):117–128, doi:10.1177/0022487112466266.

Brown BA and Ryoo K (2008) 'Teaching science as a language: A “content-first” approach to science teaching', *Journal of Research in Science Teaching*, 45(5):529–553, doi:10.1002/tea.20255.

Buntting C, Dillon J, Jones A, Corrigan DJ and Gunstone R (eds) (2015) *The future in learning science: what’s in it for the learner?*, 1st edn, Springer, doi:10.1007/978-3-319-16543-1.

Corrigan D, Buntting C, Dillon J, Jones A and Gunstone R (2015) *The Future in
Learning Science: What’s in it for the Learner?*, 1st edn, Springer, doi:10.1007/978-3-319-16543-1.

Engineers Australia (2018) *NSW Curriculum review response: Newcastle & Sydney Divisions*, accessed 24 February 2022 [PDF 412.98 KB]. <https://www.engineersaustralia.org.au/sites/default/files/2018-11/NSW%20Curriculum%20Review%20Response_FINAL%20V3.pdf>

González PB and Reiss M (2021) 'Science teachers’ views of creating and teaching big ideas of science education: experiences from Chile', *Research in Science & Technological* *Education,* 41(2):523–543, doi:10.1080/02635143.2021.1919868.

Hagay G and Baram-Tsabari A (2015) 'A strategy for incorporating students’ interests into the high-school science classroom', *Journal of Research in Science Teaching*, 52(7):949–978, doi:10.1002/tea.21228.

Harlen W, Bell D, Devés R, Dyasi H, de la Garza GF, Léna P, Millar R, Reiss M, Rowell P and Yu W (2010) *Principles and big ideas of science education*, Harlen W (ed) The Association for Science Education. <https://www.ase.org.uk/bigideas>

—— (2015) *Working with Big Ideas of Science Education*, Harlen W (ed) Science Education Programme of IAP (InterAcademy Partnership).

<https://www.ase.org.uk/bigideas>

Harris K-L (2012) *A background in science: What science means for Australian society* [PDF 4.40MB], Centre for the Study of Higher Education, The University of Melbourne. <https://melbourne-cshe.unimelb.edu.au/__data/assets/pdf_file/0004/2317045/BackgroundInScience-_web.pdf>

Hirsch ED (2016) Why knowledge matters: Rescuing our children from failed educational theories. Harvard Education Press, Cambridge, MA.

Houseal AK and Ellsworth PC (2014) 'Methods & strategies: what's the big idea?', *Science and Children*, 52(4):65–69.

Jessani SI (2015) 'Science education: issues, approaches and challenges', *Journal of Education and Educational Development*, 2(1):79–87, doi:10.22555/joeed.v2i1.51.

Kelly DL, Centurino VAS, Martin MO and Mullis IVS (n.d.) *TIMSS 2019 encyclopedia: education policy and curriculum in mathematics and science*, TIMSS and PIRLS, accessed 11 February 2022. <https://timssandpirls.bc.edu/timss2019/encyclopedia/>

Kotkas T, Holbrook J and Rannikmäe M (2016) 'Identifying characteristics of science teaching/learning materials promoting students’ intrinsic relevance', *Science Education International*, 27(2):194–216.

Lehrer R and Schauble L (2012) 'Seeding evolutionary thinking by engaging children in modelling its foundations', *Science Education*, 96(4):701–724, doi:10.1002/sce.20475.

Leong E, Mercer A, Danczak SM, Kyne SH and Thompson CD (2021) 'The transition to first year chemistry: student, secondary and tertiary educator’s perceptions of student preparedness', *Chemistry Education Research and Practice*, 22(4):923–947, doi:10.1039/d1rp00068c.

Liu X and Zhang B (2014) 'Editorial: special issue (SI): International Conference on Science Education (ICSE)', *Journal of Science Education and Technology*, 23(2):207–210, doi:10.1007/s10956-013-9485-1.

Masters G (2020) *Nurturing wonder and igniting passion, designs for a new school curriculum: NSW Curriculum Review*, NSW Education Standards Authority, accessed 19 January 2022. <https://research.acer.edu.au/nswcurriculumreview/6/>

Nat Biotechnol (2016) 'So long to the silos', *Nature Biotechnology*, 34(4):357, doi:10.1038/nbt.3544.

NESA (NSW Education Standards Authority) (n.d.) *Statement of Equity Principles*, NESA website, accessed 17 February 2022.

—— (n.d.) *Depth studies: Year 11 and 12*, NESA website, accessed 17 Februrary 2022. <https://educationstandards.nsw.edu.au/wps/portal/nesa/11-12/stage-6-learning-areas/stage-6-science/biology-2017/depth-studies>

—— (2018) *Science Years 7–10 Syllabus (2018)*, NESA website, accessed 3 November 2021. <https://educationstandards.nsw.edu.au/wps/portal/nesa/k-10/learning-areas/science/science-7-10-2018>

—— (2018) *Teaching writing: Report of the thematic review of writing*, NESA website, accessed 27 June 2023. <https://www.nsw.gov.au/education-and-training/nesa/about/research/reports/teaching-writing/teaching-writing-report>

NRC (National Research Council) (2000) *How people learn: brain, mind, experience, and school: expanded edition*, 1st edn, The National Academies Press, doi:10.17226/9853.

NSW Government (n.d.) *Aboriginal seasonal calendars*, NSW Koala Country, accessed 16 June 2022. <https://www.koala.nsw.gov.au/aboriginal-seasonal-calendars/>

NSW Government (2021) *NSW Government response to the NSW Curriculum Review final report*, NSW Government website, accessed 3 August 2021. [https://www.nsw.gov.au/education-and-training/nesa/about/strategies-and-reforms/curriculum-reform/nsw-government-response](https://www.nsw.gov.au/education-and-training/nesa/about/strategies-and-reforms/curriculum-reform/nsw-government-response%20)

—— (n.d.) *Welcome to AdaptNSW*, AdaptNSW, accessed 30 March 2022. <https://www.climatechange.environment.nsw.gov.au>/

Office of the Chief Scientist (2019) *Australian informed choices for higher education: A strategy to improve the continuum between senior secondary schools and universities*, Australian Government, accessed 23 November 2021. <https://www.chiefscientist.gov.au/news-and-media/mapping-university-prerequisites-australia>

Office of the Chief Scientist and AMSI (Australian Mathematical Sciences Institute) (2020) *Mapping university prerequisites in Australia*, Australian Government, accessed 23 November 2021. <https://www.chiefscientist.gov.au/news-and-media/mapping-university-prerequisites-australia>

Osborne J (2006) *Towards a science education for all: The role of ideas, evidence and argument*, accessed 4 March 2022. <https://research.acer.edu.au/research_conference_2006/9>

Osborne J, Henderson JB, MacPherson A, Szu E, Wild A and Yao S-Y (2016) 'The development and validation of a learning progression for argumentation in science', *Journal of Research in Science Teaching*, 53(6):821–846, doi:10.1002/tea.21316.

Roberson R (2013) 'Helping students find relevance', *Psychology Teacher Network*, 23(2):18–20.

Roberts R (2016) 'Understanding the validity of data: a knowledge-based network underlying research expertise in scientific disciplines', *Higher Education*, 72:651–668, doi:10.1007/s10734-015-9969-4.

Schanzer E, Pfenning N, Denny F, Dooman S, Politz JG, Lerner BS, Fisler K and Krishnamurthi S (2022) 'Integrated data science for secondary schools: design and assessment of a curriculum', *SIGCSE 2022: Proceedings of the 53rd ACM Technical Symposium on Computer Science Education*, 1:22–28, doi:10.1145/3478431.3499311.

Science Buddies (n.d.) *Data analysis & graphs*, Science Buddies, accessed 5 July 2022. <https://www.sciencebuddies.org/science-fair-projects/science-fair/data-analysis-graphs>

She HC, Stacey K and Schmidt WH (2018) 'Science and mathematics literacy: PISA for better school education', *International Journal of Science and Mathematics Education*, 16:1–5, doi:10.1007/s10763-018-9911-1.

Shin N, Stevens SY and Krajcik J (2009) 'Learning progressions to support coherence curricula in instructional material, instruction, and assessment design' [conference presentation], *Learning Progressions in Science (LeaPS) Conference*, Iowa City, accessed 12 November 2021. <https://education.msu.edu/projects/leaps/proceedings/Default.html>

Siegel H (1989) 'The rationality of science, critical thinking, and science education', *Synthese*, 80(1):9–41, doi:10.1007/bf00869946.

STANSW (Science Teachers Association New South Wales) (2020) *Position paper: NSW Curriculum reform*, STANSW website, accessed 24 February 2022.

<https://www.stansw.asn.au/common/Web/Research-and-PP/NSW-Curriculum-Review>

Stuckey M, Hofstein A, Mamlok-Naaman R and Eilks I (2013) 'The meaning of “relevance” in science education and its implications for the science curriculum', *Studies in Science Education*, 49(1):1–34, doi:10.1080/03057267.2013.802463.

Taber KS (2014) *Student thinking and learning in science: perspectives on the nature and development of learners' ideas*, 1st edn, Routledge, New York.

Thomson S, Wernert N, Rodrigues S and O'Grady E (2020) *TIMSS 2019 Australia. Volume I: Student performance*, ACER (Australian Council for Educational Research), doi:10.37517/978-1-74286-614-7.

Timonen J (25 June 2020) ‘Why is science education important?’, *JYUnity*. <https://jyunity.fi/en/thinkers/why-is-science-education-important/>

UNESCO (United Nations Educational, Scientific and Cultural Organization) (n.d.) *Science for society*, UNESCO website, accessed 4 March 2022. <https://en.unesco.org/themes/science-society>

Upahi JE and Ramnarain U (2021) 'Evidence of foundational knowledge and conjectural pathways in science learning progressions', *Science & Education*, 31(1):55–92, doi:10.1007/s11191-021-00226-x.

Villanueva MG, Taylor J, Therrien W and Hand B (2012) 'Science education for students with special needs', *Studies in Science Education*, 48(2):187–215, doi:10.1080/14703297.2012.737117.

You HS (2017) 'Why teach science with an interdisciplinary approach: history, trends, and conceptual frameworks', *Journal of Education and Learning*, 6(4):66–77, doi:10.5539/jel.v6n4p66.

Young M (2014) 'Powerful knowledge as a curriculum principle', in Young M, Lambert D, Roberts C and Roberts M (eds) *Knowledge and the future school: Curriculum and social justice*, Bloomsbury Publishing, London.

Youngblood D (2007) 'Multidisciplinarity, interdisciplinarity, and bridging disciplines: A matter of process', *Journal of Research Practice*, 3(2):1–8.

Zhang L (2016) 'Is inquiry-based science teaching worth the effort?', *Science & Education*, 25:897–915, doi:10.1007/s11191-016-9856-0.