

Teacher Lesson Guide

Women in STEM Careers

The important stuff

This unit was designed for		Total content duration	
Target audience	Year 5-10	Total content duration	60-150 minutes
Curriculum links also for		This unit contains	Duration
Scientific understanding	-	Video + reflection	30 min
Science as a Human Endeavour	Year 5-10	Assignment: Historic women in STEM	60-120 min
Science Inquiry	-	Optional extension: Name the next TBM	30 min
Detailed curriculum code alignment for ACARA v9 is available in the Curriculum Alignment section of this unit guide.		Check the timing and notes of these activities and find links to all of the individual resources in the Lesson Breakdown section of this unit guide.	

An overview of the lesson

This lesson highlights some of the incredible careers in STEM that women have been champions of. By researching historic female leaders in their area of research, students may find inspiration on their career trajectory. From this research, students may wish to "pitch" who the next Tunnel Boring Machine (TBM) should be named after.

[Suggested prior knowledge](#)

[Find detail on ideas discussed in this unit](#)

Lesson breakdown

Activity timing and delivery guide			
Order	Duration	Activity description	Notes
1	30 min	Videos of women in STEM and student reflection	Show the video with Dr Kirsten Banks to explore some of the women in STEM as a class. Suggest students watch another 2-3 Snowy STEM Women videos on their own. Use the worksheet to reflect on the potential paths of a STEM Career.
2	60-120 min	Assignment: Historic women in STEM	This mini assignment allows students to research notable women in STEM and reflect on their achievements. Choose to present this however works best for your class.
3	30 min	<i>Optional</i> extension: Name the next TBM	Use the research from their assignment to pitch what the next tunnel boring machine should be.

For this lesson you will need	
Teaching resources	
Video introduction	Science of the Snowy Scheme with Dr. Kirsten Banks: Women in STEM
Student resources	
Videos and Student reflection	Videos: Get to know our Snowy STEM Women Worksheet: STEM Career reflection
Assignment: Historic women in STEM	Assignment Resource: Historic women in STEM: Research guide Assignment Resource: Historic Women in STEM: Further resources
<i>Optional</i> extension: Name the next TBM	Assignment resource: Name the next TBM Students can choose between a table, mindmap or written format

Get to know our Snowy STEM Women videos			
Video	Role	Video	Role
International Women's Day Highlights		Raelene Forbes	Functional Services Lead
Sara Roder	Graduate Mechanical Engineer	Winsome Whyte	Strategic Engineer
Alex Woschitzka	Graduate Civil Engineer	Emilie La Pointe	Geotechnical Engineer

Key themes and ideas

Suggested prior knowledge before this lesson

- There is no particular suggested prior knowledge before this unit

Within this unit, students will explore

- Their own reflection of their journey in STEM
- The history of women in STEM
- Have the opportunity to “pitch” the next Tunnel Boring Machine name.

Curriculum alignment

All year level curriculum areas in focus		
Science Learning Area	Cross curriculum priorities	General capabilities
Key ideas	Sustainability	Critical and Creative Thinking
<ul style="list-style-type: none"> • Patterns, order and organisation • Systems 	<p>World Views SW2: World views are formed by experiences at personal, local, national and global levels, and are linked to individual, community, business and political actions for sustainability.</p> <p>Design: SD3: Sustainable design requires an awareness of place, past practices, research and technological developments, and balanced judgements based on projected environmental, social and economic impacts.</p> <p>Futures SF1: Sustainable futures are achieved through informed individual, community, business and political action that values local, national and global equity and fairness across generations into the future.</p> <p>SF2: Sustainable futures require individuals to seek information, identify solutions, reflect on and evaluate past actions, and collaborate with and influence others as they work towards a desired change.</p>	<ul style="list-style-type: none"> • Inquiring • Generating • Analysing • Reflecting
		Ethical understanding
		<ul style="list-style-type: none"> • Understanding ethical concepts and perspectives • Responding to ethical issues
		Literacy
		<ul style="list-style-type: none"> • Speaking and listening • Reading and viewing • Writing
		Personal and social capability
		<ul style="list-style-type: none"> • Self-awareness • Self-management • Social awareness

Years 5 & 6

Science understanding	
Year 5	
There are no direct year 5 science understanding curriculum links in this unit	
Year 6	
There are no direct year 6 science understanding curriculum links in this unit	
Science as a human endeavour	
Science as a human endeavour area	AC9S5H01/AC9S6H02 examine why advances in science are often the result of collaboration or build on the work of others
Science inquiry	
There are no direct year 5 or 6 science inquiry curriculum links in this unit	

Years 7 & 8

Science understanding	
Year 7	
There are no direct year 7 science understanding curriculum links in this unit	
Year 8	
There are no direct year 8 science understanding curriculum links in this unit	
Science as a human endeavour	
Science as a human endeavour area	AC9S7H01/AC9S8H01 explain how new evidence or different perspectives can lead to changes in scientific knowledge
Science inquiry	
There are no direct year 7 or 8 science inquiry curriculum links in this unit	

Years 9 & 10

Science understanding	
Year 9	
<i>There are no direct year 9 science understanding curriculum links in this unit</i>	
Year 10	
<i>There are no direct year 10 science understanding curriculum links in this unit</i>	
Science as a human endeavour	
Science as a human endeavour area	AC9S9H02/AC9S10H02 investigate how advances in technologies enable advances in science, and how science has contributed to developments in technologies and engineering
Science as a human endeavour area	AC9S9H03/AC9S10H03 analyse the key factors that contribute to science knowledge and practices being adopted more broadly by society
Science inquiry	
<i>There are no direct year 9 or 10 science inquiry curriculum links in this unit</i>	