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	*Optional* 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
Optional **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**
- Patterns, order and organisation - Systems	**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. **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. **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. 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.	- Inquiring - Generating - Analysing - Reflecting
		Ethical understanding
		- Understanding ethical concepts and perspectives - Responding to ethical issues
		Literacy
		- Speaking and listening - Reading and viewing - Writing
		Personal and social capability
		- 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
There are no direct year 9 science understanding curriculum links in this unit
Year 10
There are no direct year 10 science understanding curriculum links in this unit

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
There are no direct year 9 or 10 science inquiry curriculum links in this unit