

## GEMS Implementation

GEMS Week	Scientific Investigation Process	GEMS Phase	Teacher Steps	Student Steps	Mentor Steps
1	Professional Learning	Initial GEMS PD	1. Diagnose current knowledge and skills 2. Progress current knowledge and understandings		
2		Teacher Preparation	3. Select class theme		
3			4. Brainstorm with colleagues		
4	Practising	Phase 1 – High Direction	5. Select class theme	Form into groups	
5			6. Conduct scaffolded hands-on investigations with students	Perform scaffolded investigations with teacher	
6					
7	Preparation		7. Conduct class brainstorm	Participate in a class brainstorming session	Prepare for mentoring role
8			8. Facilitate topic selection 9. Facilitate topic research	Choose a topic Research a topic	
9 School Visit 1	Planning	Phase 2 – Mentored Exploration	<b>Introduce mentors</b> 10. Facilitate focus question selection 11. Facilitate variable selection 12. Facilitate prediction/hypothesis 13. Facilitate method selection 14. Facilitate equipment selection	<b>Meet mentors</b> Select focus question Determine 'Cows Moo Softly' Make a prediction/hypothesis Determine method (focus on measurement and repetition) Gather equipment	<b>Meet students</b> 1. Facilitate focus question selection 2. Facilitate variable selection 3. Facilitate prediction/hypothesis 4. Facilitate method selection 5. Facilitate equipment selection
10	Conducting	Phase 3 - Independence	15. Facilitate pilot investigation	Perform pilot investigation, record raw data	6. Online/remote facilitation and support of students
11 School Visit 2			16. Facilitate actual investigation	Perform actual investigation, record raw data	7. Discuss/assist with actual investigation
12	Processing		17. Facilitate data processing	Transform data into presentation format	8. Online/remote facilitation and support of students
13 School Visit 3	Evaluating		18. Facilitate conclusion and evaluation	Conclusion – make knowledge claims Link to others' findings Reflect on validity and reliability	9. Facilitate conclusion and evaluation
14	Reporting and Celebrating	Presentation and Celebration	19. Facilitate preparation for Science Fair	Science fair – preparation for findings	10. Online/remote facilitation and support of students
15			20. 'Bask' in Science Fair		11. Attend Science Fair