2016 Yr 9 STEM Term 2: Biofuels

Week	Monday	Friday
1	Feedback term 1 Introduce topic term 2- term outline Assessment- introduce log book concept Step 1- define the problem	Step 1- Define the problem
2	Step 2- Student lead research What is a biofuel? How is it *different/similar* to conventional fuels? What is *energy efficiency*? How can it be *measured*? What are *the properties* of a good fuel?	Lesson- fuels, carbon chemistry, nomenclature, how bond type affects energy Compare structure of one type of fuel- either biofuel or biodiesel with conventional fuel.
3	**Anzac Day**	Step 3- Brainstorm possible solutions Step 4- Choose best solution
4	**Labour Day**	Energy efficiency- ways to measure? Step 4- Decision matrix Cross-country PM
5	Step 4- Decision matrix	Step 5- make fuel Transesterification- at uni? Possible visit to QUT
6	Test conventional fuel in trangias Data loggers Test viscosity of conventional fuel	Test biofuel in trangias Test viscosity Get data from QUT re bomb calorimeter, FTIR
7	Make putt putt boat	Make putt putt boat
8	Make putt putt boat Step 6: Test	Step 6: Test
9	Step 6: Test/work on assessment	Work on assessment
10	**Assessment due- presentation?**	
11	**Reports due**	