



Topic: Small Engines

Title: Tune it Up!

Level: 3

New Hampshire Science Curriculum Framework

Grade level: 7 - 10 (11 - 12)

	Science																								Career Development									
	Science as Inquiry	Science, Technology, and Society						Life Science				Earth/Space Science			Physical Science							Unifying Themes and Concepts				Core Educational Learning			Individual & social learning		Career Learning			
	1a	2a	2b	2c	2d	2e	2f	3a	3b	3c	3d	4a	4b	4c	5a	5b	5c	5d	5e	5f	5g	6a	6b	6c	6d	1	2	3	4	5	6	7		
Activity 1																											▲							
Activity 2															▲													▲						
Activity 3																												▲						
Activity 4																												▲						
Activity 5																												▲						
Activity 6																											▲	▲						
Activity 7		▲																										▲						
Activity 8																											▲	▲						
Activity 9																												▲						
Activity 10														▲														▲						
Activity 11																												▲						
Activity 12																												▲						
Activity 13																												▲						
Activity 14	▲																											▲						

Small Engine – Tune It Up!	
Level 3 – Grade 9 - 10	
Project 2061 Benchmarks (Grade 9 - 12)	
The Designed World	
Activity	Energy Sources and Use
10	At present, all fuels have advantages and disadvantages so that society must consider the tradeoffs among them.
10	Industrialization brings an increased demand for and use of energy. Such usage contributes to the high standard of living in the industrially developing nations but also leads to more rapid depletion of the earth's energy resources and to environmental risks associated with the use of fossil and nuclear fuels.
10	Decisions to slow the depletion of energy sources through efficient technology can be made at many levels, from personal to national, and they always involve tradeoffs of economic costs and social values.

Small Engine – Tune It Up!	
Level 3 – Grades 9 - 10	
NH Science Frameworks (Grade 7 - 10)	
Science as Inquiry	
Activity	1a. Students will demonstrate an increasing understanding of how the scientific enterprise operates
14	Use technologies as tools in conducting investigations, e.g. microscopes, computer, calculator
Science, Technology, and Society	
	2a. Students will demonstrate an increasing ability to use measuring instruments to gather accurate and/or precise information.
7	Measure with both analog and digital electronic devices, e.g. voltmeter, oscilloscope, and pH meters
7	Estimate the error in measurements they make and use procedures to minimize those errors
	2c. Students will demonstrate an increasing ability to analyze, synthesize, and communicate scientific information using technology.
1	Store data in an appropriate technological device
1	Communicate data through an electronic medium, e.g. camera, tape recorder, computer modem
Earth and Space Science	
	4c. Students will demonstrate an increasing ability to understand that the Earth contains a variety of renewable and non-renewable resources.
10	Identify natural, as well as human-induced, factors which contribute to changes in the Earth's systems
Physical Science	
	5a. Students will demonstrate an increasing ability to distinguish among materials by utilizing observable properties.
2	Obtain reliable and valid quantitative data through careful and skilled use of measuring instruments, e.g. balances, graduated cylinders, computer probes

Small Engine – Tune It Up!	
Level 3 – Grades 9 - 10	
NH Career Development Frameworks (Grade 9 - 10)	
Career Development	
Core Educational Learning	
	1. Students will demonstrate a firm grounding in the interactive language processes of reading, writing, speaking, listening, and viewing, as well as the ability to use those skills to communicate effectively.
8	Demonstrate the ability to summarize ideas and information.
6, 8	Demonstrate the ability to use a variety of organizational structures such as cause and effect patterns, paraphrasing, and charts and graphs, to communicate ideas and information.
6, 8	Demonstrate the ability to effectively and logically support individual ideas.
	2. Students will demonstrate a firm grounding in essential computational skills as well as strong problem-solving and reasoning abilities.
12 – 14	Perform the four basic mathematical operations with rational numbers.
10, 14	Identify the issues involved in making a decision or solving a problem.
8	Gather and use appropriate materials and resources in making individual and career decisions, including printed materials, human resources, and information accessed through technology.
1 – 9	Use logic to draw conclusions from available information.
13, 14	Evaluate an event or activity in terms of expressed purposes.