

## Expedition: Creating Power - Hydroelectricity

Timeline: 8 weeks

Grade: 9<sup>th</sup>

### Guiding Questions:

- What is energy?
- What are different forms of energy in the Dominican Republic?
- What are the advantages of renewable energy?
- How can we utilize renewable energy?
- How are energy and electricity related?

### Learning Targets:

- Describe energy and various methods for harnessing it
- Understand properties of electricity
- Create source of renewable energy
- Understand economic factors surrounding renewable and non renewable resources
- Know pro's and con's of hydroelectricity

Semester: Fall

Week	Language	Math	Science	Social Studies	Art/Music	Computer	Biblical Int.
1			Begin BBK over energy use in the D.R. and renewable resources				
2			Work with electricity/electrical circuits				
3			Explain the aspects of electrical usage using Ohm's Law	*Energy and types of energy covered earlier in unit			
4		Calculate electricity and cover units					
5			Explain generators, their uses, and how they work				
6			Create miniature generator, few students to manabao to do measurements				
7			Begin testing/solving specific aspects of generator including the attachment, head, filter, and base				
8			MANABAO – install plant				
9			Listen to students complain about how hard trip was/prepare for expedition night and make poster				
10			Expedition Night				
11			j-				

### Products:

- Miniature hydroelectric plants created in the classroom
- Posters/Diagrams explaining different types of renewable resources

### Service Projects:

- Installation of hydroelectric generator at Spirit Mountain