

Objective: Determine the mathematical relationship between the energy of a wave and the amplitude.

Procedure –

- Using the data below, construct a graph that correctly displays the independent and dependent variables.

Amplitude (m)	Energy (J)
0.1	10
0.2	39
0.3	88
0.4	157
0.5	244

Graph – Use *logger pro* to provide a sketch of the analyzed variables. *Logger pro* is available for a free download or you can use a classroom laptop.



Conclusions – *Always answer these questions for a “relationship” lab.*

1. What is the relationship between energy and amplitude?
2. What is the general equation of the resulting line/curve?
3. What is the translated equation?
4. If you double the independent variable, specifically what happens to the dependent variable?
5. Give a real world example (RWE) where this lab is applicable, and the example illustrates the mathematical relationship.