**Connecting to the *Next Generation Science Standards* (NGSS Lead States 2013):**

**Our selected engineering design challenge was to construct a soda can crusher. The following table was created based on the affordances of a soda can crusher design challenge.**

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| **3-5-ETS1-1 Engineering Design**<https://www.nextgenscience.org/pe/3-5-ets1-1-engineering-design>  ***The materials/lessons/activities outlined in this article are just one step toward reaching the Performance Expectations listed below. Additional supporting materials/lessons/activities will be required.*** | |
| **Performance Expectation** | **Connections to Classroom Activity *Students:*** |
| 3-5-ETS1-1.Define a simple problem reflecting a need or want that includes specified criteria for success and constraints on materials, time, or cost. | * Constructing soda can crushers based on different design ideas by considering the inverse relationship between the force needed to crush the soda can and the length of the lever applying the push or pull force. |
| **Science and Engineering Practices** |  |
| Asking Questions and Defining Problems  Developing and Using Models  Constructing Explanations and Designing Solutions | * Articulating the need to design soda can crushers. * Students design different soda can crusher models on paper. * Each group constructs their soda can crusher based on the model they created on paper. |
| **Disciplinary Core Idea** |  |
| ETS1.B: Developing Possible Solutions   * A solution need to be tested, and then modified on the basis of the test results, in order to improve it. | * Each group came up with a different design solution, constructed, modified, and tested different soda can crushers. |
| **Crosscutting Concepts** |  |
| Influence of Science, Engineering, and Technology on Society and the Natural World | * Constructing soda can crushers addresses a real need in a society consuming millions of soda drinks, but there is not such a need in a society where people do not consume soda drinks. |