Iowa Core Standards: Describe how the program integrates with 21st Century Learning Skills and the Iowa Core Curriculum, including Next Generation Science Standards (NGSS), and Iowa Core Mathematics. And please note specific standards addressed in each of the applicable areas. If you intend to scale-up a longer unit, semester program or full-school-year class, please pull out a minimum of 5 of the strongest curricular ties to Iowa's core STEM curriculum. *
(For example. Iowa Core—Math 2.OA.A.1. Represent and solve problems using addition and subtraction. Then explain how the standard will be aligned to curriculum and activities within the Scale-Up project, citing specific examples from the activities.
In addition, please describe any Cross-Curricular standards your program has to areas such as Literacy, Social Studies, the Arts, or Culture.
For more information about the Iowa Core, which includes 21st Century Skills and Cross-Curricular Standards: *https://www.educateiowa.gov/sites/files/ed/documents/K-12_21stCentSkills_0.pdf)*

The *Creating an Innovation Community in Your K-5 Classroom* program integrates with several K-5 Next Generation Science Standards, Iowa Core literacy, math and 21st Century Learning Skills. Due to space limitations on the key standards were described in the proposal. A full list of integrated standards, by standards type, is listed here.

In general, the program supports:

- Collecting/Analyzing (ideas, features, feedback, product pricing)
- Research (product design, competition, intellectual property)
- Designing and Investigating (determining product features)
- Oral Fluency (presentation)
- Persuasive Writing (marketing)
- Drawing/Sketching (creating advertisement/pamphlet)

21st Century Skills

Employability Skills

The collaboration associated with generating ideas, giving respectful feedback, and improving on ideas integrates with: *Communicate and work productively with others emphasizing collaboration and cultural awareness to produce quality work* (21.3-5.ES.1). *Communicate and work appropriately with others to complete tasks* (21.K-2.ES.1). *Practice leadership skills, and demonstrate integrity, ethical behavior, and social responsibility in all activities.* (21.3-5.ES.3) *Learn leadership skills and demonstrate integrity, ethical behavior, and social responsibility.* (21.K-2.ES.3)

The need to develop a unique solution to a problem and to further develop and improve that solution through all the steps of the engineering design process and through business development considerations integrates with: *Demonstrate initiative, creativity, self-direction, and entrepreneurial thinking to produce successful outcomes.* (21.3-5.ES.4) *Develop initiative and demonstrate self-direction in activities.* (21.K-2.ES.4)

The need to adjust team roles as the project moves through the various stages of the engineering design process and business development process (e.g., the person best suited to lead the team during initial brainstorming might not be the same person best suited to lead the team through a target market discussion) integrates with: Adjust to various roles and responsibilities and understand the need to be flexible to change. (21.3-5.ES.2) Recognize different roles and responsibilities and is open to change. (21.K-2.ES.2)

The completion of a multi-step group project integrates with: *Demonstrate productivity and accountability by producing quality work*. (21.3-5.ES.5) *Work productively and are accountable for their actions.* (21.K-2.ES.5)

<u>Financial Literacy</u>

The discussion around product target markets and product features (needs vs. wants) integrates with: *Recognize that spending choices differ between groups of people and settings*. (21.3-5.FL.6) *Distinguish between appropriate spending choices.* (21.K-2.FL.6)

<u>Technology Literacy</u>

The development and refinement of presentations integrates with: *Use interactive technologies in a collaborative group to produce digital presentations or products* (21.3-5.TL.2). *Use a variety of technology tools and media-rich resources to work collaboratively* (21.K-2.TL.2). *Understand technology hardware and software system operations and their application.* (21.3-5.TL.6) *Understand basic technology hardware and software and their application.* (21.K-2.TL.6)

Iowa Core

<u>Next Generation Science Standards</u>

The development and refinement of product features, product descriptions, and presentations integrates with: *Ask questions, make observations, and gather information about a problem with the goal to develop a new or improved tool* (K-2-ETS1-1). *Develop a simple sketch, drawing, or physical model to illustrate how the shape of an object helps it function as needed to solve a given problem* (K-2-ETS1-2). *Define a simple design problem reflecting a need or a want that includes specified criteria for success and constraints on materials, time, cost* (3-5-ETS1-1). *Generate and compare multiple possible solutions to a problem based on how well each is likely to meet the criteria and constraints of the problem* (3-5-ETS1-2).

<u>Writing</u>

The development and refinement of product features, product descriptions, and presentations integrates with: *Write informative/explanatory texts* (W.K-5.2). *Participate in shared research and writing topics* (W.K-2.7) *Conduct short research projects that build knowledge about a topic.* (W.3-5.7)

<u>Speaking and Listening</u>

The collaboration associated with generating ideas, giving respectful feedback, and improving on ideas integrates with: *Participate in collaborative conversations with diverse partners, peers, and adults in small and larger groups* (SL.K-5.1).

<u>Math</u>

Analysis of feedback and determination of product price point directly supports the following: *Represent and interpret data (*1.MD.C.4, 2.MD.D.10, 3.MD.B.3).