6th Grade

Metabolism Engineering Internship
Health Bars for Disaster Relief

Driving Question: As food engineering interns at Futura Engineering, how can we design a nutritional health bar to help meet the metabolic needs of rescue workers and natural disaster patients with the criteria of low cost and high taste score?

Content: Students take on the role of food engineering interns, using their understanding of metabolism to research, design, test, and propose health bars that meet the nutritional needs of specific populations while balancing protein, carbohydrates, glycemic index, taste, and cost through an iterative design process

Standards: NGSS: **MS-ETS1-1. Define the criteria and constraints of a design problem with sufficient precision to ensure a successful solution, taking into account relevant scientific principles and potential impacts on people and the natural environment that may limit possible solutions.MS-ETS1-2. Evaluate competing design solutions using a systematic process to determine how well they meet the criteria and constraints of the problem.MS-ETS1-3. Analyze data from tests to determine similarities and differences among several design solutions to identify the best characteristics of each that can be combined into a new solution to better meet the criteria for success.MS-ETS1-4. Develop a model to generate data for iterative testing and modification of a proposed object, tool, or process such that an optimal design can be achieved.**

Major Products: Students will design an optimal health bar recipe, create a written proposal, and create a proposal presentation

Public Presentation: Projects will be presented in class and open to the public for viewing. Students will present to peers, staff, family members, and other community stakeholders, such as food engineers, health bar company employees, and rescue workers.

Images from Amplify Science: https://learning.amplify.com/curriculum/#/unit/8a80818e4bdc5f62014bffea5e382b0c_californiaintegrated:2021-2022