The Sugar Test

Doug Rossberg

Chief Charlo Elementary School, Missoula, MT

|  |  |
| --- | --- |
| **Grade Level** | 1 |
| **Duration** | Morning and afternoon, 30 min. each |
| **Subject Area(s)** | Science |
| **NCSS and MCSS Standards** | **MONTANA:**  Content Standard 1—Students, through the inquiry process, demonstrate the ability to design, conduct, evaluate, and communicate the results from reasonable conclusions of scientific investigations.  **NATIONAL:**   |  |  | | --- | --- | | **K-2-ETS1-1.** | Ask questions, make observations, and gather information about a situation people want to change to define a simple problem that can be solved through the development of a new or improved object or tool. | | **K-2-ETS1-2.** | 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-ETS1-3.** | Analyze data from tests of two objects designed to solve the same problem to compare the strengths and weaknesses of how each performs. | |
| **How will students use technology as a tool to enhance their learning?** | Interactive whiteboard, student responders |
| **Content Objectives** | Students will be able to identify cereals with high sugar content and the negative impact these sugars have on their health. |
| **Resources**  Hardware/Software or other materials required  Delete components not needed! | Materials:   * Interactive presentation on sugars/effects * Ziplock bags * Yeast * Various cereals from home * Distilled water * 4-corners game   Software:   * Powerpoint/Smart Notebook |
| **Preparation**  What does one need to do prior to instruction? | Have students bring 5 or 6 different cereal samples from home, labeled with their specific kind.  Prepare presentation on sugars and their effects |
| **Motivation/Hook**  What makes engages/piques student interest? | “What are some of the most healthy foods you can eat and What are some of the least healthy foods available?” |
| **Instruction**  Description of the pedagogy, strategies, possible modifications and key skills or concepts needed to be taught for all students to be successful. | After discussing what the students consider healthy and unhealthy foods, move to their desks and begin the interactive presentation on sugar and its effects on our bodies.  Once they have learned the negative impact sugar has on our mental and physical health, 1st graders will use student responders to look at pictures of 2 different food items and make predictions about which has the most sugar. This is non-threatening strategy that lowers the affective filter and encourages great participation.  We are ready to experiment! In small groups, students crush up the cereal samples we brought in and place them in ziplock bags. They add equal parts distilled water and add yeast just before closing the bag. Discuss that the byproduct of yeast metabolism is carbon dioxide, and that the greater the sugar the more the bag will fill with gas. Set aside. Make predictions as to which bags will have the most gas, or the most sugar content in the cereal.  Later that day, check to see how things are going. Did our predictions come true? Make a graph of the different cereals and their sugar content. Discuss how instead of an experiment like this we can use the nutrition facts on the packaging to help us identify which foods contain excessive sugar. |
| **Links to relevant web sites** | [www.smarttech.com](http://www.smarttech.com)  <https://www.fossweb.com/delegate/ssi-wdf-ucm-webContent?dDocName=D1445666> |
| **Assessment**  How will you know if the students understand? | Students will be able to identify foods with higher sugar content on a graph and informally we could take the same interactive quiz on food sugar content to look for improvement. |