



Author(s): <i>Michael Lucky Voiselle</i>			Lesson Title: <i>IRON IMPORTANCE</i>			
Grade Span			ICLE Application Model			
<i>K-4</i>	<i>5-8</i>	<i>9-12</i> <i>XX</i>	<i>A</i>	<i>B</i>	<i>C</i>	<i>D</i> <i>XX</i>

Instructional Focus:

Number Operation and Concepts

Students use number, number sense, and number relationships in a problem-solving situation. Students communicate the reasoning used in solving these problems.

Reading

Students read a variety of grade level materials, applying strategies appropriate to various situations

Science as Inquiry

Students demonstrate knowledge and skills necessary to perform scientific inquiry.

Science in Personal and Social Perspectives

Students apply scientific principles to personal and social issues.

Performance Task

Your task is to form a group of 2 or 3 students and determine how much iron is in a box of Total cereal. While some of the iron is in the form of iron III sulfate most of the iron is elemental iron, (iron metal). The iron particles are simply baked into the cereal. Place 30 grams of Total cereal in a glass pan with 3cups or 750 ml of water and leave until the cereal is extremely mushy. This is the package recommendation of one serving to provide 100% of your daily requirement of iron.

Slowly move a strong magnet, (a cow magnet will do), back and forth in the cereal sludge. Be sure the magnet is kept on the bottom of the glass pan. Rinse the magnet in a very slow stream of water and observe what is on the magnet. You also need a very sensitive balance such as an electronic balance that reads accurately to milligrams to weigh the cow magnet before putting it in the sludge and after. Subtract those two measurements to get the amount of iron you extracted from the cereal.

Since your body cannot dissolve iron easily, most of this iron passes through your system unused. Compare the weight of your collected iron to the recommended dietary allowance (RDA) listed on the package. Subtract your collected iron weight from the weight on the package. What are your thoughts about the amount of iron you are absorbing in a serving of Total cereal? Place all collected information in a well-organized data table.

Your group is to research the importance of iron for your body. You are to address the following questions in a well -written report free from spelling and grammatical errors.

1. Where does the iron go once you absorb it? Include any chemical reactions that may be involved?
2. Is there such a concept as getting too much iron?
3. How does your body prevent getting too much iron?
4. Is the RDA listed on the package the same minimum requirement for men and women? What about pregnant women?
5. What conclusions can you draw about what is advertised on the Total cereal package and what is actually true?
6. Is it fair for advertisers to use trickery or deceit to sell their products?
7. What is a cow magnet anyway?

Visit a large department store with your group and begin reading labels and looking at how items are marketed and advertised for sale. Each student is to find one more example of some advertising strategy that is either untrue or misleading to include in the conclusion of your report.

ICLE Essential Skills

Apply in writing the rules and conventions of grammar, usage, punctuation, paragraphing and spelling. ELA1

Gather information from a variety of sources, including electronic sources, and summarize, analyze, and evaluate its use for a report. ELA3

Discriminate important ideas from unimportant ideas while reading. ELA15

Understand nutrition - the need for food and a good diet, ingestion, digestion, egestion and related disorders such as ulcers, appendicitis, etc. S3

Make observations using senses and instruments. Inferences and interpretations are arrived at based on observations. Classify observable properties and organize observations in a meaningful and logical way. S5

Understand the chemical reactions involved in cell functions (e.g., food molecules taken into cells are broken down to provide the chemical constituents needed to synthesize other molecules). S42

Scoring Guide:

RATE THE CRITERIA 3=Excellent, 2=Satisfactory, 1=Unsatisfactory, 0=Does not attempt or does not understand

CRITERIA	SCORE
Experimental procedure and group work	_____
Data chart is neat and accurate	_____
All questions addressed in the write-up	_____
The student understands the importance of iron in a healthy diet	_____
The student finds another untrue or misleading advertisement	_____
Report is well written and free from spelling and grammatical errors	_____

Keywords

English Language Arts	Mathematics	Science
Reading-Research	Algebra-Math in Daily Life	Earth Science
Writing-Compare and Contrast	Geometry	Life Science-Nutrition, Cause and Effect, Minerals
Communications	Statistics	Chemistry-Ions, Chemical Reactions
Literature	Calculus	Physics
Other	Trigonometry	Other
	Other	