Teachers' Guide: Benjamin's Mystery Soup

Introduction

The materials provided with the teaching unit *Benjamin's Mystery Soup* are designed to be used in the study of nutrition in Biology or Health Education. The level of the materials is suitable for students approximately in the age range of 14 to 16 years. The unit provides students with the opportunity to examine the nutritional value of foods and to evaluate personal food intake and related food decisions. Students will examine various soups in order to evaluate their suitability for a healthy diet. The context is 18th century Munich, Germany and Benjamin Thompson's early experiments on nutrition. The calculations of nutritional value that students are asked to make take into account most of the nutritional categories, but not including the categories vitamins and minerals.

Teaching Strategy

The teaching unit requires the student workbook "Student Workbook on Rumford and Nutrition A4.pdf," the story "Benjamin's Mystery Soup," and the Excel spreadsheet "Student Nutrition Calculation A4.xls." The editable MS Word version of the student workbook is included so that teachers may adapt the work for their classes.

The lesson follows the Workbook in its entirety. To begin, the teacher supervises a knowledge-activation strategy known as "Rotational Graffiti." Teachers should consult the information sheet "Rotational Graffiti A4.pdf" for the procedure involved.

The teacher should begin by reading through the workbook and accompanying materials (see References, below). The teacher should choose whether to read the story to the class, have someone else perform the story, or use a pre-recorded version. The story is a vital part of the lesson, as it serves to raise student interest, curiosity, and questions about the topic.

Each student activity, except the last, is followed by the opportunity for the student to write any questions that come to mind. The purpose of the question posing is twofold. First, it helps the student focus attention and identifies knowledge deficiencies and items of curiosity, which may be a manifestation of interest. These questions should be analyzed and grouped by the teacher in order to utilize them in the following class for a discussion of the main items of knowledge deficiency or curiosity. Second, the questions can be used by the teacher to determine the level of sophistication of the student's thinking and engagement with the topic. This aspect can be scored by the teacher using the accompanying guide, "Scoring of Student Questions A4.pdf." The average score on questions for each student for each situation can comprise one of the assessment items on the unit.

Students are given the opportunity to calculate the nutritional values of Benjamin's Soup and also of their personal favorite soup and make a comparison. The objective is to encourage the student to give careful thought to nutrition and begin to make nutritional comparisons of one food to another. The student workbook concludes with questions to the student. The answers to these should also be graded by the teacher on the basis of an assessment rubric.

References

Rotational Graffiti.pdf
Teachers Guide – Nutrition.pdf
Student Workbook on Rumford and Nutrition.pdf
Student Workbook on Rumford and Nutrition.doc
Benjamin's Mystery Soup.pdf
Historical Background – Nutrition.pdf
Scoring of Student Questions.pdf
Student nutrition calculation.xls

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