

PROOF OF THE PUDDING

Teaching Guidelines

Subject: Science

Topics: The Nature of Science and Technology (Experimentation)

Grades: 5 - 8

Concepts:

- Understands the concept and types of "experimental error"

Knowledge and Skills:

- Can create a chart for the collection of experimental results
- Can present experimental results clearly in written form
- Can design and carry out a "single-blind" experiment
- Understands the importance of "sample size" as it relates to experimental accuracy"

Materials: Several foods to sample, each from two different brand names.

Procedure: This project should be done by students in teams of two or three.

Each team will need a collection of food samples of two different brands. You may wish to use different types of fruit or bread. (Be sure that none of the students who will be tasting food have any food allergies or other problems with the food being tested.)

Distribute the handout and discuss it. Talk about characteristics of a fair test. Why wouldn't it be fair to just test one sample of each brand? Why wouldn't it be fair to only have one person do all of the tasting? Why wouldn't it be fair if the person doing the tasting knew which brand was being tasted?

Tell each team they are to come up with a procedure for testing and write it down. (Part of this procedure is a description of the method they will use for recording data.) All procedures are to be approved by you before being tried.

Students will need to devise a method for quantitatively comparing the taste of the tested foods. One possibility is a 1 – 5 scale.

Once you review and approve the procedure, have students conduct their tests and prepare reports on their results.

As a class, discuss the results. Were there any cases in which one team's results were very different from another team's? What could cause that? (Perhaps several of the tasters used by the first team had very different tastes than those used by the second time.)

Help students to see that having a large number of tasters is important to getting a fair result.



To: Research Dept.
From: Vice President for Advertising
Subject: Proof of the Pudding

I want to do a new campaign around the idea that our organic food products taste better than the competition's, but I need some facts first.

Could you guys come up with a way to really test whether or not our food tastes better to people?

I know it's a little tricky. After all, there are a few bad apples in any barrel, and so just having someone taste one of our products and then one of theirs isn't really a fair test.

And of course you will need to do the test with more than one person, and whoever is doing the tasting shouldn't know whether he is tasting one of ours or one of theirs.

I need the results in the form of tables, graphs, and a written report that summarizes what you found out. Also a separate short report on what you did to make sure it was a fair test.

I appreciate your help.

Louise