



CAN YOU BELIEVE EVERYTHING YOU SEE?

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Annotation

In this activity, students explore the allure of marketing as they use the scientific method to evaluate a popular food-related, science-based television, radio, or print marketing claim.

Primary Learning Outcomes:

Students will be able to identify a testable hypothesis and variables of interest.

Students will be able to develop appropriate procedures to test a hypothesis.

Students will be able to collect, organize, and record appropriate data.

Students will be able to analyze and draw appropriate conclusions from experimental data.

Students will be able to evaluate whether conclusions are reasonable by reviewing all available information.

Students will be able to use evidence to support or refute scientific arguments or claims.

Students will be able to communicate effectively scientific information through written and oral means.

Students will be able to recognize that scientific principles can be applied to everyday decisions.

Students will be able to identify likely faults in science-based or science-related claims.

Students will be able to explain the importance of marketing to the food industry.

Duration:

Preparation: 10 minutes

Introduction: 15 minutes

Student Assignment: Adaptable to class schedule

Conclusion: X minutes

Total Class Time: Adaptable to class schedule

Materials and Equipment:

Materials and equipment needs will be determined by the experimental procedures developed by students.

Safety:

Safety concerns associated with this activity will be determined by the experimental procedures developed by students.



Technology Connection:

Students may use all available information resources (*e.g.* internet search, library research, online databases books, periodicals) to aid them in completing the assignment.

Procedures:

Teacher Preparation:

Use the attached template to prepare a copy of the *Can You Believe Everything You See?* student handout for each student.

Estimated Time:

10 minutes

Introduction:

Marketing is an important area of food science, particularly in new product development. No matter how many hours or how much quality science goes into the development of a new product, the product cannot be successful without an effective marketing plan. Food marketing involves everything from the appearance of the package to pricing promotions to television, radio, and print advertising. Often, marketing plans involve the use of science-based product claims. Any science-based marketing claim must be backed by strong evidence because a false marketing claim exposed by a competitor could be fatal to a product or company.

Provide students with the *Can You Believe Everything You See?* student handout. Explain to them that in this activity they will use the scientific method to evaluate a popular television, radio, or print marketing claim. As a homework assignment, ask students to watch television, listen to the radio, read the newspaper or magazines, and pay special attention to advertisements that include a food-related, science-based marketing claim. Students should select three food-related, science-based marketing claims that they would be interested in testing. Students should record the names of the products, the manufacturers, and the marketing claims to be tested. Each claim may be a comparison of two or more products or a claim made only about the product of interest. The products selected by the students must be readily available consumer products that THEY can legally purchase. Also, the claims must be reasonable for testing within the classroom. Food-related medical products can only be selected if the claim can be tested without consumption.

Estimated Time:

15 minutes

Student Activity:

This activity may be completed as a class or in small groups. Students should follow the guidelines provided in the *Can You Believe Everything You See?* student handout to complete the activity. Provide continuous feedback to students and approve the completion of each step before allowing students to move to the next step. Space is provided on the *Can You Believe Everything You See?* student handout for due dates and teacher approval.



Estimated Time:

Adaptable to class schedule.

Conclusion:

Students should give a brief (5 minute) oral presentation to the class that describes the claim tested, experimental design and procedures, results, and conclusion. Students should conclude the presentation with a new, revised marketing claim or slogan based on the experimental results. At the conclusion of the presentations, discuss with students any interesting procedures and findings. In addition, discuss the roles of skepticism and evidence in science and their importance in consumer decision making.

Estimated Time:

10 minutes

Assessment:

Assessment should be based on experimental design, process skills demonstrated during the laboratory exercise, reproducibility of procedures (i.e. could you recreate their procedures based only on their lab notes), and interpretation and communication of results and conclusion.



Name:

Date:

Class Period:

CAN YOU BELIEVE EVERYTHING YOU SEE?

Student Handout

Introduction:

Have you ever wondered whether all of the marketing claims you see and hear are true? They all sound so scientific that they must have research to back them up, right? Well, maybe.

- Bounty: “The quilted, quicker picker-upper”
- “Gatorade is thirst aid for that deep down body thirst.”
- Coca-Cola C2: “½ The Carbs, ½ The Cals, All The Great Taste”

Now is your opportunity to pick one popular, science-based marketing claim and put it to the test.

Purpose:

To use the scientific method to evaluate a popular food-related, science based television, radio, or print marketing claim.

Assignment:

Step	Due Date	Complete
1. Watch television, listen to the radio, read the newspaper or magazines, and pay special attention to advertisements that include a food-related, science-based marketing claim.		
2. Select three food-related, science-based marketing claims that you would be interested in testing. Record the names of the products, the manufacturers, and the marketing claims to be tested. Each claim may be either a comparison of two or more products or a claim made only about the product of interest. <i>(Note: The product you select must be a readily available consumer product that YOU could legally purchase. Also, the claim must be reasonable for testing within the classroom. Food-related medical products can only be selected if the claim can be tested without consumption.)</i>		

3. Meet with your lab group and select the one marketing claim that your group will test. Have your teacher approve your group's selection.		
4. Identify and record the hypothesis that will be tested.		
5. Meet with your group to develop an experimental procedure that will allow you to test your stated hypothesis. Write a brief outline of your proposed procedure and have it approved by your teacher. You should include in your outline the independent and dependent variables of interest, experimental controls, what data will be collected, and how you will analyze that data.		
6. Write a detailed experimental procedure and list of materials. Have these approved by your teacher.		
7. Set up and conduct your experiment.		
8. Compile and analyze your data. Construct tables or graphs as needed.		
9. Meet with your group to discuss and write up your findings and conclusions. Remember that all conclusions must be based on data collected during the experiment.		
10. Give a brief (5 minute) oral presentation to the class that describes the claim you tested, your experimental design and procedures, the results, and conclusion. You should conclude your presentation with a new, revised marketing claim or slogan based on the experimental results you obtained.		