

THE BIG BANANA PEEL!

What Part of a
Banana is EDIBLE?



I. Topic Area

Estimating, measuring and generalizing.

II. Introductory Statement

In this investigation the students will determine what percentage of a banana is edible. By sampling several bananas, the students will develop a formula relating the edible part to the total mass of the banana.

III. Math Skills

- Finding Mass
- Using Ratios
- Finding Percentages
- Graphing
- Writing a Formula
- Averaging

Science Processes

- Measuring
- Recording Data
- Interpreting Data
- Generalizing

IV. Materials (per class)

A supply of bananas
Scales with masses
Student Worksheet, page 51

V. Key Question

"What part of a banana is edible?"

VI. Background Information

- This may be the students' first experience in writing a formula. If so, the development of a formula needs to be discussed. In this case, the edible part of a banana (E in the formula) is to be expressed as a fraction or percentage of the total mass of the banana (T in the formula). Thus, if one-half of the banana is edible, the formula would be $E = 1/2T$. Most bananas will come very close to fitting the formula $E = .65T$ or $E = 2/3T$.

- If desired, the average or the median percentage may be used. If either term is used, introduce the students to the term being employed.

VII. Management Suggestions

- Before students begin, have them predict and record the edible percentage of a banana.
- Students may work in groups of five with each member of each group having one banana and actually carrying out all of the activities. The members in a group would then pool their information.
- Estimated time: one or two 45 minute periods.

IX. What the Students Will Do

- Predict the percentage of a banana that is edible.
- Measure the mass of the unpeeled and peeled banana and record the results.
- Find the ratio of the edible part to the total mass.
- Find the percentage that is edible.
- Graph the percentage that is edible.
- Graph the results of other members of the group.
- Write the formula for the edible portion.

XI. Extension

This may lead to finding edible portions of other foods such as fruits, steaks, etc. The cost per kilogram or gram of the edible portion could be computed.



