

Apple Fractions by Jerry Pallotta

September Teacher Directions

The Book

September is a great month to study apples, and what a wonderful opportunity for studying fractions! Each apple in the book is a different variety. The elves work hard to make sure that the fractional parts of the apple are exactly the same size. The author tells you about parts of an apple, about the bees' role in pollinating the apple blossoms, and about the relative number of apples used for eating, for juice, or for other things, like apple pie!

The Math

Fractions can be problematic for children as they move through the elementary grades. One way to ease the transition from early fraction concepts to later years with fraction computation, is to make sure that students understand the different ways that fractions are used. Young children learn about sharing by dividing things in "half." Later they may divide a cookie into three pieces and say that they have "three halves." So a first transition is to figure out that three equal pieces are called "thirds," four equal pieces are called "fourths," etc. The book does a good job of illustrating the concept of dividing one thing (an apple) into fractional parts.

But what if the whole is a group? Next experiences for children involve dividing a whole bunch of things into parts, to find $\frac{1}{4}$ of the marbles, or $\frac{1}{2}$ of the class. The author also explains this idea, but children will need more experiences to reinforce the idea.

Another way fractions are used is in measurement: walking half a mile, getting $\frac{3}{4}$ of a pound of ham at the deli counter, using $\frac{1}{2}$ tsp in a recipe, measuring $16\frac{1}{2}$ inches to make a picture frame, or drinking $\frac{2}{3}$ of a glass of cider. Measuring, especially linear measures, help students understand that fractions can be represented on a number line and that fractions ARE numbers! Not only that, but these fraction numbers can be used to do the same calculations that they learned about in previous grades – like adding, subtracting, multiplying and dividing.

Depending on the age of your students, use this book to introduce fraction concepts, or to review concepts that will help ease the transition to fraction computation. The first step in understanding a word problem that involves fractions is to have a good idea of HOW the fractions are being used in the problem. Many people rush to the computation before students really understand the way that the fractions are being used in real life situations.

Funbook Pages

The Funbook pages help to review two concepts – (1) fractional parts of a whole thing (apples divided into fractional pieces); and (2) fractions expressing ratios like "1 out of 4." The idea of "1 out of 4" is related to thinking about fractions as parts of a set, where "1 out of 4" means $\frac{1}{4}$ of the set.

Sheet of Apples

Children can make up their own apple patterns as shown on Funbook page 4. Another good use is to find parts of a set. Sample tasks could include problems like these:

"What is $\frac{1}{4}$ of 12 apples?" (Use 12 apples and divide into 4 groups.)

"What is $\frac{2}{3}$ of 15 apples?" (Use 15 apples and divide into 3 groups, then count 2 groups.)

"4 apples are green, 12 apples are red. What fraction are green?" (4 out of 12, or $\frac{1}{3}$.)

Apple Tasting Party

As you turn the pages of the book, you will see some good-looking apples. What kinds of apples are available at your local grocery store? Bring in samples and have an apple tasting party. You may even want to record people's favorites. Make a graph of the results.

Save some apples so you can slice them horizontally to see the "star" at the core. Do most of the apples have ten seeds?

Weblinks

Try these weblinks to learn about different varieties of apples. Search online for other good sites.

<http://www.bestapples.com/varieties>

<http://img.xcitefun.net/users/2011/03/236966,xcitefun-the-spectrum-of-apple-flavors-types-of-a.jpg>

This site reviews some key fraction concepts:

http://www.bgfl.org/bgfl/custom/resources_ftp/client_ftp/ks2/maths/fractions/index.htm

Extras in the Book-of-the-Month Packet

If you decide to order the September packet (for \$19.99), you will get a paperback copy of this month's featured book, **Apple Fractions** by Jerry Pallotta. In addition, you will get:

- Four circles divided into fractional parts. One has halves; the others have thirds, fourths and eighths. At the bottom of each page are questions like "What is $\frac{1}{4}$ of 8?" Have students use the little apples (from the sheet of apples) to model the problems and justify their answers.
- A recording sheet for your apple-tasting party. Get five different kinds of apples and cut them into small pieces. Place the pieces on a paper plate and label the plates "A" "B" "C" "D" and "E." Have students tell their first, second and third favorite kind of apple. After all votes are cast, reveal the names of the five kinds of apples. Make three separate bar graphs showing first choice, second choice and third choice.

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