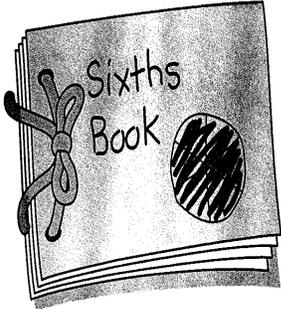


**FRACTION BOOKS**

Students investigate a variety of fractions to discover that fractions with different names can name the same amounts. They record each set of equivalent fractions with pictures and numbers and organize them into books for each family of fractions. You may want to extend the lesson to include a descriptive statement for some or all of the equivalent fractions such as: If I were sharing a cake with my friend and he got  $\frac{1}{5}$  of the cake and I got  $\frac{2}{10}$ , our shares would be equal.

<p>Explain that each group of four will organize a book for a different family of fractions and the whole class will contribute to each book. List the fractions and have each group of four make the cover and chapter dividers for one or two of the books.</p>		<p>.....  <b>It is likely that some student will come up with combinations of fractions that are equivalent to another fraction (for example, the combination of 2 fourths and 1 sixth as equivalent to 2 thirds) and will naturally record these with either the word and/or the symbol +. Don't discourage this. Some students are able to gravitate without effort into addition of fractions in this activity.</b></p>
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[Source: Constructing Ideas About Fractions Grades 3-6, Creative Publications]

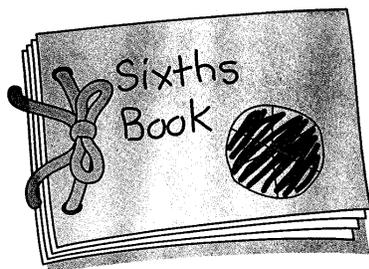
# Fraction Books

## STARTING OUT TOGETHER

Tell the pairs to search for pieces that, when combined, are equivalent to the one-third piece in their set of fraction pieces. **Who can tell me a combination of fraction pieces that will exactly cover the one-third piece?** After the students have shared several equivalents, try a few more, such as  $\frac{2}{3}$  and  $\frac{6}{8}$ .

**For the next few days you will be making Fraction Books with recordings of lots of fractions that are equivalent. I made the cover and chapter dividers for the tenths book.** Show the students what you made.

Explain that each group of four will organize a book for a different family of fractions and the whole class will contribute to each book. List the fractions and have each group of four make the cover and chapter dividers for one or two of the books.



Have the students find their equivalent fractions and record each one on a half sheet of paper with pictures and symbols. You may want to have the students make a practice recording before sending them off on their own.

Before the end of math time each day, the students should sort the recordings they've made according to the fraction books in which they will go. Students should pass on the sorted recordings to the groups in charge of those books.

.....  
It is likely that some student will come up with combinations of fractions that are equivalent to another fraction (for example, the combination of 2 fourths and 1 sixth as equivalent to 2 thirds) and will naturally record these with either the word and or the symbol +. Don't discourage this. Some students are able to gravitate without effort into addition of fractions in this activity.

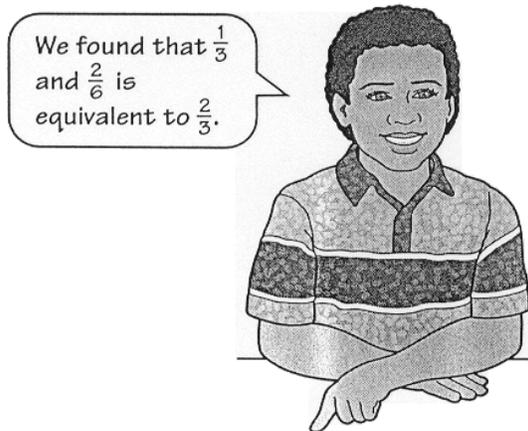
[Source: Constructing Ideas About Fractions Grades 3-6, Creative Publications]

## WHILE THE STUDENTS ARE WORKING

Take some time to visit with students and ask them about their thinking.

- ◆ **What fraction are you working on now? What equivalent fractions have you found.**

Near the end of math time each day, the groups should up-date their books, using plastic fraction pieces to verify that each new recording is correct before putting it in place. Each group will need to sort their recordings first according to chapter and perhaps into some kind of order within the chapter. As the week progresses, students may need to change their organizing rule to accommodate new recordings.



## REFLECTING TOGETHER

At the end of math time each day, have groups report on which chapters need more recordings, and write them on the chalkboard so that they can be given special attention during the next math time. (Some fractions will remain on the lists since they have one or no equivalent among the fraction pieces with which the students are working.)

At the end of the last day, allow time for each group to bind their book together and present it to the class.

- ◆ **What can you tell us about your fraction book?**
- ◆ **Did some fractions have more equivalents than others? Which ones had a lot? Were there any that had none?**
- ◆ **Did anything surprise you in your search for equivalent fractions?**
- ◆ **If you had more fraction pieces, such as sevenths and ninths, do you think there would have been more equivalent fractions? Why?**

.....  
It is actually easier for students to understand the patterns involved in writing fraction numerals when they see many different examples at once, instead of being introduced first to halves, then days later to thirds, and so on.

[Source: Constructing Ideas About Fractions Grades 3-6, Creative Publications]

## FRACTION BOOKS

The search for equivalent fractions:

1. Pick a fraction and make it with your fraction pieces.
2. Search for fraction pieces that, when combined, are equivalent to the fraction you chose.
3. Record your findings on half sheets of paper with pictures, numbers, and symbols.

Making Fraction Books:

- θ With your group, make the cover and chapter dividers for your fraction book.
- θ Give your equivalent fraction pages to the group working on that book.
- θ Each day, sort the recordings that belong in your book. Use your fraction pieces to verify that each new recording is correct before putting it in place.
- θ On the last day of this activity you will bind your book and have a chance to share it with the class.

[Source: Constructing Ideas About Fractions Grades 3-6, Creative Publications]

**A.60-a**