

CONSTRUCTIVE EXPERIENCES WITH DECIMALS

by T. E. Kieren
Faculty of Education
University of Alberta
Edmonton, Alberta

The following exercises are the last of a series published in the March 1979 and May 1979 issues of delta-k.

DECIMAL TASK SET 2: Decimal Numeration and Fractions

1. 3 3 3
 a b c

The value of the digits indicated by a, b, and c above are:

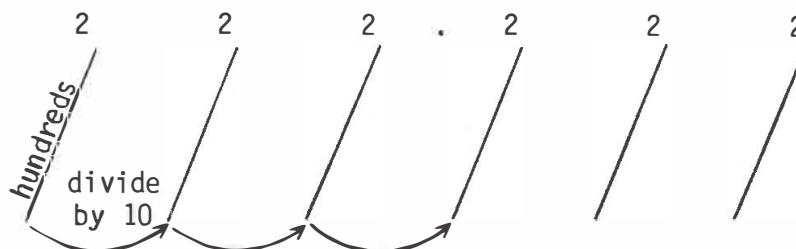
- a) 300
- b)
- c)

Why?

To get the value of b) from a), one can _____

To get the value of c) from b), one can _____

2. Complete the following demonstration for children:



3. a) If the bar represents the "decimal point," give the number represented by the chart in decimal form.

	tens			
□	□□	□		□□□ □□□□

		hundredths		
□		□□	□	□□□ □□□□

- b) Represent 2.3012
- c) Represent $(2 \times 10) + (0 \times 1) + 3/10 + 0/100 + 5/1000$
4. Sketch a place value pocket chart you would use with your class. (What is the value of a "moveable" decimal point?)
- a) Write up a set of 6 exercises for children using the chart.
- b) Explain how the chart could be used for addition.
- c) Explain how the chart could be used for division.

**DECIMAL TASK SET 3:
Addition, Meaning, and Equivalence**

Your table should have at least 2 metre sticks divided into decimetres, centimetres, and millimetres. It should also have a long piece of string and calculator tape.

1. Complete the following table.

OBJECT	A length of side 1	B length of side 2	C measure of string combin- ing sides 1 & 2	D A + B
Book				
Table				
Bookcase				

Give length in decimal fractions of a metre. That is, use the metre as your _____.

2. Carefully cut a piece of calculator tape 1 metre long with ends cut perpendicular to the length. Label the ends 0 and 1.
- a) Fold the tape in two. Label the fold and ends in $1/2$'s.
 - b) Fold the tape into 4 congruent parts. Label the folds and ends in $1/4$'s.
 - c) Repeat b) for $1/3$'s, $1/6$'s, $1/8$'s, $1/12$'s.
 - d) (Key exercise!) Use a metre stick to add a decimal fraction to the list of equivalent fractions on each fold.

DECIMAL TASK 4: Homework

During the next week collect as many different observed uses of decimals as you can find. Make a display which you could use to motivate the study of decimals in your classroom.