

Folding fractions

Annotation

Chris uses a table to help solve a problem that involves connecting elements of a sequential pattern to their ordinal positions. He can explain the relationship between the numbers in the pattern and can work out values in other ordinal positions.

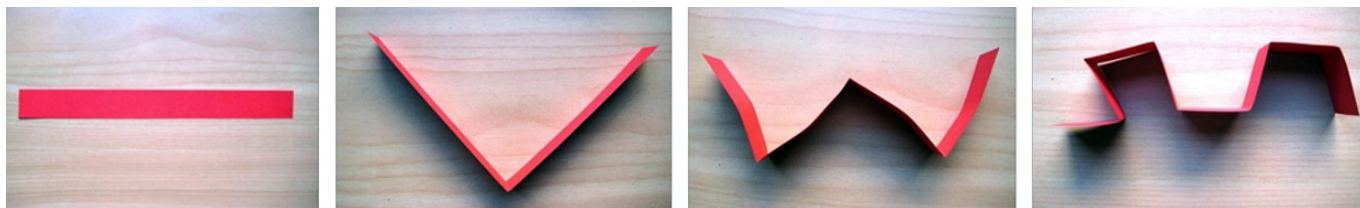
Problem: Folding fractions

Room 9 are working with strips of paper to explore fractions. As they fold they are asked to record what happens to the number and the size of the parts.

The teacher observes one student as he works and poses this problem:

Tell me what you would write if you made 5 folds.

Student Response



Chris draws the following table:

Folds	Parts	each Fraction
0	1	1 whole
1	2	$\frac{1}{2}$
2	4	$\frac{1}{4}$
3	8	$\frac{1}{8}$
4		
5		

Chris: I'd write 32 in the number of parts and one over thirty-two for the fraction.

Teacher: Tell me about what you have done.

I know that if I show what is happening on a table like this, it helps me to work out what's going on with the numbers. To start with I just had one whole strip with no folds. Then

Chris: with the first fold there were two parts and each one is a half. With the second fold there were four parts and with the third fold there are eight parts.
So I know 4 folds would be 16 and the fifth fold would make 32 parts.

Teacher: So what is the pattern?

Chris: With each fold the number of parts is double the last one and the parts get smaller.

Teacher: How much smaller?

Chris: I can see they are half.