Paper-folding Fractions 2

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I am learning to create commonly used fractions by folding a piece of paper

Required Knowledge
Students need to be able to:
- Fold a piece of paper to make halves, quarters and eighths, and identify the numerical relationships between halves, quarters and eighths

Key mathematical ideas
- Some fractions can be made by dividing other fractions into equal parts

Equipment
Numerous pieces of A5 paper to fold and cut

Using Materials/Representations
Give each student a piece of paper and challenge them to fold into exactly three equal parts. After a while get students to explain what they were trying to do, how successful they were at doing it, and what is a good method for making thirds. (At this stage some of the 'thirds' may need to be cut up to check whether or not they are of equal size.) Students may need practice on folding thirds on a number of different shaped pieces of paper.
Once thirds has been mastered, repeat the activity with fifths.

Using Imaging
Remind students of the previous lesson (halving halves to make quarters etc). Ask "what other fractions do you think you can fold now you can fold thirds and fifths?" Once students have suggested halving thirds to make sixths, or halving fifths to get tenths, or thirding thirds to make ninths, get students to practice paper folding to make tenths, sixths and ninths (and others they may come up with).

Using Number Properties
Once again explore the numbers. Ask students if they can create a sentence that explains how they create sixths, and how this could be written with symbols. Aim for sentences like $\frac{1}{2} \times \frac{1}{3} = \frac{1}{6}$. Also explore what is happening using the language of division. For example, "to divide the piece of paper into six, first divide it into two then into three" (establishing the idea that $\div 6$ can be done by first dividing by three, then by two, or vice versa).
Note: this property of division can be explored in another lesson