

FOLDING FOR FRACTIONAL UNDERSTANDING

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Short description of the Workshop Groups: organizers, aims and underlying ideas

This interactive online workshop is run by Dr. Heather Coughlin and Dr. Björg Jóhannsdóttir, veteran teacher educators and designers of professional development workshops for teachers in mathematics.

The goal of this workshop is to introduce paper strips as manipulatives to foster understanding of fractions. Attendees gain appreciation for the versatility of the paper strip to visualize concepts, link fractions to the whole numbers, and building arithmetic algorithms. By manipulating a paper strip, fraction definition emerges, and addition, subtraction, multiplication, and division of fractions actually make sense, as the operations become alive in the students' hands. Each activity presented in the workshop can be used, as exhibited, in the classroom, so attendees walk away with creative activities to build students' understanding of fractions.

Planned structure:

This workshop is online. Attendees are asked to have paper strips handy. Paper strips are regular printing paper cut into approx. 2 cm strips.

Planned timeline	Topic	Material / Working format / responsible person
2 min	<i>Introduction</i>	Dr. Coughlin and <u>Dr. Jóhannsdóttir</u>
5 min	Definition of Fractions	<u>Dr. Jóhannsdóttir</u>
5 min	The Paper Strip as a Number Line	Dr Coughlin
20 min	Addition: $\frac{1}{2} + \frac{1}{3}$ $\frac{2}{3} + \frac{3}{4}$	<u>Dr. Jóhannsdóttir</u> leads group work
25 min	Multiplication: $\frac{2}{3} \times \frac{1}{2}$ $\frac{1}{2} \times \frac{2}{3}$	Dr. Coughlin leads group work

26 min	Division: $5 \div \frac{1}{2}$ $\frac{3}{4} \div \frac{3}{8}$	<u>Dr. Jóhannsdóttir</u> leads group work
7 min	Thank you and questions	Dr. Coughlin and <u>Dr. Jóhannsdóttir</u>

Venue requirement:

Workshop is online