**Classroom Connection Activities**

Please engage in the following activities and bring resulting responses or materials with you to our next session. Feel free to engage with colleagues in these activities, however it will be helpful for each participant to bring or upload responses and materials for the next session.

1. Represent $\frac{4}{3}$ in three different ways.

For each representation:

1. Explain how it is a representation of $\frac{4}{3}$ including attention to the whole and to equal parts.
2. For one of the representations, explain how someone could argue that the representation could represent a fraction other than $\frac{4}{3}$ .
3. One of the key ideas raised in Session 2 was the importance of making connections between representations in teaching. Before our next session make notes about the ways in which you connect representations in your teaching of mathematics. Jot down examples from your lessons and try to name the kind of connection you were making.
4. Look in your school’s curriculum materials to identify the representations used to support student’s work on:
5. Fractions in general; and
6. Comparing fractions

Please bring an example of this from your curriculum to our next session.

**Optional**

1. Read the Watanabe (2002) article, “Representations in Teaching and Learning Fractions”, from the journal *Teaching Children Mathematics*. *The information about this reading can be found in the Professional Readings list, that can be accessed by facilitators in the Session 2 Planner.* Parts of sets, area models, and linear models (including number lines) are three principle types of representations used in the teaching and learning of fractions. It is often useful to be able to use these terminologies when thinking about the mathematics that is taught and learned.
2. Try connecting the categories with the figures in the representations of $\frac{3}{4}$ handout.
3. If you encounter a representation that doesn’t seem to fit the categories, what would you call that representation?
4. Watanabe also notes challenges for students in making sense of these representations. In your experience with students, have you noted other challenges that were not named in the article?