Children's thinking about fractions – some problems to try

From *Extending Children's Mathematics: Fractions and Decimals* (Empson & Levi, 2011)

Equal sharing problems (see chapter 1)
- 4 children want to share 10 submarine sandwiches so that everyone gets the same amount. How much can each child have?

- At the carnival, Daniel won 6 chocolate cream pies. He plans to share them with his 7 friends. If all 8 people get the same amount of pie, how much pie can each person have?

- 3 friends were at a Mexican restaurant. They were feeling hungry, so they ordered 8 burritos to eat. They want to share the burritos equally and eat them all. How much will each friend get to eat?

- There are 3 liters of apple juice at a school party. 10 students want to drink all of the apple juice, and they all want to get exactly the same amount. How much apple juice can each student have?

*Once children have developed a foundational understanding of fractions through solving and discussing equal sharing problems, and can describe their solutions using fraction terms and symbols, they can begin to solve multiplication and measurement division problems using fractional amounts (see below)

Multiple groups problems (see chapter 3)
- Carla has 9 cans of paint. It takes ½ can of pain to paint a chair. How many chairs can she pain with her 9 cans of paint?

- Ms. Jones wants to feed each of the children she babysits a half sandwich for lunch. If she babysits 8 children, how many sandwiches should she make?

- Tyrone eats 3/8 pound of cheese each day. How many days will it take him to eat 3 pounds of cheese?

- It takes 3/8 cup of sugar to make a loaf of bread. How much sugar would you need to make 16 loaves of bread?

- A kitten eats 3/10 cup of kitten food. How much kitten food would you need if you wanted to feed 15 kittens?