LEARNING and TEACHING POINTS

for

Chapter 13
Remainders and Rounding

Explicitly discuss with children the difference in meaning between the remainder in a division problem and the figures after the decimal point in the calculator answer.

Use informal language such as 'a bit of a …' to explain the figures after the decimal point. For example, the answer 8.3333333 in a question about sharing 25 cakes equally between 3 people might mean that each person is entitled to 'eight cakes and a bit of a cake'.

Provide children with a range of examples of real-life division problems that do not work out exactly, including those with the equal-sharing structure and those with the inverse-of-multiplication structure, to be done both by a mental or written method producing a remainder and on a calculator. Each time discuss what the remainder means and what the figures after the decimal point mean.

Use examples of equal sharing in measurement contexts to explain the relationship between the calculator answer to a division problem and the answer with the remainder.

When considering practical division problems with the inverse-of-multiplication structure that do not work out exactly when done on a calculator, discuss from the context whether to round up or to round down.

Use division problems that incorporate both the ideas of repeated addition, such as those that ask 'how many do we need?', and repeated subtraction, such as those that ask 'how many can we afford?', and discuss whether the context requires that non-exact answers are rounded up or down.

Emphasize the idea of recording measurements 'to the nearest something' when doing practical measuring tasks.

Use a number-line explanation of rounding to the nearest something, making use of the crucial questions in this process: (a) what number would be halfway? and (b) is my number less or more than this? Emphasize that we do not always use this process, and that it is most important that we first consider the context of the calculation to decide whether we should round up, round down or round to the nearest something.

Haylock, *Mathematics Explained for Primary Teachers, 4th edition*. SAGE Publications Ltd, London.