Stage 1

Fractions and Decimals

NS1.4

Describes and models halves and quarters, of objects and collections, occurring in everyday situations

Key Ideas

Model and describe a half or a quarter of a whole object

Model and describe a half or a quarter of a collection of objects

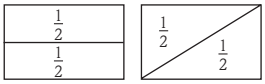
Use fraction notation $\frac{1}{2}$ and $\frac{1}{4}$

Knowledge and Skills

Students learn about

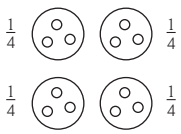
- modelling and describing a half or a quarter of a whole object
- modelling and describing a half or a quarter of a collection of objects
- describing equal parts of a whole object or collection of objects
- describing parts of an object or collection of objects as 'about a half', 'more than a half ' or 'less than a half'
- using fraction notation for half ($\frac{1}{2}$) and quarter ($\frac{1}{4}$)
- recording equal parts of a whole, and the relationship of the groups to the whole using pictures and fraction notation

  eg



- identifying quarters of the same unit as being the same

  eg



Working Mathematically

Students learn to

- question if parts of a whole object, or collection of objects, are equal (*Questioning*)
- explain why the parts are equal (*Communicating, Reasoning*)
- use fraction language in a variety of everyday contexts eg the half-hour, one-quarter of the class (*Communicating*)
- recognise the use of fractions in everyday contexts eg half-hour television programs (*Communicating, Reflecting*)
- visualise fractions that are equal parts of a whole eg imagine where you would cut the cake before cutting it (*Applying Strategies*)

Background Information

At this Stage, fractions are used in two different ways:

– to describe equal parts of a whole, and

– to describe equal parts of a collection of objects.

Fractions refer to the relationship of the equal parts to the whole unit. When using collections to model fractions it is important that students appreciate the collection as being a 'whole' and the resulting groups as 'parts of that whole'. It should be noted that the size of the resulting fraction will depend on the size of the original whole or collection of objects.

It is not necessary for students to distinguish between the roles of the numerator and denominator at this Stage. They may use the symbol ' $\frac{1}{2}$ ' as an entity to mean 'one-half' or 'a half' and similarly for ' $\frac{1}{4}$ '.

Language

Some students may hear 'whole' in the phase 'part of a whole' and confuse it with the term 'hole'.

At this Stage, the term 'three-quarters' may be used informally to name the remaining parts after one-quarter has been identified.