

Aspect 3

'using their mathematics in an enquiry that could be part of a cross-curricular study'

Note: enquiries of this nature are often open-ended, can arise naturally from the work or interests of the class, may be related to class projects or thematic work and may not necessarily be mathematical in origin.

This type of open-ended enquiry can often usefully address problems identified by the children themselves, which may focus on their everyday lives and which they have a vested interest in working on. Alternatively these may be project or theme-based investigations that demand work sharing by the whole class and which may last for an extended period of time. In this type of enquiry the boundaries between mathematics and other curricular areas will often be blurred as indeed they usually are in real-life situations.

The following criteria may be helpful, not only in choosing suitable activities, but in creating a classroom environment conducive to problem-solving activities.

- Problems should arise naturally from the work of the class or school and should, as often as possible, originate from the children themselves.
- Problems identified for solving should be of interest to the children, should have immediate practical effects on their school lives and environment.
- Completing the enquiry will seek to change a state of affairs that the children see as unsatisfactory.
- The children will not only make decisions, but will need to decide which questions to ask and where to find the answers to them. The extent to which the enquiry is completed will depend on the children's own efforts.
- There will normally be neither known 'right' solutions nor clear boundaries to the problem-solving activities, but the children will always have an end product in mind and the activity will always have an identifiable purpose.
- There may often be an element of uncertainty or 'risk' that will have to be faced and the teacher may have to be prepared to relinquish a degree of control of the direction the enquiry takes.
- There should be ongoing opportunities for pupils to discuss their work, to report to their classmates and the teacher and to cooperate as members of a team.