If teachers put too much emphasis on mathematical responses being right or wrong it will discourage children from making conjectures and formulating hypotheses that, after checking, might turn out to be wrong. Incorrect responses are often more useful for learning than correct responses.

The facility with which children formulate generalizations is one of the key ways of recognizing genuine mathematical ability – more significant than performance in routine calculations. The ability to generalize principles, to remember them and to apply them in other situations is a particular characteristic of children who are gifted in mathematics.

Be aware of the range of language available for making generalized statements in mathematics (always, every, each, any, all, if … then … , and so on), use it in your own talk and ask questions that encourage children to use it in their observations of patterns and relationships in mathematics.

In your responses to children's ideas in mathematics lessons, show that you value creativity as much as you value accuracy. Reward and encourage children who come up with unusual ideas and imaginative suggestions, or who show willingness to take reasonable risks in their responses to mathematical situations, even if sometimes they get things wrong.

Deliberately make generalizations that are invalid and get children to look for and suggest counter-examples. For example: 'In every year there are exactly four months that have five Sundays.'

Remember that primary mathematics does not consist only of the knowledge and skills discussed in Chapters 6–29 of this book, but also involves learning to reason in those ways that are distinctively mathematical: conjecturing and checking; inductive reasoning to formulate hypotheses; generalizing, explaining and convincing; and thinking creatively with mathematics.

Be prepared to ask children why they think some mathematical generalization might be true. Encourage older primary children to work towards offering reasonably convincing explanations.