

## Unit outcomes

### Science outcomes

*Change detectives* is a Stage 3 unit. Unit outcomes have been identified for Level 3 and Level 4 of the *National Scientific Literacy Progress Map*, allowing teachers to cater for the range of abilities in the sixth and seventh years of schooling. Summative assessment will need to take account of the levels of achievement expected for a cohort of students. Summative assessment of conceptual learning outcomes (**c**) occurs in the *Evaluate* phase and summative assessment of the investigating outcomes (**i**) occurs in the *Elaborate* phase.

#### Level 3

- c** Explain that changes of state involve physical changes.
- c** Explain that physical changes do not produce new substances.
- c** Explain that chemical changes produce new substances and consume the original substances.
- c** Identify physical and chemical changes.
- c** Identify reversible and irreversible changes.
- i** Formulate a question for investigation and make a prediction.
- i** Plan investigations showing an awareness of the need for fair testing.
- i** Record results as a table and plot results as a column graph.
- i** Make and record observations, and identify patterns in results.

#### Level 4

- c** Explain that physical changes involve changes in the movement and spacing of particles of a substance.
- c** Explain that substances produced by chemical changes have different properties from those used in the reaction.
- c** Explain the importance of classification for identifying differences and similarities between things. Plan investigations involving a control, and repeat trials or replicates.
- i** Plot results from an investigation as a line graph.
- i** Analyse and explain patterns in results from an investigation.
- i** Make suggestions for improving the investigation.

### Literacy focuses

*Change detectives* engages students in activities that reflect the mutually supportive relationship between science and literacy. Learning activities are designed to explicitly introduce the literacy focuses and provide students with the opportunity to use them as they think about and represent their understanding of science.

The interdependence of science and literacy is demonstrated throughout the unit when students participate in discussions and use talk to: inquire, report on observations, clarify understanding and reflect on experience. The use of gestures and oral, written and visual language to relate science to students' personal worlds is another important aspect.

The literacy focuses identified for *Change detectives* are:

- science journals
- summaries
- reports
- word walls
- tables
- role-plays
- procedural texts
- graphs
- Venn diagrams.