

# Curriculum links

## Indigenous STEM Education Resources

### Traditional separation techniques

## NSW Curriculum links

### Stage 4

### Solutions and mixtures

#### SC4-SOL-01

Explains how the properties of substances enable separation in a range of techniques.

#### Separating mixtures

Distinguish between atoms, mixtures and compounds and explain their properties using particle theory.

Classify matter as pure substances, including elements and compounds, and impure substances, including mixtures based on their particle composition.

Explain how the physical properties of substances are used to separate mixtures.

Conduct a series of practical investigations to explore common techniques to separate mixtures.

Investigate techniques used by Aboriginal and/or Torres Strait Islander Peoples to separate mixtures.

Investigate an industrial separation technique.

### Working Scientifically

#### Planning investigations

##### SC4-WS-03

Plans safe and valid investigations.

##### SC4-WS-04

Follows a planned procedure to undertake safe and valid investigations.

##### SC4-WS-07

Follows a planned procedure to undertake safe and valid investigations.

#### Problem solving

##### SC4-WS-07

Selects suitable problem-solving strategies and evaluates proposed solutions to identified problems.

## Australian Curriculum links

### Year 7

### Chemical sciences

#### AC9S7U05

Use particle theory to describe the arrangement of particles in a substance, including the motion of and attraction between particles, and relate this to the properties of the substance.

#### AC9S7U06

Use a particle model to describe differences between pure substances and mixtures and apply understanding of properties of substances to separate mixtures.

### Science and a human endeavour

#### Nature and development of science

##### AC9S7H02

Investigate how cultural perspectives and world views influence the development of scientific knowledge.

### Science inquiry

#### Questioning and predicting

##### AC9S7I01

Develop investigable questions, reasoned predictions and hypotheses to explore scientific models, identify patterns and test relationships.

#### Planning and conducting

##### AC9S7I02

Plan and conduct reproducible investigations to answer questions and test hypotheses, including identifying variables and assumptions and, as appropriate, recognising and managing risks, considering ethical issues and recognising key considerations regarding heritage sites and artefacts on Country/Place.

#### Processing, modelling and analysing

##### AC9S7I04

Select and construct appropriate representations, including tables, graphs, models and mathematical relationships, to organise and process data and information.

##### AC9S7I05

Analyse data and information to describe patterns, trends and relationships and identify anomalies.

#### Evaluating

##### AC9S7I06

Analyse methods, conclusions and claims for assumptions, possible sources of error, conflicting evidence and unanswered questions.

##### AC9S7I07

Construct evidence-based arguments to support conclusions or evaluate claims and consider any ethical issues and cultural

protocols associated with using or citing secondary data or information.

## **Communicating**

### **AC9S7I08**

Write and create texts to communicate ideas, findings and arguments for specific purposes and audiences, including selection of appropriate language and text features, using digital tools as appropriate.