



Surviving natural disasters. *Cyclone*

Australian curriculum springboard

Mathematics
Science



Stage 3
Years 5-6



Cyclone tube tornado in a bottle
by Incredible science

Science K-10 (SciTech K-6)

Outcome: *Earth and Space*

A student:

- explains rapid change at the Earth's surface caused by natural events, using evidence provided by advances in technology and scientific understanding [ST3-9ES](#)

Content:

Sudden geological changes or extreme weather conditions can affect Earth's surface.

Students:

- investigate a recent Australian example of the effect on the Earth's surface of extreme weather conditions, e.g. cyclones, droughts or floods
- identify ways that advances in science and technology have assisted people to plan for and manage natural disasters to minimise their effects, e.g. detection systems for tsunamis, floods and bush fires.

Working Scientifically

ST3-4WS: investigates by posing questions, including testable questions, making predictions and gathering data to draw evidence-based conclusions and develop explanations.

Working Technologically

ST3-5WT: plans and implements a design process, selecting a range of tools, equipment, materials and techniques to produce solutions that address the design criteria and identified constraints.

Mathematics K-10

Outcome: *Data 1*

A student:

- uses appropriate methods to collect data and constructs, interprets and evaluates data displays, including dot plots, line graphs and two-way tables [MA3-18SP](#)

Content:

Construct displays, including column graphs, dot plots and tables, appropriate for data type, with and without the use of digital technologies.

Students:

- tabulate collected data, including numerical data, with and without the use of digital technologies such as spreadsheets
- consider the data type to determine and draw the most appropriate display(s), such as column graphs, dot plots and line graphs
- discuss and justify the choice of data display used
- recognise that line graphs are used to represent data that demonstrates continuous change, e.g. hourly temperature
- recognise which types of data display are most appropriate to represent categorical data

Advice, implementation support and resources for NSW DoE teachers: [AC - NSW syllabuses for the Australian Curriculum](#) [intranet].

Review:

Cyclone

FRENCH, Jackie & WHATLEY, Bruce
Scholastic Australia, NSW, 2016
ISBN 9781743623596 [A821]



Straight to the point, French's poetic yet blunt rhyming text tells the story of a city's stubborn spirit, while Whatley's magnificent illustrations reawaken the formidable storm that took place on

Christmas Eve 1974. As a picture book, this resource is suitable for all primary Stages. Stage 3 students will find it a rich and engaging resource for a unit or project centred on natural disasters and engineering advancements in that field, with its capacity to demonstrate the powerful force of the storm. The book would also be accompanied beautifully by previous titles from French, *Fire and Flood*. A comprehensive list of [classroom activities](#) Scholastic, supporting the book, can be found on [French's website](#).
A. Lee

USER LEVEL: Stage 3

KLA: Mathematics; SciTech

SYLLABUS: Mathematics K-10;
Science K-10
(SciTech K-6)

SCIS 1744663 \$24.99

Teaching and learning opportunities:

- Research a significant Australian natural disaster
- Investigate an area of Australia prone to a specific natural disaster and explore how structures are modified to withstand its elements
- Recreate a [mini-landslide](#) to see the effects of urbanisation, and devise solutions to solve this problem
- Keep a weather journal to observe patterns/trends/changes and plan ahead to prepare
- Investigate the weather patterns of Cyclone Tracy. Select the most appropriate method to display findings and interpret the data
- Create a [cyclone in a bottle](#) to observe, record and plan for cyclone behaviour in populated areas
- Invite the RFS or another organisation to talk about natural disaster prevention
- Investigate building materials and test their suitability for protection against a chosen natural disaster
- Research products that have been created to minimise the effects of a natural disaster
- Design and construct a prototype of a new building product to withstand a natural disaster common in Australia
- Construct a building and test its ability to withstand a natural disaster, selecting the most appropriate method to display results