UNIT PLAN

Title: What changes occur on Earth and Beyond

Outcome level(s): 2 and 3 It is anticipated that students will mostly demonstrate level 3 outcomes.

Students age: 8, 9 (QLD Year 4)

Created by: Alison McCracken

School: Aspley State School, Brisbane

UNIT RATIONALE

In this unit the students will investigate changes that occur in the sky. They will explore phases of the moon and how different cultures have communicated their understanding of this phenomenon. They will also investigate weather patterns, meteors and other irregular occurrences and the apparent movement of the sun in the sky through direct observation and research from secondary sources. Finally the students will orally present a project on one aspect of the weather and create a diorama of a season. They will also write a story about the moon and dramatize it for an audience.
**Attributes of a Lifelong learner**

[pages 2, 3 & 4 QSA Science Syllabus]

<table>
<thead>
<tr>
<th>Knowledgeable person with deep understanding</th>
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<tbody>
<tr>
<td>Complex thinker</td>
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<tr>
<td>Creative person</td>
<td>who writes and dramatizes a moon story.</td>
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<tr>
<td>Active investigator</td>
<td>who explores weather patterns, meteors and other irregular occurrences and the apparent movement of the sun in the sky through direct observation and research from secondary sources</td>
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<td>Effective communicator</td>
<td>who presents their weather project orally.</td>
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<tr>
<td>Participant in an interdependent world</td>
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<tr>
<td>Reflective and self-directed learner</td>
<td>who completes a student handbook recording daily information on the appearance of the moon and their ideas about what is happening in the sky.</td>
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## Core learning outcomes table

<table>
<thead>
<tr>
<th>Key Learning Area</th>
<th>Strand</th>
<th>clos</th>
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</thead>
<tbody>
<tr>
<td><strong>Science</strong></td>
<td>Science and Society</td>
<td>SS 3.1 Students relate some of the ways that people of various historical and cultural backgrounds construct and communicate their understandings of the same natural phenomena.</td>
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<tr>
<td></td>
<td>Earth and Beyond</td>
<td>EB 3.1 Students identify and describe some interactions (including weather and erosion) that occur within systems of Earth and Beyond.</td>
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<td>EB 3.2 Students discuss regular and irregular events in time and space that occur on the Earth and in the sky.</td>
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<tr>
<td><strong>Studies of Society and Environment</strong></td>
<td>Place and Space</td>
<td>PS 3.4 Students use and make maps to identify coastal and land features, countries and continents, and climatic zones.</td>
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<tr>
<td><strong>The Arts</strong></td>
<td>Visual Arts</td>
<td>DA 3.1 Students negotiate in and out of role, a range of situations and narratives.</td>
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<td>Drama</td>
<td>DA 3.2 Students rehearse and present dramatic action for a specific purpose</td>
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<td>DA 3.3 Students discuss and interpret the learnings and understandings developed through drama experiences</td>
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<td>VA 3.1 Students design, make and modify images, applying elements and additional concepts to construct intended meanings.</td>
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<td>VA 3.2 Students make and display images and objects understanding the functions of informal and formal display.</td>
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<td></td>
<td>VA 3.3 Students compare elements and additional concepts of images and objects from a variety of cultural and historical contexts.</td>
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</table>
Aspects of ‘working scientifically’ and their components are:

[QSA Science Syllabus page 33]

<table>
<thead>
<tr>
<th>INVESTIGATING</th>
<th>UNDERSTANDING</th>
<th>COMMUNICATING</th>
</tr>
</thead>
<tbody>
<tr>
<td>• collecting information</td>
<td>• making comparisons</td>
<td>• creating presentations</td>
</tr>
<tr>
<td>• exploring phenomena</td>
<td>• reflecting and considering</td>
<td>• discussing thinking</td>
</tr>
<tr>
<td>• looking for patterns and meanings</td>
<td>• interpreting data</td>
<td>• describing</td>
</tr>
<tr>
<td>• making and judging observations</td>
<td></td>
<td>• illustrating</td>
</tr>
<tr>
<td></td>
<td></td>
<td>• using scientific terminology</td>
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</tbody>
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## Unit overview

<table>
<thead>
<tr>
<th>STAGE</th>
<th>ACTIVITY</th>
<th>RESOURCES</th>
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</thead>
</table>
* Discussion “What’s Out There?” – a list of features and components of the Solar System.  
* Begin Moon Project  
* Introduce irregular patterns on Earth  
  e.g. Cyclones, volcanoes etc. | QSA Science Module: Interactions of Systems of Earth and Beyond  
Introductory Activity p.10  
Resource Sheet 6  
Introductory Activity p.12  
Online program investigating the phases of the moon.  
Student Handbook |
| **I N V E S T I G A T I O N** | * Introduce Weather, Seasons, Climate  
Discussions/definitions/literacy activities/mapping Activities.  
* Seasons diorama  
Discuss/plan/construct/evaluate.  
* Investigate and complete project as a whole class using the criteria sheet.  
  (e.g. Volcanoes)  
* Model science experiment linked to project.  
* Weathering and Erosion – demonstrate and investigate these through science experiments.  
* Students commence individual projects.  
* Students observe and record the apparent movement of the sun across the sky.  
* Students explore the nature of objects, like meteors and comets, that apparently occur irregularly in the sky.  
* Students explore the understandings people from different cultures and time have of the moon (and stars) | QSA Science Module: Interactions of Systems of Earth and Beyond  
Developmental Activity p. 16  
Diorama: Shoe box, collage materials, books on seasons.  
Criteria Sheet  
Research Sheet  
Primary Science Sourcebook Year 6, Department of Education, Queensland – Weathering and Erosion p.177-179  
Science Module: Interactions of Systems of Earth and Beyond. Tracking the Sun p. 26-28  
Resource Sheet 4 |
| CONSOLIDATION | *Complete individual projects.  
  * Introduce scientific terminology.  
  * How we communicate – students reflect on the characteristics of different ways of communicating i.e. hieroglyphics, wall paintings, story telling.  
  * Comparing communication – students compare the effectiveness of different ways of communicating.  
  * Faces on the moon – students reflect on the ways different cultures have explained the same natural phenomena. | Science Sourcebook Module:  
Cultural Science – Introductory Activity p. 5  
Science Sourcebook Module:  
Cultural Science – Developmental Activity p. 8  
Science Sourcebook:  
Cultural Science –  
Moon/Starry Stories p.13  
Resource Sheet 3 |
| APPLICATION | * Students write their own moon story and dramatize it  
* Students locate on world map where stories originally from  
* Present projects (including experiments) orally to the class.  
* Students discuss how their initial ideas have developed/changed. | Criteria Sheet |
**Core content**

[QSA Syllabus Documents]

<table>
<thead>
<tr>
<th>Science</th>
<th>SOSE</th>
<th>The Arts</th>
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<tbody>
<tr>
<td>*Regular changes – *</td>
<td>*Countries, continents and climatic zones.</td>
<td>*Colour, line, shape and texture.</td>
</tr>
<tr>
<td>day/night</td>
<td>*Different cultures see the moon differently</td>
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<tr>
<td>Seasons</td>
<td></td>
<td>*Balance, contrast, pattern and space.</td>
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<tr>
<td>Tides</td>
<td></td>
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<tr>
<td>Phases of the moon</td>
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<tr>
<td>*Irregular changes –</td>
<td></td>
<td>*Informal/ formal display</td>
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<tr>
<td>droughts</td>
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<td>*Storytelling and performance skills.</td>
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<tr>
<td>floods</td>
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<td>earthquakes</td>
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<td>tsunamis</td>
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<tr>
<td>volcanic eruptions</td>
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YEAR FOUR WEATHER PROJECT

DUE DATES: Written Project—
Oral Presentation—

This project is to be handwritten in your project book.

1. Select topic
2. Complete research sheet with notes, using key words, under the given subheading questions.
3. Using the key words prepare a first draft by writing sentences to answer the subheading questions in your first draft writing book.
4. Locate appropriate pictures and diagrams to support your written information.
5. First draft to be checked by your teacher, before you start your final draft.
6. Write final draft of written information.
7. Include your pictures and diagrams (with captions) in your final draft.
8. Write palm cards for your oral presentation.
9. Hand in your project.

If at any time you are uncertain about what is expected of you, ask for help so that you are able to meet the due dates.

GOOD LUCK
WEATHER RESEARCH SHEET
What is it?

How does it happen? / What causes it to happen?

What does it do?
(Include effects on humans, animals and the environment)
What safety precautions do we take to minimise damage?

What areas in the world are affected by this disaster?

List some well known examples of this disaster:
An optional extra:
Through an experiment can you demonstrate what happens during this disaster? (Write the procedure for your experiment.)
Self Assessment

*Please answer the following questions about your dioramas in sentences.*

1) Describe your diorama to me – what does it look like and how did you make it?

2) What colours, shades and textures did you use in your diorama?

3) Why did you choose those colours, shades and textures?

4) How is your diorama different to other seasons and why?
5) What do you like about your diorama and why?

6) What do you dislike about your diorama and why?

7) Would you make any changes next time? Why or why not?