Opals Unit for Year 8

Relevance of topic to Earth and space sciences aspect of the National Curriculum for Year 8

The information below describes the relevant content description in the three aspects of the Science curriculum for year 8 and names the topics of the Unit that enable the requirements to be met.

Science understanding

Content Description, including Elaborations	Relevant topics in Opals Unit
Sedimentary, igneous and metamorphic rocks contain minerals and are formed by processes that occur within Earth over a variety of timescales, Representing the stages in the formation of igneous, metamorphic and sedimentary rocks, including indications of timescales involved. Considering the role of forces and energy in the formation of different types of rocks and minerals	Formation of opals in sedimentary and igneous rocks is an example of processes occurring within the Earth over comparatively short timescales. Considering the role of forces and energy in the formation of opals.
Recognising that some rocks and minerals, such as ores, provide valuable resources	Opals are extremely valuable resources. Their extraction, processing and distribution provide a wide range of occupations.

Science as a Human Endeavour

Content Description, including Elaborations	Relevant topics in Opals Unit
Science knowledge can develop through collaboration across the disciplines of science and the contributions of people from a range of cultures	Investigating how knowledge of the location and extraction of mineral resources relies on expertise from across the disciplines of science Appreciating the wide range of cultures represented by the opal miners and related occupations.
Recognising that some rocks and minerals, such as ores, provide valuable resources	Opals are extremely valuable resources. Their extraction, processing and distribution provide a wide range of occupations.

Science Inquiry Skills

Tasks suggested throughout this Opals Unit provide students with opportunities for developing the skills described in the Curriculum Statement.

Outline of the Unit

The material is supplied to teachers in 'Word' format on a USB, so that they can select the material they want to use and modify it to suit the needs of their class.

The unit consists of three booklets, comprising

- Information Booklet
- Student Activities Booklet
- Information for teachers

Contents of Information Booklet

1. Colours in Opals
2 The Nature of Opal
3. Formation of Opal
4. Life in the Eromanga Sea
5. Seeking and Mining
6. Processing Opals
7. Different Types of Opal
8. Valuing Opals
9. Caring for Opals

Appendix 'The Boy Who Found Opal

Contents of Student Activities Booklet

1 Colours in Opals
2 The Nature of Opal
3 Visit to South Australian Museum
4 Visit to Majestic Opals

Visit to Majestic Opals

N.B. Phone Sophia first on 8344 1423 to make an appointment.

Majestic Opals is a family concern run by Sophia and John Provatidis that has been mining since 1964. They mine, they cut, they set their own opals and they sell direct from the mines to the public.

When you take your class to visit Majestic Opals, Sophia will show you rough opals and a wide range of opal jewellery in her magnificent salon, but that is only the beginning!

You will also see some very rare collections of opalised fossils, including the chronosaurus tooth described in the information booklet.

Sophia will show you the raw materials from which opal jewellery is made, gem crystal opal, including fossils, as well as black and boulder opal.

You will be able to watch a demonstration of jewellery cutting.

Each student will be given a small rough stone, and inexpensive gifts will be available for them to purchase.

REFERENCES:

Information provided by Sophia Provaditis

Haill R.G. Opals of Australia Axiom Publishing 2003

Government of South Australia, Department of State Development Opal in South Australia July 2014

Cody, A. and D, The Opal Story Andrew and Damien Cody, Melbourne, 2008
(pdf available from http://www.codyopal.com/the-opal-story/the-opal-story-dvd.html)

Information provided in Opals Exhibition in the South Australian Museum 2015-16

Information in South Australian Museum's Minerals and Meteorites Gallery

Information in the South Australian Museum's Origin Energy Fossil Gallery

http://io9.gizmodo.com/5976051/opal-mining-a-damn-good-way-to-get-yourself-killed

http://www.opalsdownunder.com.au/learn-about-opals/intermediate/how-opal-mined

https://www.cooberpedy.sa.gov.au/

https://www.opalauctions.com/learn/how-to039s/how-opal-miners-search-for-opals

http://www.shed.com/aom/home.html A little about Andamooka matrix Opal

http://www.shed.com/aom/home.html A little about Andamooka matrix Opal

http://www.coastalleader.com.au/story/2918381/hutchisons-historic-coober-pedy-connection/

https://www.cooberpedy.sa.gov.au/page.aspx?u=215

http://www.johnosopals.com/2013/02/coober-pedy-original-discovery-of-op**al**

http://www.thenakedscientists.com/HTML/experiments/exp/colours-in-cds/

https://www.exploratorium.edu/science_explorer/reflecting_rainbows.html

http://astro.u-strasbg.fr/~koppen/spectro/experimtse.html