



CHEMISTRY PROGRAMS INFORMATION SHEET

Stage 6 Chemistry

The Chemistry of Art

Identify pigments, binders and support materials, their history and sources, properties and the chemistry involved through first hand investigations of key medieval and Indigenous Australian artworks in the Gallery's collection.

Please note: this Discussion Tour is delivered by a Gallery Educator who is a qualified Science Teacher.

Discussion Tours 60 minutes

\$127.50 per group of 15 students or less

\$8.50 per each additional student

Syllabus links

1. From earliest times, people have used colour to decorate themselves and their surroundings

Students learn to:

- Identify the sources of the pigments used in early history as readily available minerals
- Explain why pigments used needed to be insoluble in most substances
- Outline the early uses of pigments for:
 - Cave drawings
 - Self-decoration and including cosmetics
 - Preparation of the dead
- Outline the processes used and the chemistry involved to prepare and attach pigments to surfaces in a named example of medieval or earlier artwork.
- Explain that the colour can be obtained through pigments spread on a surface layer (e.g. paints).
- Describe paints as consisting of:
 - The pigment
 - A liquid to carry the pigment
- Describe an historical example to illustrate the relationship between the discovery of new mineral deposits and the increasing range of pigments

Students:

- Solve problems and perform first hand investigation or process information from secondary sources to identify minerals that have been used as pigments and describe their chemical composition with particular reference to pigments available and used by Aboriginal people.
- Process information from secondary sources to identify the chemical composition of identified cosmetics used in ancient culture such as early Egyptian or Roman

and use available evidence to assess the potential health risk associated with their use.

- Identify data, gather and process information from secondary sources to identify and analyse the chemical composition of an identified range of pigments.

KEY WORKS IN THE GALLERY'S COLLECTION

Online Collection Search: www.artgallery.nsw.gov.au/collection

Medieval Art

Sano di Pietro (Italy, b.1405, d.1481)

Madonna and Child with Saints Jerome, John the Baptist, Bernardino and Bartholomew, 15th century

Painting, gold leaf and tempera on panel



Indigenous Australian Art

Laurie Nelson Tukialia, Bob One Galadingwama, Big Jack Yaranga, Don Burakmadjua, Charlie Quiet Kwangdini, Unknown artist

Tutini (Pukumani grave post), 1958

Sculpture, natural pigments on iron wood

Jimmy Njiminjuma (Australia, b.1945, d.2004)

Yawkyawk, 2000

Bark painting/Painting, natural pigments on eucalyptus bark



Queenie McKenzie (Australia, b.circa 1915, d.1998)

Untitled, c1994

Painting, natural pigments on linen canvas

Rover Thomas (Australia, b.1926, d.1998)

Untitled, 1984

Painting, natural pigments, bush gum on plywood

Ginger Riley Munduwalawala (Australia, b.circa 1937, d.2002)

Nyamiyukanji, the river country, 1997

Painting, synthetic polymer paint on cotton canvas

RESOURCES

Available online at www.artgallery.nsw.gov.au/ed/kits

Education Kits

- Crossing Country: the alchemy of Western Arnhem Land art
- Rover Thomas: I want to paint

Available in the Gallery Shop.

Catalogues

- Tradition Today: Indigenous Art in Australia

Books

Eastlake. C, *Methods and materials of painting of the great schools and masters*, Dover Publications, New York, 2001

Finlay. V, *Colour: Travels through the paintbox*, Sceptre, London, 2002

Laurie. A.P, *The painter's methods and materials*, Dover, New York, 1960

Massey. R, *Formulas for painters*, Watson Guptill, New York, 1967

Mayer. R, *The artist's handbook of materials and techniques*, Fifth Edition, Viking, New York, 1991