

Student's Card 1

RM@Art

Module 1

Colouring with minerals

Introduction

Making paintings and illustrations was a human activity that is not a fairly recent one (relatively speaking) but has started more than 250,000 years ago when first human ancestors started making cave paintings. For this purpose, colours or colouring medium was used. Pigments are part of the colour that are responsible for the colour itself. Today the pigments are synthesized, but in ancient times they were made mostly from ores and minerals.

Necessities



List of materials/tools

- Pre-grinded pigments from limonite (yellow ochre), goethite (brown ochre), blue (lapis lazuli) and malachite (green) and black (coal) – all supplied
- 1 - 2 eggs (not supplied)
- Water (not supplied)
- Containers for colour mixing (supplied)
- Paintbrush (not supplied)
- Paper (not supplied)




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Pigment	Mineral origin	Picture
Yellow, red and brow ochre	Limonite	
	Hematite	
Yellow	Orpiment	
Blue	Azurite	
	Lapis lazuli	

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Vermilion red	Cinnabar	
Green	Malachite	
Black	Coal	

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Lab Procedure



- Extract egg yolk from egg white and put it into a separate container
- Mix egg yolk with approximately 1 tablespoon of water and add linseed oil
- Grind coarse grinded coal with mortar and pestle to produce fine grained pigment



- Mix pigments in separate containers with small amount of water into paste like medium
- Add egg yolk mixture to the pigment in the ratio of 50-50% egg yolk to pigment
- Mix thoroughly



- Theme of the picture is left for the teacher to decide

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Additional Safety Notes



- Apron would be handy to avoid possible colour stains on clothes
- Colour removers could additionally help for cleaning hands and brushes (supplied for the teacher)



Questions/Quiz

1. Which of these pigments is toxic?
 - a) Red ochre
 - b) Vermilion red
 - c) Black
 - d) blue
2. Orpiment, aside from being used as yellow pigment in ancient times, is an ore of which element?
 - a) Cadmium
 - b) Molybdenum
 - c) Arsenic
 - d) Copper
3. First usage of colours was dated as far back as:
 - a) 10,000 years BC
 - b) 57,000 years BC
 - c) 135,000 years BC
 - d) 250,000 years BC