TEACHERS' PACK

"The foundry on Clarence Road Leeds started production in the 1930s; its closure was announced in September 2003. From April until November 2004 Heads Together Productions facilitated the project 'Meltdown'. Foundry staff were encouraged to record and express their thoughts and memories of working in a large foundry facing closure."

The project resulted in a dynamically filmed DVD, beautifully illustrated book and a supportive website, this resource helps facilitate the use of these unique materials.

The pack provides suggested activities for Literacy, Science, History, Geography, ICT, Art, Citizenship, Music and Dance, for KS2; linked to the QCA documents. Material and activities can be adapted for KS1 and KS3.

MELTDOWN could easily be used as a stand alone resource to support individual areas of the curriculum above, however the materials are also suitable to be used in a cross curricular manner and could therefore be easily integrated into existing medium term planning to enhance learning.

MELTDOWN RESOURCES

FREE COPIES of the **MELTDOWN** book (containing photos and first hand accounts from the people who worked there and which document the history of the foundry) are available from Artemis/ Education Leeds. **The DVD 'Cast Well and True ' costs £5 from Heads Together Productions.**

WEBSITE www.fettling.com provides **free** access to downloadable resources from the **MELTDOWN** book for you to reproduce to use with your pupils, such as, newspaper articles, photos and poems describing workers experiences.

ORIGINAL OBJECTS are available for loan from ARTEMIS. This includes: protective clothing, such as gloves and goggles; large photos; signage; shadow boards and tools. These help bring the materials alive as children handle and explore them in their own classroom. **ARTEMIS: 0113 244 0497**

ARTEMIS
t: 0113 244 0497
f: 0113 242 1571
email: artemis@leedslearning.net

Heads Together Productions
t: 0870 990 5261
f: 0870 055 3627
email: info@fettling.com
web: www.heads.demon.co.uk

Heritage Lottery Fund
amicus
heads together creativity with purpose

Teachers pack written by: Nick Cass **web:** www.nick.cass.co.uk

SCIENCE

How is MELTDOWN relevant to teaching the Science curriculum?

It can be used to show how all those scientific methods we try to recreate in the classroom, (not always with the results we would like!) are used in a real life situation.

QCA Unit

CHANGING STATE **Unit 5D**	**SECTION 9: Boiling:** Having watched the DVD, the children could plot graphs to compare boiling points of different materials. Analyse the data. **SECTION 10: Observing melting:** The DVD dramatically shows the melting of aluminum, which would be a stimulating starting point for discussion. **SECTION 11: Reversible changes of state:** Watch the DVD and explore the book to find real life uses of melting and cooling. The photos on pg20/21 clearly demonstrate the change from solid to liquid, to solid. Free downloadable images from our website www.fettling.com could be used for: matching vocabulary and sequencing processes; for display.
REVERSIBLE AND IRREVERSIBLE CHANGES **Unit 6D**	**SECTION 4: Heating and cooling materials:** Watch the DVD to reinforce concepts and vocabulary introduced earlier in the school. Recap that heating some materials can cause them to change, that cooling some materials can cause them to change. That some changes are reversible, whereas others are not. Here is a reversible change. List examples of reversible and irreversible changes. Plan and carry out simple experiments in the classroom: are they fair; observe closely; record findings using tables and graphs.

SCIENCE

QCA Unit

CHARACTERISTICS OF MATERIALS **Unit 3C**	**SECTION 4: Choosing materials for a purpose:** The DVD provides a dramatic example of how the properties of aluminium make it an incredibly useful material. The discussion could be initiated using pieces of aluminium for the children to examine. Try and identify objects in the room which could be made from aluminium; watch the DVD and together generate a list of words to describe the properties of aluminium when it is in a molten state and when it is in a solid state (a non-magnetic metal); research the uses of aluminium and identify which of its' properties makes it a good material for each purpose. Pictures and vocabulary could make an interactive display.
SOLIDS, LIQUIDS AND HOW THEY CAN BE SEPARATED **Unit 4D**	**SECTION 2: Sorting liquids from solids:** The DVD can support discussions that different solids melt at different temperatures. That melting and solidifying are changes that can be reversed and are the reverse of each other, by illustrating molten metal. Ask children to use secondary sources to find out more about melting metals and to record information about why this is important. Describe what has to be done to turn a metal into a liquid and to turn it back to a solid and suggest reasons for melting metals. **SECTION 5: Freezing and melting:** The DVD can show children that the same material (aluminium) can exist as both solid and liquid and that a solid can be changed to a liquid by heating and this is melting. **"**Investigating ice-balloons: How can the process of melting be speeded up / slowed down**?"** Children love this activity, it is very messy! Closely observe and record the effects on ice of chemicals and processes, e.g. pouring sugar, salt, food colouring, blowing hot air... onto the surface of the ice. **SECTION 6: Melting temperatures:** The DVD is a perfect secondary source to illustrate molten metals. Children can see that different solids melt at different temperatures that melting and solidifying or freezing are changes that can be reversed and are the reverse of each other. Graphs can be drawn to compare melting points of different materials and comparisons made. Design fair tests to record melting materials in the classroom.
FRICTION **Unit 4E**	**SECTION 3: Sliding objects:** Watch the DVD and look for methods used to reduce friction in the factory - use of oil, wheels, rollers, belts. Design fair investigations to test the effectiveness of some of these techniques; measure and record results accurately. **SECTION 4: Using friction:** Talk about surfaces between which there is low or high friction and make a list showing everyday situations where high friction is helpful e.g. gloves and everyday situations where low friction is useful e.g. moving heavy goods.