



flame an introduction

teachers' notes

A visit to FLAME is a unique experience, combining fun, exploration and learning. It is an excellent resource for schools engaged in the Northern Ireland primary school curriculum, particularly in the module 'The world around us'.

At FLAME pupils will be taken on a journey of discovery through the facility to see how gas was made from coal in Victorian times and used for light, heat and power. They will learn about the impact of this new energy source on Victorian society and the science behind the process.

To maximise the educational value of the visit, FLAME has produced a range of resources, including teachers' notes, workshops and worksheets.

Workshops provide activities for pupils to carry out in small groups, encouraging discussion and teamwork. Worksheets can be used as a follow-up exercise to help reinforce learning.

Teachers' notes provide information about all of the activities. They explain how the curriculum is addressed in an integrated way and will help you not only to cover the existing curriculum, but also to plan for the new one.

For further information, please contact:

FLAME
44 Irish Quarter West
Carrickfergus
Co Antrim
BT38 8AT

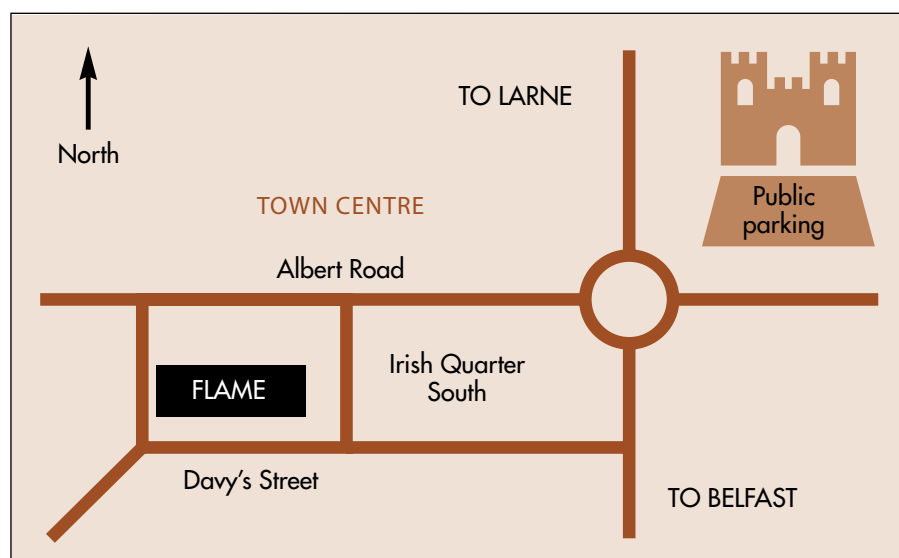
Tel: 028 9336 9575

Email: info@flamegasworks.co.uk

Web: www.flamegasworks.co.uk

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Routes to FLAME

FLAME is located at 44 Irish Quarter West, Carrickfergus. It can be reached by train, bus and car.

Bus: Private buses can park in FLAME's own car park.

Car: Park in the castle car park and follow the signs. On-site parking is available for disabled drivers (please phone in advance for details).

By train: Arriving at Carrickfergus train station, walk down Victoria Street and turn right onto Albert Road. Irish Quarter West is the fourth street on the right. Turn right into Irish Quarter West and FLAME is 50 metres down on your left. This is no more than a five minute walk. For information on train times, please phone 028 9066 6630.

On arrival

The teacher in charge should report to reception to confirm group details. Groups will be met by FLAME guides and directed to the appropriate starting point for their chosen tour. Large parties will be split into groups of about 10–15 to help achieve maximum benefit from the tour.

Discipline and safety

Teachers remain responsible for the discipline of pupils at all times. Pupils **MUST NOT** be allowed to run around the buildings or grounds on their own. In particular they must be strictly supervised while on the gasholder and in the dry coal shed. We ask that there is a minimum of one adult per ten children for the visit.

Lunches

If the weather is unfavourable, schools bringing their own lunches may use the AV room to eat their meal. In good weather, outdoor options include a grassed area or a covered concrete area (mats will be supplied).

Toilet facilities

Although there are toilets inside FLAME, children may want to make use of the toilet facilities at the castle car park or train station when they first arrive.

Clothing

Part of the tour is conducted outside. Please ensure pupils are dressed accordingly.

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Risk assessment

School groups will be accompanied by a guide while on site. Part of the tour includes climbing to the top of the gasholder. In order to ensure appropriate supervision during this part of the tour, classes will be split into small groups. For further information on any aspect required for your school visit risk assessment, please contact FLAME.

Duration of tour

The tour will take approximately 60 minutes with a further 60 minutes for each workshop.

Opening times

Teachers can book any weekday during term time.

Booking

Please book in advance by telephoning **028 9336 9575** or by emailing info@flamegasworks.co.uk. Please let staff know what time you expect to arrive at FLAME and what time you need to depart.

Payment

Payment should be made in cash, by cheque or by invoice, in which case the teacher in charge should complete a pre-invoice form at reception.

Pupils: £2

Teachers and accompanying adults: FREE

Other attractions in Carrickfergus

Carrickfergus castle: The castle represents over 800 years of military might. Besieged in turn by the Scots, Irish, English and French, the Castle saw action right up to World War II. Today it is maintained by the Environment and Heritage Service and can be enjoyed by visitors wanting to learn more about its history or just looking for a fun day out in a unique setting.

For further information:

Tel: 028 9335 1273

Carrickfergus museum: The museum offers the opportunity to view some of the treasures excavated and produced in Carrickfergus during its long and distinguished history. The displays include multi-media and audio-visual presentations. Facilities include an education room, a temporary exhibition gallery and a Community Archive room.

For further information:

Tel: 028 9335 8049

Email: touristinfo@carrickfergus.org

Andrew Jackson Centre: The centre has a thatched cottage, built in the 1750s and used as a family farm until the 1970s. The cottage is set out with furniture and equipment of the period. The display tells the story of the Jackson family who remained in Ulster and the career of Andrew Jackson, the 7th President of the United States of America.

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flame background information

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Gasworks history

From the early years of the nineteenth century, most Irish towns of any consequence had a gas-supply system. The gas used in this system was manufactured from coal at a gasworks. At one time, spread throughout Ireland, there were over 100 such gasworks.

Gas production started in Carrickfergus in 1855. The gas was distributed throughout the town by means of underground pipes. It was used initially for street lighting and then to light homes and, in later years, for domestic cooking and heating.

The advantages of gas lighting were very soon recognised. It was safe, cheap and gave off good light. Within a few short years every church, meeting house and chapel in the town had gas installed, as had many schools and mills.

The use of gas for cooking and heating did not start until the 1870s. By 1902 it is recorded that there were 10 homes in Carrickfergus that had installed a gas cooker. At this time the first slot meters (penny) were purchased.

Carrickfergus stopped producing gas in 1967 and was used for storage until 1987. In 1988 The Gasworks Preservation Society was formed. This group of enthusiasts have spent many hours rescuing and developing the only remaining coal-gas plant in Ireland.

The process

Inside an airtight retort, coal was cooked at a temperature of 1200°C to produce gas. The coal would be turned into coke at the end of the process, and could then be used in the furnaces or sold as a fuel. The gas produced contained contaminants which had to be removed – tar, ammonia and hydrogen sulphide.

The tar was removed by condensing it out of the gas. Tar was a valuable by-product and could be used in many ways. The ammonia was removed by bubbling the gas through water and was used as a chemical fertiliser. The hydrogen sulphide was removed chemically by passing the gas over a bed of iron oxide.

Every so often the iron oxide was removed and spread out under a covered area to regenerate in the air. This released the characteristic, unpleasant gasworks odour into the atmosphere.

After the gas was decontaminated, it was stored in the gasholder before being distributed around the town's gas-supply system.