



ACTIVITY PLAN

CHOCOLATE CASTING



SCOTLAND'S BUILDING
CONSERVATION CENTRE

Part of Historic
Environment
Scotland





OVERVIEW

Cast and wrought iron were very popular building materials during the late 1700s and all throughout the 1800s. During this time, rising industrialisation led to many iron foundries opening in Scotland, and the mass production of goods. This meant that iron could be used structurally and decoratively in Scottish buildings of this period. Scottish iron foundries became very successful in the 19th and 20th centuries and created an enormous variety of cast iron products for sale in Scotland and for exporting around the world.

ABOUT THIS ACTIVITY

This activity will help you learn about iron as a traditional building material and the skill of casting iron into different shapes to create many different objects. Instead of casting with iron, this activity models the iron casting process safely using chocolate.

ABOUT THE ENGINE SHED

The Engine Shed aims to engage and enthuse young people about their built heritage. It is run by Historic Environment Scotland, the lead public body for Scotland's heritage, and is based in Stirling, Scotland. It is free for people and school groups to visit and there are also courses and events for building enthusiasts and professionals. We have a range of formal and informal learning resources most of which involve science, technology, engineering and mathematics (STEM). All resources can be found at www.engineshed.scot.



WHAT YOU NEED

Included in pack	Images of cast iron, for inspiration!		
Easy to find	Tables	Tablecloths	Brown granulated sugar
	Baking paper	Food bags	Surface cleaner and cloth
	Chocolate	Gloves for food handling	Safe means of melting chocolate
	Pastry brush	Resealable containers	
Optional	Freezer (sets chocolate more quickly)	Food safe moulds	Lolly sticks

Further information on iron can be found on the Engine Shed [website](#), and the SCRAN [website](#).

WHAT TO DO

PRE-ACTIVITY

- Set up your activity area(s), including: chocolate melting, and an area for casting. Cover any tables with a tablecloth in case of spills.
- Melt the chocolate safely using your chosen method. One large bar of 300g will do three castings.
- Set up the “foundry” stations with a resealable container half filled with brown granulated sugar.

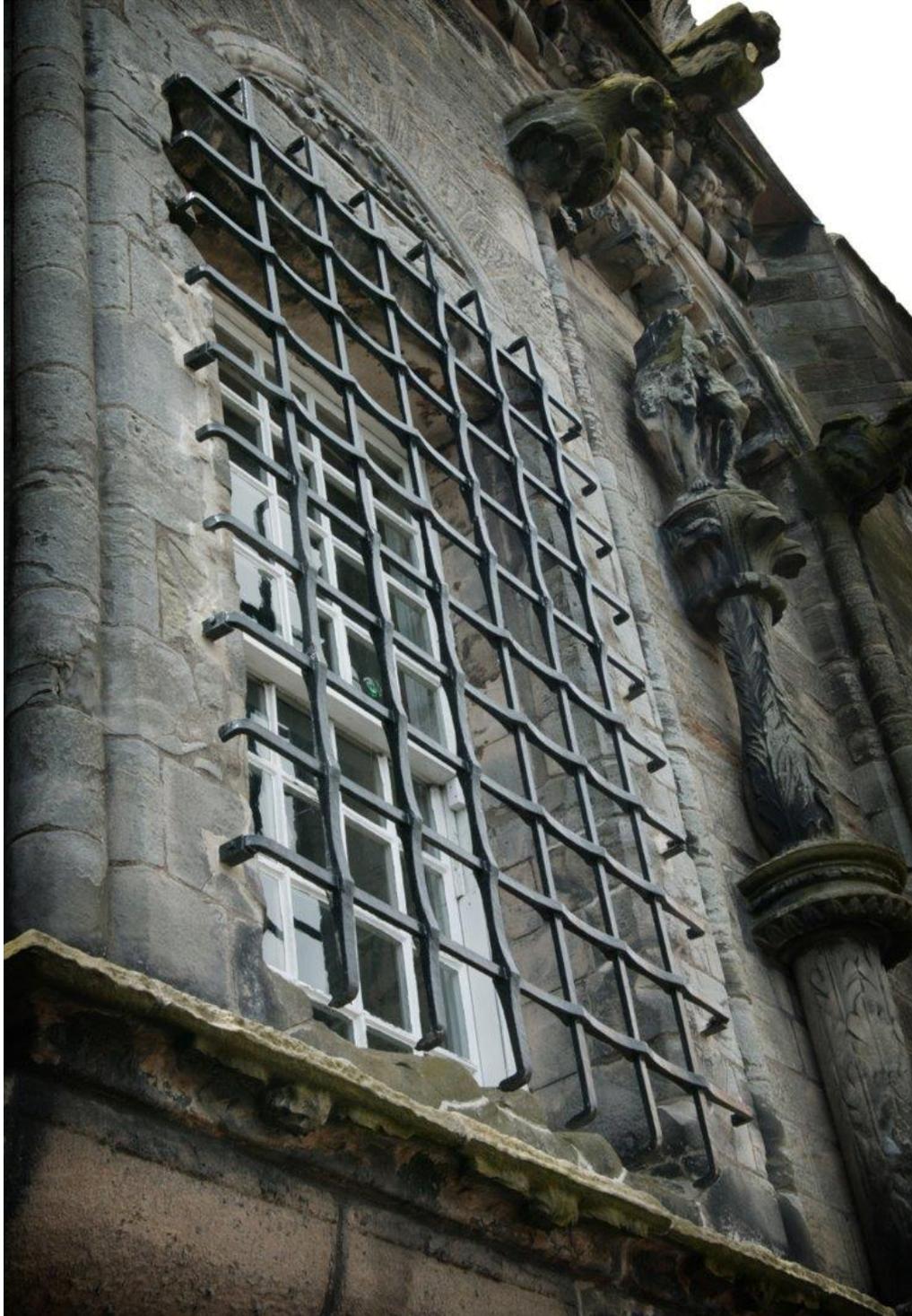


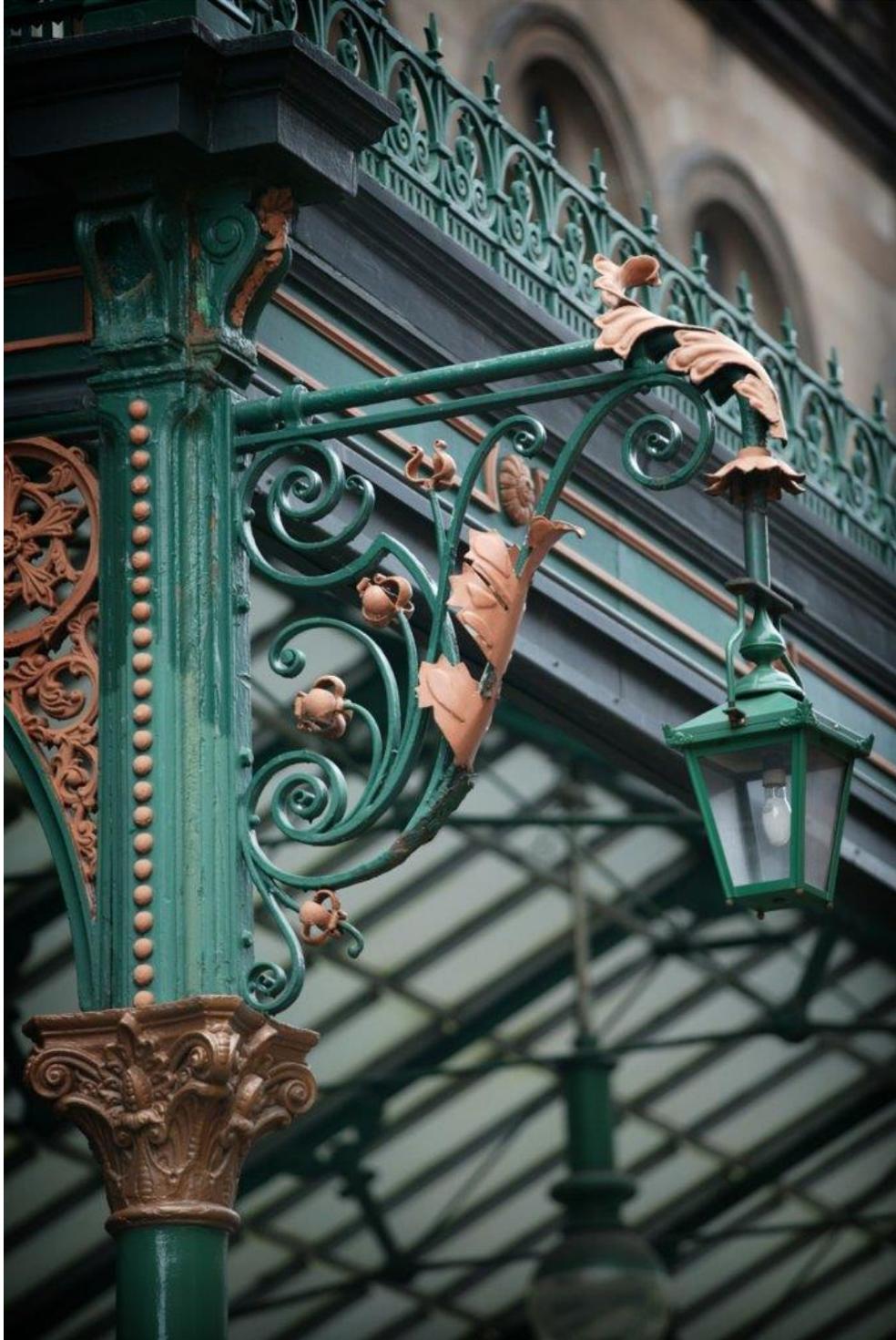
ACTIVITY INSTRUCTIONS

- Talk about what cast iron is, what it looks like and how it is made. In brief, iron is a solid metal which, when heated sufficiently, will liquify at 1538°C. Molten iron can be poured into a pre-prepared mould and as it flows in, the iron fills the shape of the mould. As the iron cools it reverts from its liquid state back to a solid. When cooled the mould can be broken revealing a cast iron object.
- Discuss how casting was used to create many different things, including gutters, gates, railings, cast iron ceilings and supports. Show examples if appropriate.
- Gloves for food handling must be put on and worn throughout the rest of the activity.
- Stamp your design into the sugar (food safe moulds could be pressed into the sugar, or a shape made in the sugar with a lolly stick). This should consist of a hollowed out shape or shapes, for the melted chocolate to fill.
- Once finished, a responsible adult can pour the chocolate into the designed moulds.
- Label each box with the participant's name, seal it, and put into the freezer.
- Once the chocolate is set, an adult can take the chocolate out of the sugar and roughly clean it with a pastry brush. The sugar is then topped up if needed and reused.

POST-ACTIVITY

- If there is any melted chocolate left over, pour it into your moulds and make some more chocolate casts. This prevents wastes and creates more tasty treats.
- Dispose of any cooled chocolate and used sugar, in a food waste bin if possible.
- Tidy up.
- Eat and enjoy!





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