

Please make copies of this information and distribute to all adult helpers using this area



The Melting Shop

A guide for teachers

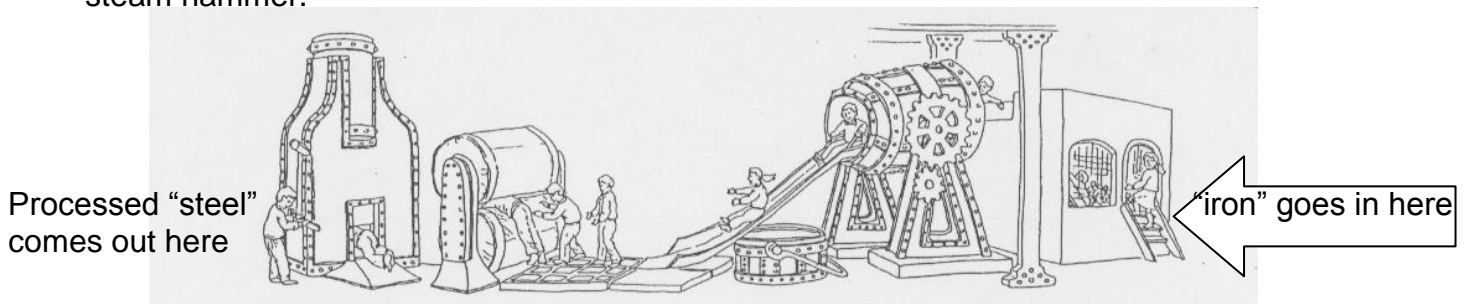
Welcome to the Melting Shop!

In this activity space children up to 9 years old (Year 4) can find out how Sheffielders made, shaped and used steel. They can now make sense of many of the themes and big machines in the Museum. The Melting Shop is ideal for studying Materials and is also relevant to other Science and History topics.

The Story of Steel

Children follow the path of steel through being melted, rolled and hammered in the factory. The immersive experience of following the process from the perspective of the metal is particularly effective for visual and kinesthetic learners.

Children begin in the furnace (a ball pool) as iron to become molten metal. They climb through the Bessemer converter to become steel and pour themselves down a slide to land as glowing red-hot ingots which change colour as they cool. From the ingot mould mat they roll themselves through a rolling mill and end up being hammered by a giant steam hammer.



Health and Safety

1. **The Melting Shop is designed for children up to Y4**, if children are taller than 140cm they must watch their head as they come out of the ball pool to go down the slide.
2. **The Melting Shop capacity is 20 children**. Please make sure that you have enough adults with you so that classes can be split into smaller groups. Each adult needs a copy of this sheet.
3. **Children should be supervised at all times** whilst in the melting shop.
4. **Please ensure children adhere to the rules of the melting shop**. (no running, one way only on the story of steel exhibit, no climbing on the locomotive)
5. **No one should eat or drink in the melting shop**. We have no running water near so spills & messes can't be easily cleaned.
6. **Children should remove shoes before using the "Story of Steel" exhibit**. There are shoe racks at the entrance to the ball pool.
7. **Please report any incidents** to a member of the museum staff so that we can improve safety in the museum.

The Ball Pool

It is important that children don't throw balls on the floor as these create a hazard. If children have soiled themselves in the ball pool or drop sharp objects/glass e.g. from glasses, the ball pool needs to be evacuated and a member of museum staff notified.

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Additional Information for your visit

Other Interactive Exhibits

In the other hands-on activities children can learn more about the processes involved in steel manufacture as well as assemble a Victorian locomotive or a 1920s Sheffield-made car.

Kelham Island has the last surviving Bessemer Converter in Britain. The **Converting** exhibit allows children to blow the molten iron and tilt the converter to replicate the first bulk steel making process in the world.

On the **Casting** bench children find out how wheels, metal ingots, engine castings and other objects are made by casting iron and steel using wooden patterns.

The **Rolling** exhibit shows how a rolling mill turns like a mangle, just like the one that was once driven by the giant River Don Engine outside the Melting Shop.

The **Forging** exhibit allows children to learn about simple ratios by turning gears and cogs to work a tilt hammer.

The River Don Steam Engine

The mighty River Don Steam Engine is the most powerful working steam engine in Europe and would have been used to drive the rollers to make steel plate. The times of the engine runs are:

Sundays	12noon, 2pm & 4pm
Weekdays	12noon & 2pm

Tannoy announcements will be made 5 minutes before runs and each run lasts for about 2 minutes.

Useful Information

If you need a member of the museum staff for any reason they can usually be found in the museum shop, at the main ticket desk or walking around the building.

The nearest toilets are by the entrance to the museum, these also have changing facilities for babies.

We would love to know how your day went, please take a few minutes to complete an evaluation form.