

Learning through glass: student-led object-handling sessions for primary schools

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The Museum in a Box: medicinal and utilitarian glass bottles from the 18th to 20th centuries. Credit: Francois Devillers

Last September I was offered a set of medicinal and utilitarian glass bottles dating from the 18th to early 20th centuries. My project was to put together a range of different medicinal and utilitarian glass bottles in the hope of awakening children's interest in the different designs and uses of glass artefacts. I intended to illustrate the main techniques of glass blowing and their evolution from mouth-blown to machine-made in England (18th to early 20th centuries) as well as bringing some broad knowledge on glass-making history.



Recycle Archaeology logo

My project was part of my master's degree in Museum and Gallery Studies at Kingston University. My course offered students the opportunity to create a Museum in a Box for schoolchildren, working with local schools (St John's Church of England Primary School and Long Ditton St Mary's Junior School). The purpose was to reflect on the process of creating the box, interpreting the artefacts, discussing the design of the education sessions and how to reach this particular audience type. Each student received artefacts from Recycle Archaeology, an organisation that aims to recycle de-selected materials from archaeological excavations (see previous issue of *The Archaeologist*), providing heritage artefacts to schools and communities.

Master's students from Kingston School of Arts, at St John's Church of England Primary School. Credit: Helen Wickstead

The Museum in a Box

I selected eight artefacts in the Recycle Archaeology storehouse: seven glass bottles and a ceramic pot.

I managed to determinate the approximate age range of each bottle, observing mould seams, morphology and embossing. I concluded that two of the bottles I had selected were from the 18th century, likely free-blown, three were from the 19th century, mouth-blown, and two from the early 20th century, machine-made. Several of these had interesting stories to tell, like the 'Ballast Bottle' – a 19th-century round-bottom bottle, made in thick glass and which couldn't stand up, whose primary use was to contain carbonated soda but which found a second purpose by ballasting the holds of merchant ships bound for the Americas – or an 18th-century medicine bottle found in Fulham High Street, not far from Chelsea Physic Gardens, where

apothecaries moved to from their previous headquarters in the Dominican priory of Black Friars after the Great Fire of London in 1666.

I put this information together in a leaflet for teachers, with a brief history of glass making, its main techniques and a diagram showing bottle morphology.

My first encounter with the children presented a first glimpse of my audience and the way I could build my Museum in a Box. The children wanted to experiment with the artefacts; they wanted to feel them. They looked at the objects from all angles, noticing some marks here, some stains there. Most of them tried to smell them, others put the bottles near their ears to check if there was a sound, like they would do with seashells. They needed to explore the artefact's full sensory potential. Touching is the way children learn from birth, and as young children (they were in year 5), this reflex was still very strong.





Thus, the Museum in a Box would need to allow the children to touch the artefacts; but there was an inherent challenge in this collection of medicinal bottles: the objects were glass and could be hazardous if broken. I needed to find a compromise in the building of my box. I took the decision to mount each bottle in ethafoam in an individual crystal box, with a lid. The children would be able to take the crystal box in their hands, to open the lid and to touch the object, to stroke it, smell it, and listen to it if they wished, without removing the bottle from the box.

My second visit at Long Ditton St Mary's primary school met my expectations. The children grabbed the crystal boxes and passed them from hand to hand, stroking the objects, smelling them and inspecting the details with the magnifying glass I added to the box.

Glass making was the link through the ages which allowed these children to get some perspective, the glass bottles resonating in their everyday lives, bridging the time gap and offering the multi-sensory values of this object-handling experience.



Francois Devillers



Francois is a student of the Museum and Gallery Studies MA at Kingston School of Arts. The course explores a range of topics including object handling, disposal and rationalisation, which have been part of Francois' focus. This project is one of the outcomes of such reflections.

Francois also works with French national heritage craftsmen on restoration projects and previously managed his own company for 15 years in interior design for public spaces in France.

*Mounting of the objects in ethafoam.
Credit: Francois Devillers*

1. Checklist: Medicinal and Utilitarian Glass Bottles 18th to 20th Centuries

Thank you very much for your interest in borrowing this museum box from Kingston School of Art's Recycle Archaeology Project.

What is Recycle Archaeology?
In response to museum archives and archaeological sites throwing away heritage artefacts, Recycle Archaeology aims to provide heritage objects to schools and communities, making heritage accessible to all.

1.	Checklist
2.	Handling Guide: How to handle artefacts?
3.	Information Sheet: Glass bottles and Ceramic Pot
4.	Overview: A Brief History of Glassmaking
5.	Glassblowing Techniques
6.	Morphology of a Bottle
7.	Packing Picture

2. Handling guide: how to handle artefacts?

How to use the museum box?
Please handle these artefacts with respect and care by following the below guidance.

The medicine bottles and the cosmetic pot are in glass and ceramic respectively. They are therefore very fragile and could be hazardous if broken (cuts). They are presented in individual crystal boxes with lid. You are welcome to take each crystal box out of the museum box. You can open the lid and touch the object but it is important you leave the artefact in its foam mould within the crystal box.

Please let us know immediately should any of the artefacts be damaged.
Email K2119566@Kingston.ac.uk or contact Helen Wickstead, director, of this course.

<p>DO (for teachers)</p> <ul style="list-style-type: none"> Take the crystal boxes, one by one, out of the museum box, in order to observe the artefact. Always use both hands to handle the boxes. Use gloves when touching the artefact. Handle all crystal boxes over a flat hard surface, such as a table. Store the museum box in a safe place upright. 	<p>DO NOT (for teachers)</p> <ul style="list-style-type: none"> Remove the artefacts out of their crystal boxes. Attempt to clean the artefacts. Use pen, adhesive, tape, label or anything else that could damage the artefact. Try to fix or repair any broken artefact.
<p>DO (for students)</p> <ul style="list-style-type: none"> Sit when you are handling the crystal box. Handle the crystal box over a flat hard surface using both hands. You may use the magnifier. Use gloves when touching the artefact. 	<p>DO NOT (for students)</p> <ul style="list-style-type: none"> Remove the artefacts out of their crystal boxes. Walk around with the crystal box. Try to clean, scratch or open the artefacts. Use the magnifying glass for alternative uses.

Artefact Image	Item	Notes
	<ul style="list-style-type: none"> Apophysis glass bottle Circa 1780 Cylindrical body with rounded shoulder, short neck, flared and lip Museum ID: H 50mm LMM (lip) 24mm LMM (base) 27mm 	<ul style="list-style-type: none"> Like the previous bottle, this one is also hand made and has a blue tinge. Both have a nice beautiful iridescence. This is the shiny and changing colours aspect. This is due to the refraction of light by thin layers of weathered glass. You can also notice the yellow pigment inside the bottle.
	<ul style="list-style-type: none"> Round bottom bottle Circa 1800-1910 Short, thick glass with vertical bubble, round bottom Museum ID: H 117mm LMM (lip) 30mm LMM (base) 33mm 	<ul style="list-style-type: none"> Due to the rounded nature of the bottom of this bottle, if under hard it was done on sand, to ensure the bottle was left on its side so that the neck wouldn't dry out, shrink and lose carbonation. These bottles were made of thick glass and used for carbonated soda. These bottles were produced in a very precise mould, mouth blown.

ITEM	NOTES
<ul style="list-style-type: none"> Ceramic Pot Circa 1870 Round body, blue paint and ink. Museum ID: H 50mm LMM (base) 30mm 	<ul style="list-style-type: none"> This ceramic pot is marked with the royal warrants. We can also see a signature and an address, George Hancock, 1 Old Bond Street, Bath. George Hancock was a hairdresser and a relative to the royal family. He named his hair salon the "Beau Hair House" and was famous for his hair lotion known as "Baldine of Honey".



Artefact Image	Item	Notes
	<ul style="list-style-type: none"> Utilitarian bottle Circa 1800 Round glass, short neck, stop shoulder, and neck. Museum ID: H 50mm LMM (lip) 23mm L X W (base) 27mm x 20mm 	<ul style="list-style-type: none"> This utilitarian bottle has a mark on its neck. The blue colour is likely to be some kind of ink. It is a mouth blown bottle.
	<ul style="list-style-type: none"> Medicine bottle Circa 1820-1890 Cylindrical body, very rounded shoulder, short neck, flared rim. Museum ID: H 50mm LMM (lip) 18mm LMM (base) 20mm 	<ul style="list-style-type: none"> This is a mouth blown bottle. It was likely produced in a three piece mould. This can be observed firstly if you use the horizontal line on the shoulder which splits the bottle and secondly from the two vertical lines from the shoulder to the neck.
	<ul style="list-style-type: none"> Medicine bottle Circa 1910-1930 Cylindrical body, very rounded shoulder, short neck, flared rim. Museum ID: H 63 mm LMM (lip) 23mm LMM (base) 30mm 	<ul style="list-style-type: none"> This bottle has a volume designation embossed on its base (100). The cork is still inside the bottle. It is likely to be a machine made bottle based on the simple number reference on its base.

5. Glassblowing Techniques

Glassblowing is a glass forming technique that involves inflating molten glass into a bubble with the aid of a blowpipe.

Hand-made *free-blown* glassware shaped solely by inflation with a blowpipe and manipulation with tools. Used predominantly from 1st century BC until the late 19th century.

Hand-made *mould-blown* or *mould-blowing* a glob of molten glass is placed on the end of the blowpipe and is then inflated into a wooden or metal carved mould. In this way, the shape and texture of the bubble of glass is determined by the design on the interior of the mould.

Machine-made machines mimic the movements and methods of a hand blower. Glassblowing uses a high temperature furnace to transform glass and other materials into glassware.

4. A Brief History of Glassmaking

Glassmaking was discovered in 2500 BCE in Mesopotamia. The first glass objects were beads. Glassmaking technologies went through a rapid growth and quickly spread in western Asia and Egypt, during the Late Bronze Age.

By the 15th century BC glass was a very rare and precious material and its use was restricted to the elite (palaces and temples).

Techniques for making colourless glass were discovered in Syria and Cyprus in 9th century BCE. The first glassmaking instructions were discovered in an Assyrian tablet date to 650 BCE.

Techniques improved a lot during Hellenistic period where mould and mosaic were explored and developed.

During the 1st century BCE, glassblowing was discovered in Syria/Judean coast.

Glass was widely used by the Romans. It was at this time, very common and cheaper than pottery!

6. Morphology of a Glass Bottle

Glass bottles have a morphology too, just like we do! You will find below the different names of its parts.

7. Packing Picture

Please kindly repack the boxes as shown in the picture below.

Extracts from the information leaflet for teachers, with a brief history of glass making, its main techniques and a diagram showing bottle morphology. Credit: Francois Devillers