

# Ceramics handling collection



National  
Museum of  
Scotland



# Ceramics handling collection

## Teachers notes

Welcome to the National Museum of Scotland.

Our ceramics handling collection contains 17 pieces from our collection and we encourage everyone to enjoy looking at and touching the objects to find out all about them.

### These notes include:

- Background information on ceramics.
- Details about each piece.
- Ideas for questions, things to think about and to discuss with your group.

### NMS Good handling guide

The collection is used by lots of different groups so we'd like your help to keep the collection in good condition.

Please follow these guidelines for working with the objects and talk them through with your group.

- 1 Always wear gloves when handling the objects (provided)
- 2 Always hold objects over a table and hold them in two hands
- 3 Don't touch or point at objects with pencils, pens or other sharp objects
- 4 Check the objects at the start and the end of your session
- 5 Please report any missing or broken items using the enclosed form

# Ceramics handling collection

## What are ceramics?

- Ceramics are objects made from clay mixed with water and then fired in a kiln.
- There are three types of ceramics: porcelain, stoneware and earthenware (pottery).
- Ceramics have been made for thousands of years. The oldest known ceramics are animal and human figures that date to around 24,000BC.
- Ceramics are used for many purposes - vases, tiles and sculptures. One of the most common uses is for tableware - plates, bowls, cups etc.
- Ceramics can be for practical or decorative purposes – or both at the same time!
- Ceramics can be made by one person or in a factory, where groups of people design, make and decorate the objects.
- The patterns and scenes used to decorate ceramics are often influenced by local styles but makers and manufacturers also take on board styles and designs from other countries to meet demands and fashion.



Hand painted decorative platter from China

# Ceramics handling collection

## Types of ceramic decoration

- Ceramics can be decorated with paint and glazed to make them more attractive.
- Until the introduction of transfer printing (see over), all ceramics had to be decorated by hand. This was very time consuming and made the ceramic objects more expensive.
- Ceramics can be decorated in a variety of ways including:
  - Marking patterns in the surface of the clay when it is still wet.
  - Under-glaze decoration – decoration is applied to the surface of the object before it is glazed. The glaze seals the decoration so it can never rub off. Because the object has only been fired once, this second firing has to be done at a high temperature and this limits the colours that can be used.
  - In-glaze decoration – decoration is applied on the surface of the glaze before it is fired so the paint and the glaze dry together.
  - Over-glaze decoration – decoration is applied after the object has been glazed. When the object is fired the decoration blends with the glaze and is sealed. Because the object has already been fired twice (once before and once after the glaze), this final firing can be done at a low temperature so lots of colours can be used.
  - Enamel – powdered glass is fused to the object during firing.



Pottery factory interior showing a flat-presser making dishes

# Ceramics handling collection

## Decorative styles and inspiration for tableware

- The ceramic tableware that we see in shops and kitchen cupboards today is decorated in a variety of styles – some are plain, some have simple blocks of colour, some geometric patterns and some floral prints. Styles of ceramic decoration change over the years and are often influenced by fashion.
- In the 18th and 19th centuries, ceramic factories in Britain produced tableware and other ceramics with designs inspired by patterns and styles from china and the Far East.
- In particular British manufacturers were seeking to copy the much admired Chinese ‘blue and white’ porcelain. Popular blue and white designs included Chinese dragons, pagoda scenes (a type of Chinese building), exotic flowers and birds, elephants and the ‘willow pattern’ which tells the story of two star crossed lovers who are immortalized by the Gods as two doves eternally flying together in the sky.
- These were painted in blue onto a white background.
- Some designs used the Chinese blue and white style but replaced Chinese landscapes with scenes from the English countryside.



Detail of Chinese blue and white style dish

# Ceramics handling collection

## Transfer printing

- Transfer printing was introduced in the late 18th century as a way of cheaply applying designs on ceramics.
- This meant that patterned ceramics could be mass produced and were more affordable.
- Transfer printing process:
  1. A copper plate was engraved with the design
  2. The design was printed onto a sheet of thin paper
  3. The paper was be applied to the ceramic object
  4. When the object was fired, the paper burned off leaving the design on the plate
  5. The plate was then glazed to preserve the design
- A separate transfer was needed for each colour. This meant that only limited colours could be used.



Woman applying gold print transfers to ware at Wedgwood factory



Detail of transfer printed dish

# Ceramics handling collection

## How to identify ceramics

- We can usually identify a ceramic object by its 'mark'. This is the writing or symbol that appears on the base of the object.
- Marks were used originally to let shops know the name of the manufacturer so that they could order more.
- The mark could also be a guarantee of a high quality design or manufacture.
- Marks are useful to us as they can tell us the manufacturer and sometimes the date of a ceramic object.

## Makers' marks

- Ceramic marks can be applied in four ways:
  1. Incised –the mark is incised or engraved by hand into the soft clay as the object is being made.
  2. Impressed –a stamp is pressed into the soft clay as the object is being made. It is neater than an incised mark.
  3. Painted –the maker writes their name or initials under or over the glaze when the object is being decorated.
  4. Printed –the mark is transferred from an engraved copper plate before the glaze is added.
- It is important to know how a company applied their marks as this can help identify fake marks.
- Some ceramic objects also carry registration marks. These can tell us when the company registered the design on the object.



# Ceramics handling collection

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# Ceramics handling collection

## Fab fact!

Porcelain is extremely beautiful and is the most highly prized ceramic because it is so thin and translucent.

## Porcelain

- It is very white and shiny because it contains the mineral 'kaolin' and is fired at a very high temperature. This causes the clay to partially turn into glass.
- Porcelain is the finest textured of all ceramics.
- The name 'porcelain' comes from the Italian word 'porcellana' which means 'cowrie shell'. This is because porcelain is translucent (see through) and looks like the translucent surface of the shell.
- Porcelain is nonporous (it can be used to hold liquid) and very hard which makes it difficult to scratch. This is why it is perfect for tableware.
- Porcelain is very hard, but also very brittle. It shatters easily if it is dropped or struck with something hard.
- Porcelain is often called 'china' because it was first made in China over 2000 years ago.
- Chinese makers of porcelain kept the manufacturing process secret. European factories did not learn how to make porcelain until the 1750s and before this they had to import it from China.
- Although porcelain could now be made in Britain, it was so rare and expensive that only very rich people could afford it.
- *Stoneware* and *earthenware* were cheaper alternatives to porcelain.

# Ceramics handling collection

## See



Hold the pieces carefully up to the light and waggle your fingers behind them. Can you see your fingers through the porcelain?

## Touch



Feel the soft ridges that run round the edge of the cup and saucer and down their sides. This is known as 'scalloping'.

## Think



The cup and saucer have a very delicate pattern. Do you think it would have been hand painted or transfer printed?



### 1a. Porcelain tea bowl & 1b Porcelain saucer

**These pieces are very old and fragile. Please take care when handling them.**

- This tea bowl and saucer are made from Worcester porcelain.
- The Worcester porcelain factory was founded in 1751. The porcelain they produced was such high quality that in 1789 the factory was given a Royal Warrant by King George III.
- The cup is known as a 'tea bowl' because it has no handle. Tea originated in the Far East and they used tea bowls like this to drink it.
- The tea bowl is small because at the time it was made, tea was still an expensive commodity.
- The Worcester porcelain factory is still a working factory. It celebrated its 250th anniversary in 2001.
- The gold decoration is called 'gilt' and is actual gold leaf which has been fired onto the porcelain.

### Investigating the makers mark

Look for the maker's mark on the base? Can you describe it?

- The mark on the base of both pieces is the Worcester 'crescent mark'.
- The crescent mark dates these pieces to the period between 1751 and 1783 when the factory was owned by Dr John Wall.
- A new mark was introduced in 1862. This was a crown and circle and is still the standard Worcester porcelain mark today.

# Ceramics handling collection

## See



Hold the piece carefully up to the light and waggle your fingers behind it. Can you see your fingers through the porcelain?

## Touch



Hold the teacup by the handle – does this make it easier or harder to hold than a tea bowl?

## Think



Look at where the poorly applied gold border has worn off – why do you think it was put on?



## 2. Teacup

- This is a blue and white porcelain transfer printed teacup.
- It was made by Wedgwood, a china company founded in 1759 by Josiah Wedgwood I. The company is still running today.
- Wedgwood was known as ‘the father of English potters’ and the ceramics the company produced are very well known.
- Wedgwood produced porcelain products like this teacup, but were best known for producing creamware, a mass-produced, high quality, light and durable ceramic which was very popular as tableware. It was also cheaper so more people could afford to buy it.
- The design shows a Chinese landscape.
- The gold grape vine around the edge is not part of the original design and would have been added by someone at a later date.

### Investigating the makers mark

Look for the maker’s mark on the base? Can you describe it?

- The mark is a printed mark with the name Wedgwood.
- Wedgwood started to add dates to their marks after 1860 and as this one does not have a date, that tells us that it was made before 1860.
- Wedgwood marks were usually impressed but were sometimes printed on porcelain. This mark was printed in either blue, red or gold and tells us that the piece dates from 1812 - 22.

# Ceramics handling collection

## Fab fact!

Stoneware gets its name because it is so hard it is like stone.

## Stoneware

- Stoneware is different to porcelain. It is opaque, not translucent.
- Stoneware is a vitreous ceramic. Vitreous means 'like glass' and stoneware has a glassy look when it is finished.
- Stoneware is a brown colour when it is undecorated. For this reason it was not as highly prized as white porcelain.
- Stoneware is very heavy for its size.
- It is sturdy, nonporous and does not chip or scratch easily so, like porcelain, it is perfect for tableware.
- Like porcelain, stoneware has to be fired at a very high temperature. Until the 1750s and the Industrial Revolution, the British factories were unable to do this so were limited to using earthenware as it can be fired at a lower temperature.

# Ceramics handling collection

## See



Look at the chips in the serving plate – you can see the brown colour of the unpainted stoneware.



a



b

## Touch



You can feel where the colour has been hand painted on- it is raised slightly from the rest of the plate.



c



d

## Think



Some pattern names include 'Belisarius' and 'Napier'. Can you think up a name for this pattern?

### 3a - d. Dinner plate, starter plate, tureen stand and serving plate

- These items are part of a complete dinner set.
- They were made by William Ridgway, Son and Company at the Bell Works factory in Shelton, England.
- The Bell Works were in Bethesda Street in Shelton and this is now the site of the Potteries Museum.
- These are made from 'Imperial stone' which is a type of stoneware.
- The pattern is inspired by styles and designs from China and the Far East with vases and exotic flowers.
- Factories produced many different patterns – each one with its own name. We don't know the name of this pattern.
- The main blue design has been printed on to the plates and the colour hand painted on top of the glaze.

### Investigating the makers mark

Look for the maker's mark on the base? Can you describe it?

- The mark is a printed mark, which incorporates the initials of the company (W.R.S.&Co) and tells us what the pieces are made from (Imperial Stone)
- This mark dates the pieces to between 1838 and 1848.
- The three larger plates also have impressed marks that say 'Improved stone'.

# Ceramics handling collection

## See



Look at the range of colours used. Do you think they work well together?

## Touch



Compare this plate with the blue and white British stoneware dish. This one is much heavier which indicates a different manufacturing process.

## Think



What do you think is happening in the scene?



### 4. Decorative platter

- Unlike the other items, this plate was made in China. It was designed for export to Europe.
- It is heavier than British stoneware.
- Because of the range of colours used, this plate would have been hand-painted rather than printed.
- The plate is highly decorated and was probably for display rather than eating.
- The design is a standard Chinese scene that may have been inspired by a scene from an opera or a drama.
- The motifs around the edge of the scene include butterflies, a fruit basket, a fan and an exotic bird.
- Different techniques have been used to create a range of textures in the paint.

### Investigating the makers mark

Look for the maker's mark on the base? Can you describe it?

- This painted mark that tells us the plate was made between 1850 and 1861 during the reign of Emperor Xianfeng in the Qing dynasty.
- The mark is written in Zhuan shu which is an ancient type of script, rather than in normal Chinese writing.

# Ceramics handling collection

## See



Can you see the white line on the rim of the plate where the transfer didn't join up correctly?



## Touch



Touch the surface of the plate. Can you feel the small bumps in the glaze? What do you think caused them?

## Think



Masons produced about 90 different patterns. What other subjects do you think might appear in the patterns? Dragons? Flowers?

### 5. Blue and white dish

- This is a typical 'blue and white' dish made by the Mason family of potters. They ran the Lane Delph factory in Staffordshire from c1800 to c1854.
- It has a typical Chinese inspired scene of exotic flowers and birds. The pattern is called 'Blue Pheasants' and dates from around 1820.
- The pattern is transfer printed.
- The dish is made from 'Mason's Patent Ironstone China'. This type of pottery was produced to provide a cheap substitute for Chinese porcelain. It was patented by Masons in 1813.
- The name 'Ironstone China' was immediately identifiable. It stood for high quality and showed that the china was as hard and durable as iron.

### Investigating the makers mark

Look for the maker's mark on the base? Can you describe it?

- The mark is the standard printed mark that appeared on all Mason Ironware from 1815.
- There is also an impressed mark 'mason's Patent Ironstone China' which was used from 1813.

# Ceramics handling collection

## Fab fact!

Earthenware is the oldest type of ceramic in the world and examples have been found that are thousands of years old.

## Earthenware

- It was used by the Europeans until they discovered how to make stoneware and porcelain.
- Earthenware is easier to make than either stoneware or porcelain because it does not need to be fired at such a high temperature.
- Earthenware, or pottery, is a porous material. This means it cannot be used to store liquid unless it is glazed.
- For this reason, earthenware is usually glazed. Glaze is a glassy coating that makes an object waterproof.
- Glaze can also protect earthenware from damage as it is not very strong and is easily scratched.

# Ceramics handling collection

See



On the base of two of the plates you can see where they were 'thrown' (made) on the potter's wheel.

Touch



Feel the impressed bell mark.

Think



Look at the designs. Can you find and identify all of the plants and animals in the patterns?



a



b



c



d

## 6a – d. Red, blue and green bowls

- These were made by John and Matthew Perston Bell & Company, a Glasgow based company working between 1842 and 1928.
- The company was the largest Scottish pottery company.
- The bowls are made from earthenware. They may have been used for food or may have been simply decorative.
- The two colour transfer- printed pattern, where the central design and borders are different colours was a design innovation introduced by Bells.
- The bowls were made for export to south east Asia.
- The bowls often came in pairs with the same design in reversed colours.
- The patterns on the bowls incorporate hummingbirds, butterflies, peacocks, dragons and lions, vases of flowers, palm trees, clouds and feathers.

# Ceramics handling collection

## **Investigating the makers mark**

Look for the maker's mark on the bases? Can you describe it?

- The marks are stamped marks. They include a bell - the Perston Bell company logo, the company initials, the registration number of the design and name of the design.
- The company initials include 'Ltd'. Perston Bell became a Limited Company in 1880 which dates the bowls to 1880 or later.
- Design names:
  - 5a. Blue with red border: Ikan China
  - 5b. Red with blue border: Kwantung
  - 5c. Green with red border: Makassar
  - 5d. Red with green border: Burung Kupu
- Each bowl also has an impressed mark in the shape of a bell.

# Ceramics handling collection

## See



The shade of blue used in this bowl is much darker than in some of the other items.

## Touch



Feel how thick this bowl is and compare it to the other blue and white bowls.

## Think



Why do you think this bowl was designed for export to Asia – where porcelain had been produced for centuries long before the techniques were adopted in Europe?



### 7a. Blue and white earthenware dish– Eastern scene

- This is a 'blue and white' dish made by John and Matthew Perston Bell & Company.
- The design is transfer printed in a single colour.
- Like the red, blue and green bowls, this one was also designed for export to east Asia.
- The centre shows a dragon and a bird with large feathers. The border pattern has four frames filled with octopus-like tentacles. The frames are separated by a scale pattern.

### Investigating the makers mark

Look for the maker's mark on the base? Can you describe it?

- The mark is a stamped mark which has the company logo (a bell) and initials as well as the registration number of the design and name of the design.
- The name of the design is Keelin Hong.
- The company initials include 'Ltd'. Perston Bell became a Limited Company in 1880 – which dates the bowls to 1880 or later.
- The bowl also has an impressed mark in the shape of a bell.

# Ceramics handling collection

## See



The elaborate pattern and different shades of blue mean that a sophisticated transfer process would have been needed.

## Touch



Feel the small bumps around the edge of the bowl. These are called scalloped edges.

## Think



Very often, the people who designed the plates had never been to China and were drawing things, like this elephant, that they had never seen before!



### 7b. Blue and white earthenware dish—elephant scene

- This is a 'blue and white' transfer printed dish, produced by the Rogers pottery in Dale Hall, Staffordshire.
- The pattern on this dish was called 'Elephant' by the Wedgwood factory when they took over the design in the late 1800s.
- The design shows a man leading an elephant in the Chinese countryside with pagodas in the background.
- Although this dish is earthenware and the Rogers pottery mainly produced earthenware, they also developed semi-porcelain and stoneware, improving the quality and delicateness of the body and the printing.
- In 1842 the Rogers Pottery passed to James Edwards. Edwards established it as a family business, which continued to trade at Dale Hall until 1882.

### Investigating the makers mark

Look for the maker's mark on the base? Can you describe it?

- The mark is an impressed mark with the name Rogers.
- Some of the Rogers pottery was unmarked.

# Ceramics handling collection

## See



This bowl is very thin like porcelain but if you hold it up to the light you will see that it is not translucent.

## Touch



Feel the weight of the bowl. It is much lighter than some of the other earthenware. Why do you think this is?

## Think



Why do you think the design incorporated an English country scene rather than a scene inspired by Chinese landscapes?



### 7c. Blue and white earthenware dish country scene

- This is a 'blue and white' dish made by the Davenport pottery at Longford, England which operated from 1793 – 1887. Davenport began with earthenware and started making porcelain in 1815.
- The design is transfer printed but unlike the other blue and white plates in this collection, it has an English country scene with two figures and a country house in the background.
- We do not know the name of the design.
- Davenport made large amounts of under-glaze blue transfer printed earthenware and blue varies from a light to a medium color.

### Investigating the makers mark

Look for the maker's mark on the base? Can you describe it?

- The mark is an impressed mark with an anchor and the name Davenport.
- This style of mark was used between 1810 and 1825 and dates the dish to this period.

# Ceramics handling collection

## See



The grapevine transfer on the inside edge of the bowl is similar to the gold one on the Wedgwood teacup.

## Touch



Tap the bowl with your fingernail. It gives off a dull 'clunk' sound. The porcelain Wedgwood cup gives off a light 'clink' sound.

## Think



You can see where the transfer ink has run. What do you think caused this?



### 8. Earthenware tea bowl

- This is a transfer printed tea bowl.
- The poor quality of the transfer suggests that it may have been like a factory second.
- The design shows putti (winged children) pulling a sheep and a lion.
- Putti were a popular feature of ceramic decoration in the 19th century.

### Investigating the makers mark

Look for the maker's mark on the base? Can you describe it?

- This tea bowl is unmarked.
- In the 1800s there were so many factories producing so many items like this that some didn't bother to mark them.
- Because there is no mark on the tea bowl we don't know where it came from or when it was made.