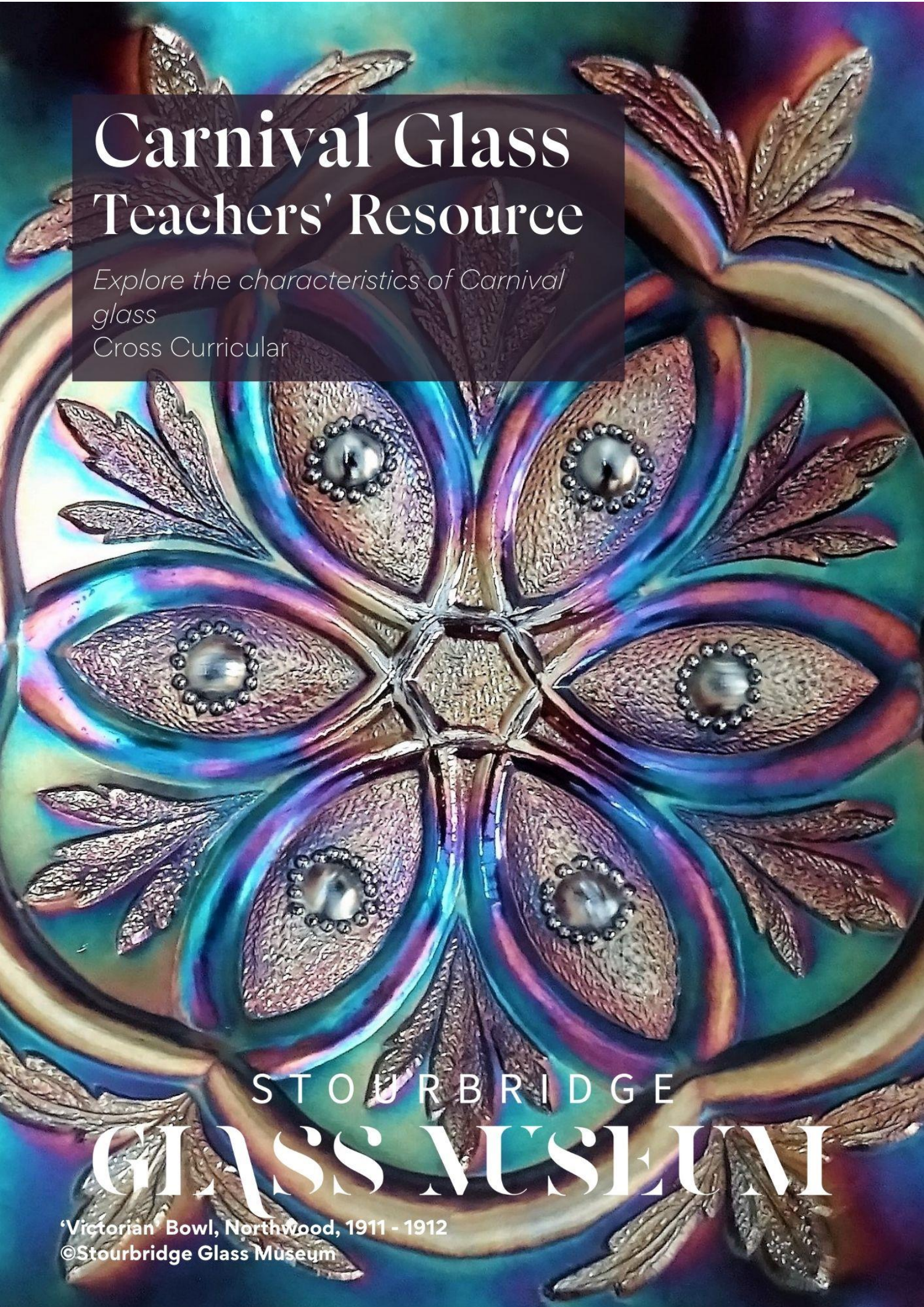

Carnival Glass Teachers' Resource

Explore the characteristics of Carnival glass

Cross Curricular

STOURBRIDGE GLASS MUSEUM

'Victorian' Bowl, Northwood, 1911 - 1912

Carnival Glass

Introduction

Carnival glass is a unique type of iridescent glass, It was first produced in late 1907, and its popularity peaked in the 1915 to 1920s.

It was first produced in the United States by Fenton Art Glass and was called Iridescent Ware. Other companies such as Dugan, Imperial and Northwood glass followed soon after. However its origins can be traced back to Stourbridge, England, which has a long history of glassmaking.

Carnival Glass was seen as a low-cost alternative to more expensive Tiffany art glass. However, its unique iridescence soon made it a popular decorative item in its own right and was often used as a prize in Carnival games.

The glass is known for its vibrant colours and shimmering iridescence, which is created by spraying the glass with metallic salts while it is still hot. The production of iridescent glass relied heavily on the skill and expertise of craftsmen local to Stourbridge, including, Arthur Nash, and Fredrick Carder, Harry Northwood.

Stourbridge Pioneers of Carnival Glass

The production of Carnival glass relied heavily on the skill and expertise of local Stourbridge craftsmen.

Arthur Nash was another skilled glass chemist who became the chief designer at The White House Glassworks. (The site is now home to Stourbridge Glass Museum – the footprint of the old White House Cone is in front of the entrance to the museum). He emigrated to America and founded The Stourbridge Glassworks with Louis Comfort Tiffany. Nash was responsible for creating Tiffany's famous iridescent Favrile Glass, using a secret recipe.

Favrile Glass – from the old English ~ *Fabrile*, meaning, hand - wrought or handcrafted.

Fredrick Carder, born in Brockmoor, was a designer and glassmaker who worked for 20 years at Stevens and Williams, where he re-introduced coloured glass. In 1903 he too emigrated to America and co-founded the Steuben Glass Works in Corning, New York State. He was responsible for creating many unusual colours and dramatic shapes used in the production of iridescent glass at Steuben. One of the colours he created was called *Aurene.*

Harry Northwood was one of the pioneers of Carnival glass production in the United States. Originally from Wordsley, In 1881, he emigrated to America, where he worked for some of the leading glass companies of the time, including Hobbs-Brockunier and Phoenix Glass, later glass companies were named Northwood Glass. Harry was the son of John Northwood, (who made the replica of the Portland Vase), and was responsible for developing many of the techniques used in the production of Carnival glass. This included the method of pressing coloured glass, which was then hand-finished by heating and reshaping, generating unique designs from the repeat press-mould forms.

Questions

What is Carnival glass?

Carnival glass is simply press-moulded glass with an iridescent finish. First manufactured in early 1907, the intricate pattern work and stunning colours captured the late Victorian and Art Nouveau aesthetic perfectly.

How was the iridescence created in Roman Glass?

Despite its beauty, and the unquestionable talent of ancient glassmakers, iridescence was not an intentional effect in antiquity. It is caused by alkali being leached from the glass by slightly acidic water present in soil.

What are the main features of Carnival glass?

Most patterns were inspired by nature or geometry, detailed to hide the seams from the mould. The iridescent finish was applied by spraying the glass after its initial firing. As a result, the special qualities that make Carnival glass stand out are not properties of the glass, but rather a finish covering the surface.

Why did Carnival Glass become popular?

Its popularity rose due to a lack of indoor residential lighting and advancements in glass making. With most homes being relatively dark at night, Carnival glass was a striking highlight for any parlour. Carnival glass thrives in reflected light, which would sparkle and dance on the glass surfaces, making any space feel grand. Previously glassware had been hand blown – a very lengthy and costly process – and with the invention of high-quality moulds, labour was significantly reduced. Prices followed suit and as a result, this glass became a key feature in most middle-class homes.

What caused the decline of Carnival glass?

The rising prominence of the Art Deco movement and plain shapes caused Carnival glass dramatically fell out of fashion.

Why is it called Carnival glass?

The abrupt decline in popularity actually inspired its namesake. With the overwhelming dominance of this type of glass, manufacturers were stockpiling a large supply. As demand waned, the glassware was given away at fairs and public events in the 1920s, producing the name: Carnival glass.

Origins in Tiffany Glass

Carnival glass can trace its origins back to Tiffany glass, which was produced by the Tiffany Studios in the late 19th and early 20th centuries. Tiffany glass was known for its unique colours and textures and Art Nouveau style. The makers of Carnival glass sought to recreate these qualities in pressed glass.

Art Nouveau

Art Nouveau is a type of art that was very popular in the late 1800s and early 1900s. It is known for its fancy and flowing designs that are inspired by nature and have lots of small and detailed parts. Art Nouveau can be seen in buildings, furniture, jewellery, and pictures. It loves to show the beauty of nature by using curved lines, flowery patterns, and making art a part of everyday things.

Method of Production

Embossed Surfaces

Carnival glass was made using a technique known as press-moulding. This involved pouring and pressing molten glass into a mould using a mechanical press. Moulds made sure the glass objects all started off the same size and shape. The glass was then removed from the mould and hand-finished by heating and shaping. Carnival glass is known for its intricate embossed surfaces, which often feature themes of animals and nature, as well as geometric grids. These designs were carved into models and moulds were created from them. The embossed patterns embossed on the surface of

Drawn design.

Plaster model and wax test piece.

Machine carving interior of mould.

Interior of mould.

Dropping and cutting of a gather of hot glass into mould.

Glass formed from mould.

An iridised glass bowl from mould and shaped.

The same glass bowl heated and spun into a plate.

the glass were highlighted when the iridescent finish was added at the end of the shaping process.

Iridescence and Colour

Carnival glass gets its beautiful, iridescent, shiny colours from a special process that involves using metallic salts. After the glass is shaped, it's sprayed with salts in solution, such as iron and tin while it's still hot. These salts stick to the surface of the glass. When light hits the glass, the thin layer of salts bends the light in different ways, creating a rainbow of colours like purple, blue, gold, and green. This effect is similar to the way a rainbow appears on the surface of water with a thin layer of oil, where light reflects off the surface to produce shimmering, multicoloured patterns. Just as a rainbow appears after it rains, when light passes through water droplets and splits into different colours, the way the light bounces off the salts is what makes Carnival glass so extraordinary and colourful. The most common shade of Carnival glass is marigold orange, then amethyst, blue, green and red, which is probably the rarest of all. Other shades do exist, including black, pastel shades, and many varieties of the main colours such as amber, electric blue or sapphire.

Pre - visit activities

~ Show pictures of Carnival Glass to the students and discuss the colours and designs of the glass.

~ Ask the students to describe the texture of the glass, and explain what iridescence means.

~ Discuss the historical background of Carnival Glass and its relationship to the local area, and show pictures of the Stourbridge pioneers.

~ Show images of how Carnival glass was made.

At the museum

Bring drawing and colouring pencils, paper or your sketchbook for sketching and annotating.

Find the Carnival glass on the first floor of the museum.

~ History: Ask the students to identify the different colours of the glass and the patterns used. Which local factories made Carnival glass? Was all the Carnival glass made in Stourbridge? Which other countries made Carnival glass?

~ Science: Discuss Carnival Glass, How the iridescence was created? Does the colour of the glass change the effect of the iridescence?

~ Literacy: Write a descriptive sentence, paragraph, poem or word cloud about one of the Carnival glass items using sensory language to describe the colours and textures.

~ Design: Discuss the everyday glassware pupils have at home, it's uses and appearance. Some items of Carnival glass have unusual uses, (such as the hair collector – a bowl for collecting hair from a hair brush, which was used later in hair styling to create more volume). Ask students to design an unusual everyday item that could be made in glass. What unusual everyday item can you think of and design?

~ Drawing Activity: Focus on form, draw the outline of your favourite piece or pieces of Carnival glass. Next, focus on decoration, sketch your favourite decorative element, shade the textures of the embossed designs.

~ Exhibition Curation: Work in groups to curate your own mini-exhibition of Carnival glass. Take photographs, or draw quick sketches of your favourite pieces, (You can complete this task back at school, and create a collage exhibition of your favourite glass pieces). Take notes of descriptions and dates to help you decide what theme will you choose for your Carnival glass exhibition.

~ Analytic Review: Find other examples of contemporary glass with iridescence. Write an analysis of these designs. How do they compare to the arnival glass? Which do you prefer and why?

~ Art History: On the lower floor of the museum, find the examples of ancient Roman glass. Look at the appearance of the natural iridescence, how does it compare to the manmade iridescence of Carnival glass?

Back at school

Literacy

~ Creative Writing and Reflections

Activity: Imagine you are a piece of Carnival glass in the museum.

Task: Write a short story from the perspective of the glass. Describe how you were made, where you were displayed, and the adventures you've had over the years. Be creative and use your imagination to bring the glass to life!

Learning Outcome: Developing creative writing skills while learning about the history and creation process of Carnival glass.

Activity: Reflect on your visit to the Stourbridge Glass Museum.

Task: Write a review of your experience at the museum. What was your favourite piece of glass? What new things did you learn? How did the visit inspire you?

Learning Outcome: Practicing reflection and review writing, encouraging personal engagement with museum visits.

Art and Design

~ Crafting and Curating

Activity: Create your own Carnival glass-inspired artwork.

Task: Use materials like coloured cellophane, iridescent film, and metallic pens or paints to design a piece of art inspired by Carnival glass. Experiment with different shapes, colours, and effects to create something unique.

Learning Outcome: Encouraging creativity and experimenting with materials to replicate the iridescent qualities of Carnival glass.

Activity: Curate your own glass exhibition.

Task: Use the photographs or sketches you made at the museum to create a glass-themed collage. Think about how you want to display the pieces—by colour, shape, or even where the glass was made.

Learning Outcome: Learning about exhibition design and practising organisational and artistic skills.

Science

~ Light and Chemistry Experiments

Activity: Create a rainbow with water and a mirror.

Materials: Bowl of water, small mirror, torch.

Task: Place a small mirror inside the bowl of water at an angle and shine the torch at it. Observe the rainbow that appears on the wall.

Science Connection: Just like Carnival glass uses metallic salts to create rainbow colours, here the water and mirror bend light in a similar way, demonstrating reflection and refraction.

Learning Outcome: Exploring light and colour through reflection and refraction, understanding how different materials interact with light.

Activity: Shiny Penny Experiment.

Materials: Tarnished copper pennies, salt, vinegar, small bowls.

Task: Mix salt and vinegar in a bowl. Dip the tarnished pennies into the mixture and watch them become shiny again.

Science Connection: Explain how the vinegar and salt react to clean the copper surface. Link this to how Carnival glass is treated with metallic salts to make it shiny.

Learning Outcome: Investigating chemical reactions and how materials change, while connecting it to the science behind Carnival glass.

Mathematics

~ Patterns, Symmetry, and Measurements

Activity: Explore symmetry in Carnival glass designs.

Task: Look at pictures of Carnival glass, especially those with decorative patterns. Can you spot lines of symmetry? Try drawing your own symmetrical designs, inspired by the patterns you see.

Maths Focus: Symmetry.

Explanation: Many Carnival glass designs have rotational or mirror symmetry. Learn about lines of symmetry and practice creating your own symmetrical patterns.

Learning Outcome: Understanding symmetry in art and nature, and improving pattern-drawing skills.

Activity: Tessellation and repeating patterns.

Task: Look closely at the tessellation or repeating patterns found in Carnival glass. Then, draw your own patterns, making sure the shapes fit together without any gaps.

Maths Focus: Tessellation and repeating patterns.

Explanation: Tessellation means repeating a shape over and over without gaps or overlaps. Practice drawing your own tessellated patterns, inspired by the intricate designs found in Carnival glass.

Learning Outcome: Learning about geometric shapes and patterns, and exploring how tessellations fit together.

Activity: Measure the perimeter, area, and volume of Carnival glass shapes.

Task: Use objects shaped like Carnival glass (e.g., cylindrical vases or circular dishes) to measure the perimeter (circumference), calculate the area of the base, and estimate or calculate the volume of the object.

Maths Focus: Measuring and calculating perimeter (circumference), area, and volume.

Learning Outcome: Applying real-world maths to objects inspired by Carnival glass, while learning about circular shapes and how to measure them.

Image Resources

Figure 1, Carnival Glass Vase

Figure 2, Ancient Roman Glass Vase

Figure 3, 'Victorian' Bowl, Northwood, 1911 - 1912

Figure 4, Peacocks on the fence Bowl, Northwood, 1914

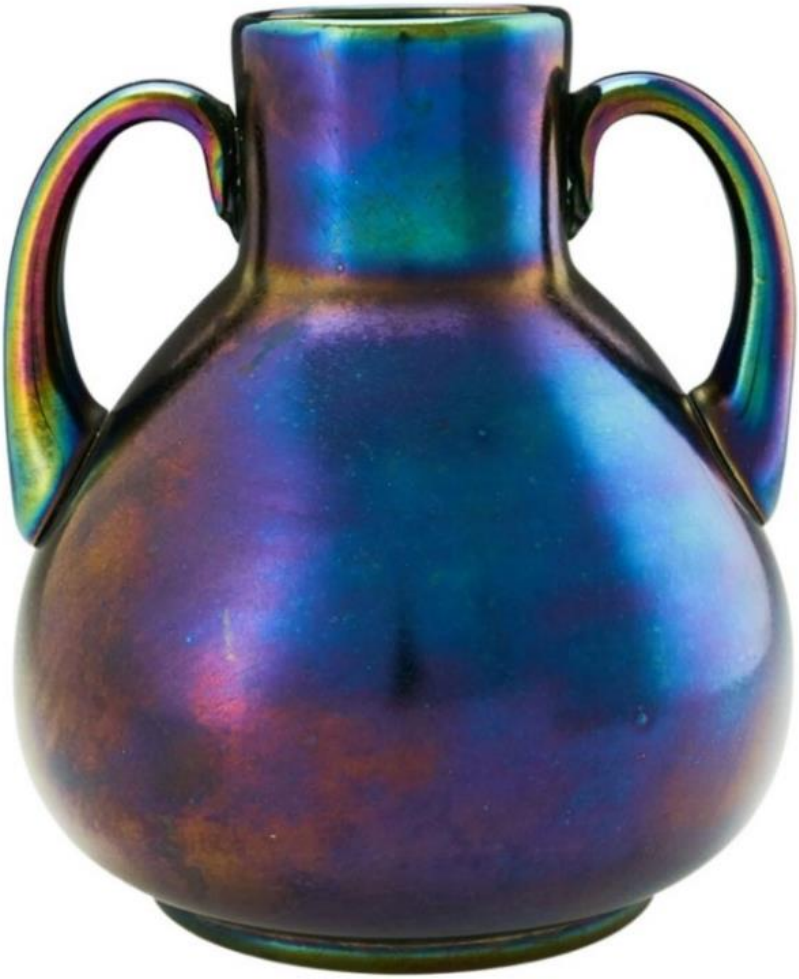

Figure 5, Minerva Vase, Tiffany, 1878 – 1883

Figure 6, Question Mark Pattern Bowl, Peach Opalescent, Dugan Glass Company, c. 1910

Figure 7, Sunburst Blue Bowl, 19th Century

Figure 8, Marigold Carnival Glass, 19th Century. All from the same mould, reheated and shaped into different forms, cupped in, Tri crimp and swung vase.