

Freestanding Textured Picture in Glass

This lesson plan is offered as a possible approach but will be subject to modifications by the individual teacher. We have assumed students will be working independently.

This project is suitable for those exploring glass for the first time as well as those with some glass fusing experience. It is a good workshop project for the GCSE portfolio. It can be linked into whatever theme or brief the students are following.

A clear glass rectangle is used as a base with the students adding frit, confetti, stringer and pre-cut sheet glass elements to the base to build up the image. The students' work will be tack-fired after the lesson then bent using a former to create a finished textured piece which stands up by itself to display in a window so the transmission of light can be appreciated.

Lesson length is assumed to be 90 minutes, or it could be split into two sessions: a planning lesson where the medium is introduced, then an activity lesson where the pieces are made.

Learning objectives for the lessons

By the end of the lessons you should KNOW	<ul style="list-style-type: none">• That there is the creative craft of glass fusing and glass artists• That themes can be translated into glass artwork• That glass can be opaque or transparent• That it is important to work safely with glass
By the end of the lessons you should UNDERSTAND	<ul style="list-style-type: none">• that glass changes properties when fired in a kiln• that textured images can be built up using different glass elements• the different properties of translucent versus opaque glass• the importance of colour and texture in creating the artworks• the importance of wearing protective clothing in working safely
By the end of the lessons you should BE ABLE TO	<ul style="list-style-type: none">• create a self-planned piece of fused glass work• present a personal response to a theme or brief• work safely with others

Recap of previous experience and prior knowledge

Previous understanding of using colour and texture in other media to produce artwork. Using collage elements to build an image. Be able to respond to a brief

Resources

Students will need:

- PPE: protective eyewear; dust mask when working with glass powders
- **Glass and tools (see equipment list)**
- Bullseye catalogue to see the fired colour of the glass

Teacher will need:

- examples of glass art on OHP/electronic board. We have images of fused glass work, including works by fused glass artists such as Bob Leatherbarrow and Nathan Sandberg on our website: <https://www.warm-glass.co.uk/gallery-cms-108.html>

Content – Planning Lesson 1 (Suggestion)

Time	Content
5 - 10 minutes STARTER	<p>The teacher shows students the fused glass art (bowls, jewellery etc – there are images on our website in the Gallery section) and asks how they think it is made. This leads to a discussion about the art of fused glass, the materials used and what happens in the kiln.</p> <ul style="list-style-type: none"> • What is the art made from? <ul style="list-style-type: none"> ◦ (coloured glass) • How is the glass joined together? <ul style="list-style-type: none"> ◦ (heated to around 800C in a kiln until it melts together) • Unlike metals and other elements, glass changes state from solid to liquid slowly. If you catch it at the right temperature you can melt glass enough to stick together but not turn completely liquid. How is this helpful to the artist? <ul style="list-style-type: none"> ◦ (It allows them to add texture to their work) • What happens to light when it hits the glass? <ul style="list-style-type: none"> ◦ (Some is reflected back, giving the colour, but some is transmitted through the glass. With opaque glass none is transmitted but absorbed instead, so you can't see any light coming through it)
5 minutes	Talk to students about safety when working with glass. It is important not to touch your eyes or mouth when working with glass, and important not to breath in glass powder as it stays in your lungs if you do. Discuss what to do if a student cuts themselves (inform teacher or TA who will assess).
5 minutes	Discuss the brief on which the design should be based.
60 minutes	<ul style="list-style-type: none"> • Introduce examples of the different glass elements – sheet glass, stringer, powder, frit confetti etc. • Students look at the Bullseye catalogue and note how colour and texture of glass can change on firing. • Look at the tools that are used with glass and briefly discuss what they are used for. • Students consider how they will interpret their brief into glass. • Students sketch and make notes on how they will approach the project. • Allow the groups to collect their chosen glass accessories (frit/stringer/powder etc) and any tools they need (e.g. powder sifter) • Students place the 3mm glass base on the Thinfire paper – they should write their name on the Thinfire for identification before firing. • Create their pieces using the accessory glass according to their templates. • Place on kiln shelf ready to fire.
5 - 10 minutes PLENARY	<p>The teacher asks:</p> <ul style="list-style-type: none"> • what safety equipment did you use and why? • what do you think the pieces will look like after firing in the kiln? • Was glass a good medium for your theme?



After the lesson

Make sure you have drawn a 'map' of what is in the kiln with the student names noted (a photo of the kiln contents can be very helpful), as glass can look very different after firing and students may not immediately recognise their own work.

Fire the glass using a tack fire schedule. We recommend this basic tack, which provides a prominent raised texture:

Runtime: 12hrs	Rate - Degrees/hr	Temp - Set point	Hold - Soak
Segment 1	222°C/hr (400°F)	→ 677°C (1250°F)	30 min
Segment 2	333°C/hr (600°F)	→ 760°C (1400°F)	10 min
Segment 3	999°C/hr (AFAP)	→ 482°C (900°F)	120 min
Segment 4	83°C/hr (150°F)	→ 371°C (700°F)	End

Then spray a metal stand former with boron nitride spray (do not use normal shelf primer on metal formers) and place the tack-fired piece over the top (design side up). Fire using the following slump schedule:

	Rate - Degrees/hr	Temp - Set point	Hold - Soak
Segment 1	163°C/hr	→ 680°C	10 min
Segment 2	999°C/hr (AFAP)	→ 482°C	60 min
Segment 3	56°C/hr	→ 371°C	End

