Make your own celestial clock

Make yourself a beautiful celestial clock using the Celestial Casting Mould and Bend it Mould.

The following instructions enable you to make a feather pendant using the Celestial Casting Mould (CPLF179) and Bend it Mould (CPGM81).

You will need to following to create this project:

- Creative Paradise, Inc. mould CPGM81 and CPLF179
- ZYP
- Powder sifter
- Pipette
- 5" x 10.5" piece of Blue Aventurine 3mm sheet glass
- COE 96 Frits: F1 Powder, F2 Fine and F3 Medium
- Clock parts
- Liquid fired gold (optional)

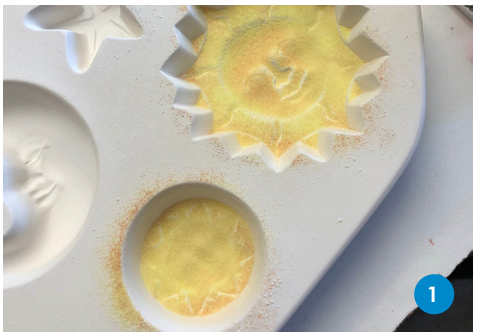
Ensure your mould is well primed before use

By using a primer this will prevent the glass sticking to the mould and potentially damaging the mould and the glass, make sure you use a small brush for detailed areas and dry thoroughly.

Creative Paradise highly recommend using ZYP a Boron Nitride spray due to the high temperatures required, this easy to apply spray can fire up to 982°C. Several light coats with a short waiting period of around 15 minutes between coats is preferable to one heavy coat. Shake the can well before use and hold the can upright while using to assure proper distribution of product. You will need to apply one light coat each time you fire.

The process






1 Create the celestial parts

Sift powdered Cherry Red frit along the border and into the center of the face of the suns.

Sift powdered Rust frit into the center of the faces of the suns.

Sift powdered Transparent Yellow to cover the entire bottom of the sun cavities.

Fill the sun cavities with fine Canary Yellow Opal until the large sun holds 26 grams, the small holds 5 grams.

Sift powdered Navy into the face and face facing edge of the moon cavities and into the center of the star cavity.

Sift powdered Pale Blue into the face and further back from the face facing edge of the moon cavities.

Fill the moon cavities with find White until the large moon cavity contains 16 grams of frit and the small cavity contains 8 grams of frit. Fire the frit cast mould using the Tack fire schedule found in the table below.

Remove the castings from the mould. Use a scrub brush and soap and water to remove any glass separator from the castings.

Celestial mould firing schedule - tack fuse

Segment	Rate Celsius/hr	Temp	Hold time (hr:min)
1.	152°C/hr	to 621°C	0:30
2.	166°C/hr	to 768°C	0:00
3.	AFAP* OR 9999°C/hr	to 510°C**	1:15

*AFAP = as fast as possible, some controllers will not allow a rate of 9999°C /hr
** Will vary depending on desired result and kiln

Note:
This data is a guide only, firing programs may need to be adjusted according to size and thickness of glass and the kiln's performance. Ensure that data is entered into the controller accurately, otherwise glass may not fuse correctly or paint will not fire onto the glass as desired. Creative Glass Guild sells all glass, tools and materials on the basis that customers have the knowledge and ability to use them safely and in accordance with all relevant regulations and legislation.

2 Cut out your Aventurine glass and the clock face daigram

Cut a 5" x 10.5" piece out of Blue Adventurine sheet glass. Print and then cut out the Clock Face Diagram provided above and place it on the Blue Adventurine glass. Make sure to print the Clock Face Diagram "Actual Size". You will use the Clock Face Diagram as a handy template to arrange your dichro pieces around.

3 Arrange your castings and clock

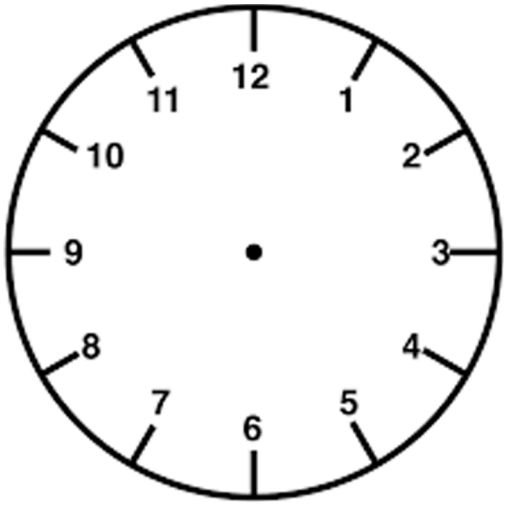
Arrange the frit castings and the Clock Face Diagram using your own artistic preferences, keeping them arranged within the top 7.5" of the glass leaving the rest of the glass blank so it can bend. Make sure that the Clock Face Diagram is situated so the top and bottom marks are parallel with the side of the edge of the Blue Adventurine and that the frit castings are not encroaching the Clock Face Diagram (allow a 1/4" clearance).

4 Place your dichroic pieces to create the clock face

Cut 12 small (1/4" x 1/8") pieces of dichroic glass. Center a piece of dichroic at each line along the outside edge of the Clock Face Diagram on the glass (image 1). Use a bit of liquid hair spray to set each piece in place and then carefully remove the paper Clock Face Diagram. If desired use Dichroic frit to enhance the celestial scene by sprinkling them around the clock.

5 Tack fuse your clock

Place the glass with the frit castings and dichroic pieces on a piece of kiln shelf paper on a flat kiln shelf and fire using the tack fire schedule found in the tack fuse table.



6 Drill a hole for the clock parts

After the glass has cooled, find the center of the clock face and use a drill with a 5/16" diamond core drill bit in water to drill a hole in the center of the clock face.

7 Use gold to create accents

Optional: Use a gold aplicator pen to apply some Fired White Gold to the eyes on the Sun and Moon.

8 Fire on the Bend it mould

Place the project on the GM81 Large Bend it Mould in the kiln. Fire using the schedule found below.

Bend it mould firing schedule - slump

Segment	Rate Celsius/hr	Temp	Hold time (hr:min)
1.	138°C/hr	to 426°C	0:20
2.	55°C/hr	to 682°C	0:15
3.	AFAP* OR 9999°C/hr	to 510°C**	1:30

*AFAP = as fast as possible, some controllers will not allow a rate of 9999°C /hr
** Will vary depending on desired result and kiln

Note:
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Assemble the clock mechanism

Place the black rubber washer on the shaft place the shaft through the hole place the brass washer on the shaft followed by the brass hex nut. Tighten the brass hex nut until the clock movement is held in place. Insert the hour hand followed by the minute hand on the shaft. Place the second hand on top as shown above.

The battery operated clock parts used in this tutorial are: 5/16" Short Shaft Clock. The minute hand is 1.375" and the hour hand is 1".