

# Mini Aquarium Magless Instructions

By Emily Pezzulich

These mini aquariums are an experiment in creating dimensional scenes using multiple layers of glass, each with different elements of stenciled designs. The idea was to suggest goldfish moving through water, with sea grass in the background and foreground.



## Materials Used:

- Two stencils, one with fish, the other with sea grass.
- Four pieces of 2mm thin glass, equal sizes
  - 3 clear layers - (1101 or 1401)
  - 1 bottom layer - white (0113) or opaque white (013), or whatever else you want.
- Powder, to be sifted on using a tea or other strainer
  - Turquoise (1116) and light turquoise (1416) OR aqua (1108) and light aqua (1408).
  - Aventurine green (1112)
  - Sunflower yellow (220) and orange (125)
  - Clear (1101 or 1401)

## Steps to First Firing:

- Using the tea strainer, sift a reasonably solid, but not thick layer of light turquoise powder to cover the white piece of glass. Then sift some of the turquoise powder on top, to create a rather mottled appearance of the powder on the glass. Set this layer aside.
- Next, place the sea grass stencil on top of a clear piece of glass. Using the tea strainer, sift the aventurine green powder over the stencil. Again, you're looking for a mottled appearance... some areas darker, some areas lighter. Set this layer aside.
- Repeat this step on a second clear piece of glass. Set this layer aside.
- Finally, place the goldfish stencil on top of the last piece of clear glass. Using the tea strainer, sift the sunflower yellow, then the orange powder over the stencil. You can vary where you place each color, so some of the fish are more yellow, and others more orange. Ultimately, this will suggest lighter and darker areas of the aquarium.
- Carefully place each piece of glass individually on a prepared kiln shelf. (Don't stack them for this firing.)
- Fire using Firing Schedule 1.

### Steps to Second Firing:

- You'll notice that after the first firing, each of the pieces of glass have slightly raised edges. You probably want to get rid of those raised edges, as they may cause trouble with bubbles in the next firing. You can either saw them off or grind them off... the idea is to make sure that when you stack the layers, they fit together as tightly as possible.
- Stack the four layers on a prepared kiln shelf. The stacks will be around 8mm thick, so you'll want to use dams (kiln washed or with strips of fiber paper) to keep the glass from spreading out.
- Fire using Firing Schedule 2.

### Steps to Third Firing:

- If you plan to cut your panel into smaller pieces (e.g., maglesses), this is the time to do it.
- Do any finish work needed for your edges – grind off rough spots, square your piece, etc.
- Sift a very thin, consistent layer of clear powder over the top of the piece.
- Carefully place it onto a prepared kiln shelf.
- Fire using Firing Schedule 3.

### A Few Tips...

- If you don't have a lot of experience with powder...
  - Wear a mask... no point in inhaling glass powder
  - Place a large sheet of clean "disposable" paper on your table (to catch stray powder).
  - Put 1" kiln posts in the center of the sheet
  - Put your glass layer on top of the kiln posts, then put the stencil on the glass
  - Sift your powder on the layer
  - Move the finished layer to the prepared kiln shelf
  - Repeat for each layer
  - If you want, you can reclaim powder captured on the paper by simply folding the paper in half and pouring it back into a container.
- If you haven't played with stencils and powder...
  - For any stencil, the trick is lifting it off the glass all at once without disturbing the powder. Try putting little masking or blue paper tape "handles" near the center of the stencil to enable you to pick it straight up off the glass
  - If you are using a large stencil (say 6" square or larger), you might want to create a .5" cardboard "frame" around the edges to give it more rigidity. You can either tape it on or use superglue to attach it.
- *A word about the first and third firing schedules.* You'll notice they only go up to 1410°. That's kind of a magic number... it pretty much completely fuses the powder into glass, BUT the piece won't contract or expand its original footprint much. This is very helpful for putting nice finishes on pieces of glass that aren't a standard 6mm thick.

## Firing Schedules:

### Firing Schedule One

<i>Ramp (F°/hr.)</i>	<i>Temp</i>	<i>Hold</i>
AFAP	1410°F	10 minutes
OFF		

### Questions?

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### Firing Schedule Two

<i>Ramp (F°/hr.)</i>	<i>Temp</i>	<i>Hold</i>
300°F	1130°F	90 minutes
70°F	1256°F	60 minutes
AFAP	1490°F	5 minutes
AFAP	900°F	110 minutes
100°F	800°F	-
150°F	600°F	-
OFF		

### Firing Schedule Three

<i>Ramp (F°/hr.)</i>	<i>Temp</i>	<i>Hold</i>
170°F	1130°F	30 minutes
100°F	1256°F	30 minutes
AFAP	1410°F	5 minutes
AFAP	900°F	140 minutes
90°F	800°F	-
125°F	600°F	-
OFF		