



Building bottle walls

www.endeavourcentre.org



About this book

The Endeavour Centre is a not-for-profit sustainable building school based in Peterborough, Ontario, Canada.

Our projects feature materials and technologies meant to lighten the load our built environment places on the planet.

We attempt to make all of our work as open-source as possible. These booklets are intended to share projects and approaches to sustainable building with as wide an audience as possible.

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Bottle wall book

The inclusion of bottle work in natural buildings adds an element of fun, whimsy and colourful light that makes these features attractive to many builders.

It's easy to make a bottle wall, and the technique can be used in almost any wall system.

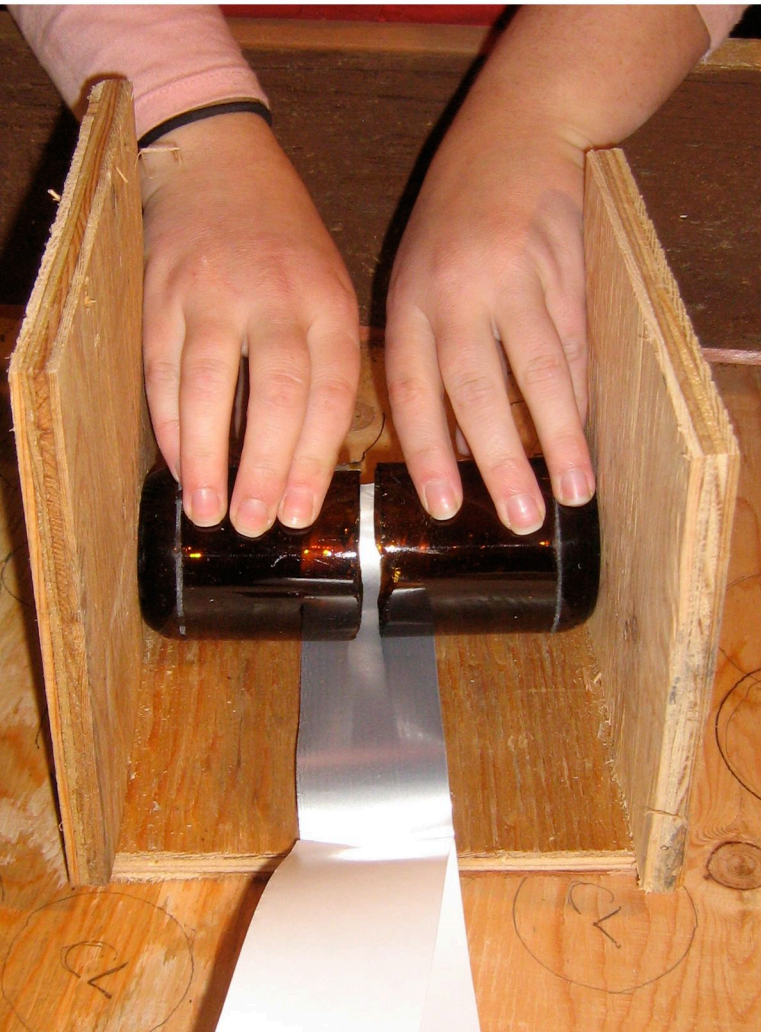
The following booklet is intended to help show you how to put your whimsy to work and create a bottle wall feature of your own!



Bottles come in so many sizes and shapes and colours that there is almost no limit to what can be created!



The first step in making a bottle wall is to cut the bottles to the appropriate length. To enable light to pass through the bottle, two bottoms are attached together. Each bottom should be half the desired depth for the intended wall type.



A wet tile saw with a diamond blade is the easiest way to cut the bottles. These saws can be rented at most tool outlets. Once cut, the bottles are taped together to make one piece. The bottles should be between 1/2-2 inches wider than the wall they are going into.



Hand Selected Botanicals
(This is a sample from the body)

Hand Botm



Silver, metallic duct tape works well and is reflective on the inside to help light continue through the bottle. If the bottle is going into a wall material that may not bind well with the glass, nails can be taped to help lock the bottle in place.



Different wall widths require different layouts and bottle lengths. The frame wall on the left is thin, and bottles are transverse in the wall. Bottles go in line with the frame wall in the centre. On the right, long bottles pass through a wide straw bale wall.



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ROSEHEAD



In this case, the bottle wall is being constructed in a form and will be put into place in the wall once it is completed.



Mortar for a bottle wall can be made from many materials, including cob (straw/clay/sand), hempcrete (lime, chopped hemp) and cementitious mortars.

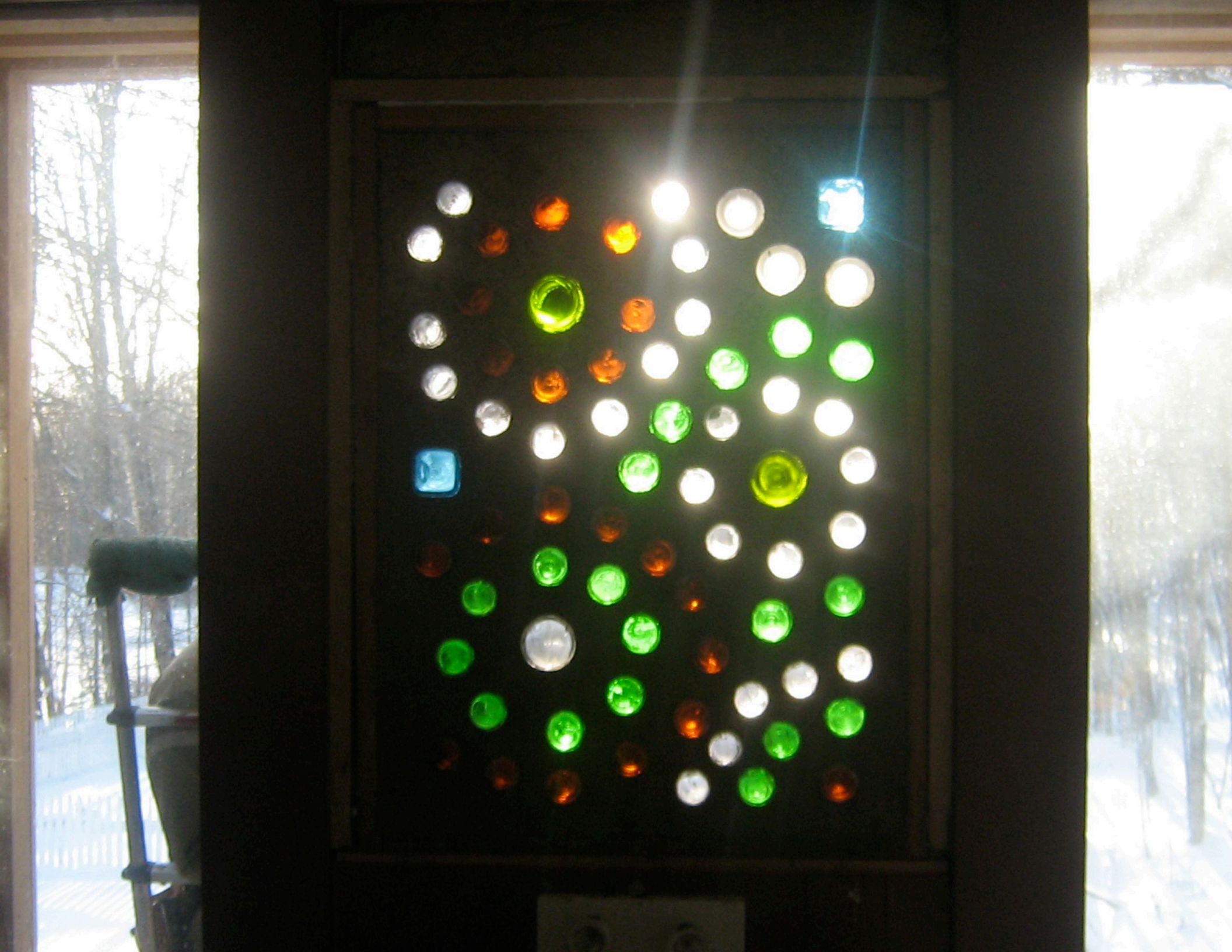




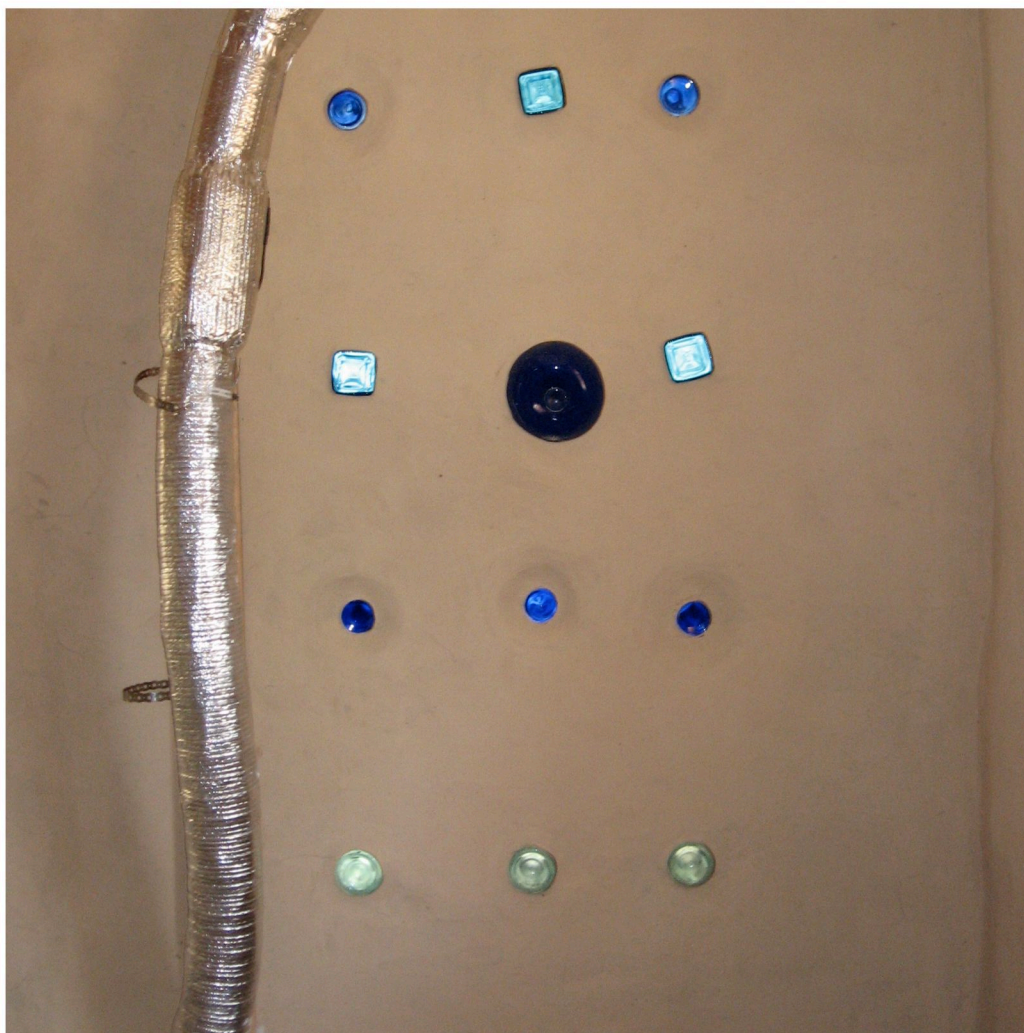
In a straw bale wall (left), the bottles must protrude far enough from the bale (1 inch should do) that the finish plaster can be applied around the bottles. “Pointing” around the bottles gives a smooth final finish to the mortar.



As long as the pattern is well-planned, there is an endless variety of shapes, colours and effects that can be achieved.

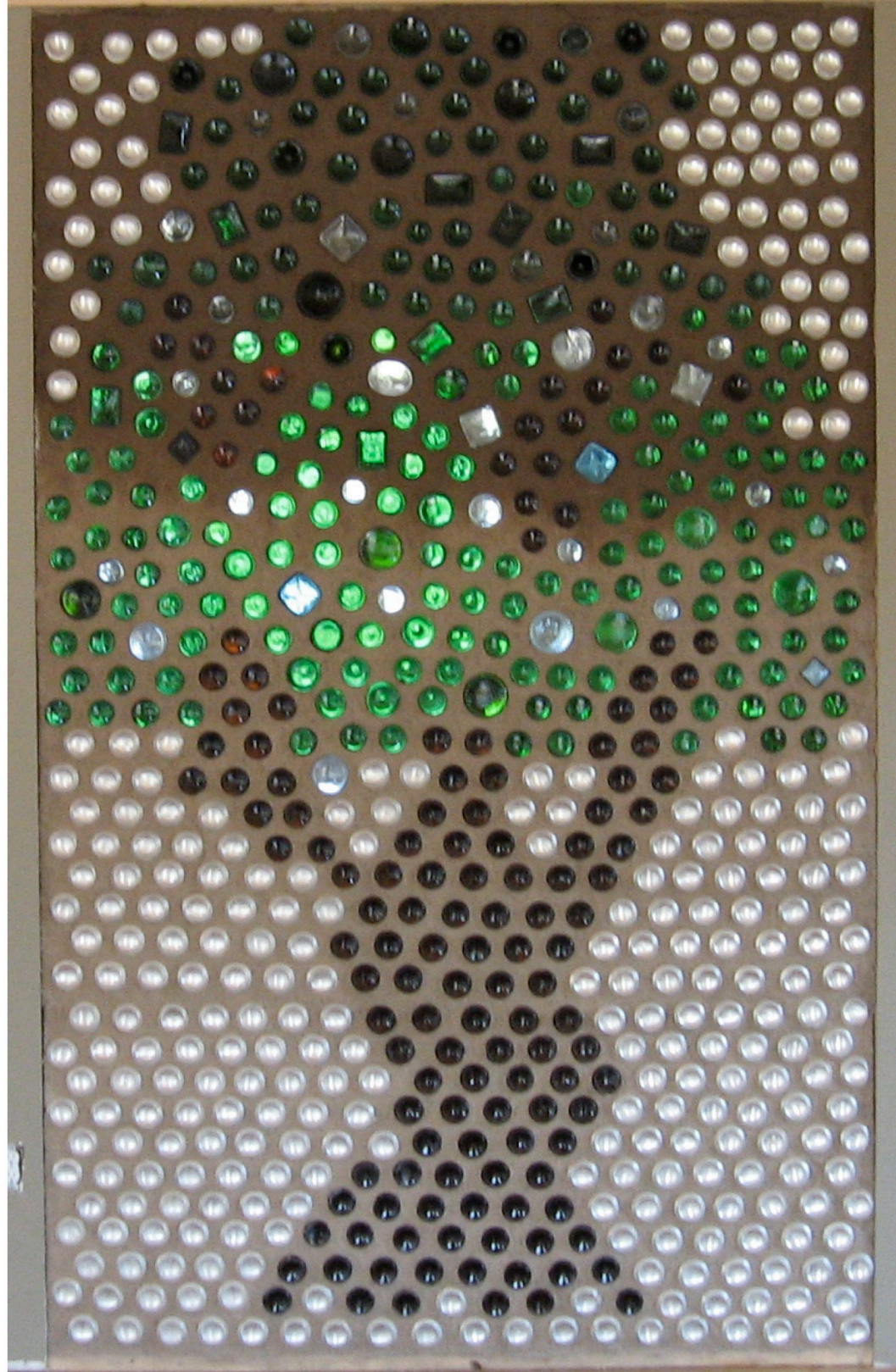






An important element in a bottle wall is a source of light to illuminate the bottles. On the left, a solar light tube will brighten the bottles in both rooms. Exterior light is a reliable source in the above wall.





Bottle wall book

Our thanks to the many talented and creative students who have worked with us.

These bottle features have so often been your personal projects, and you have taken on the initiative and work of designing, creating and completing them. On occasion, you have also taken on emptying the bottles to be used!

Our thanks to your efforts and the inspiration you offer others to do the same.