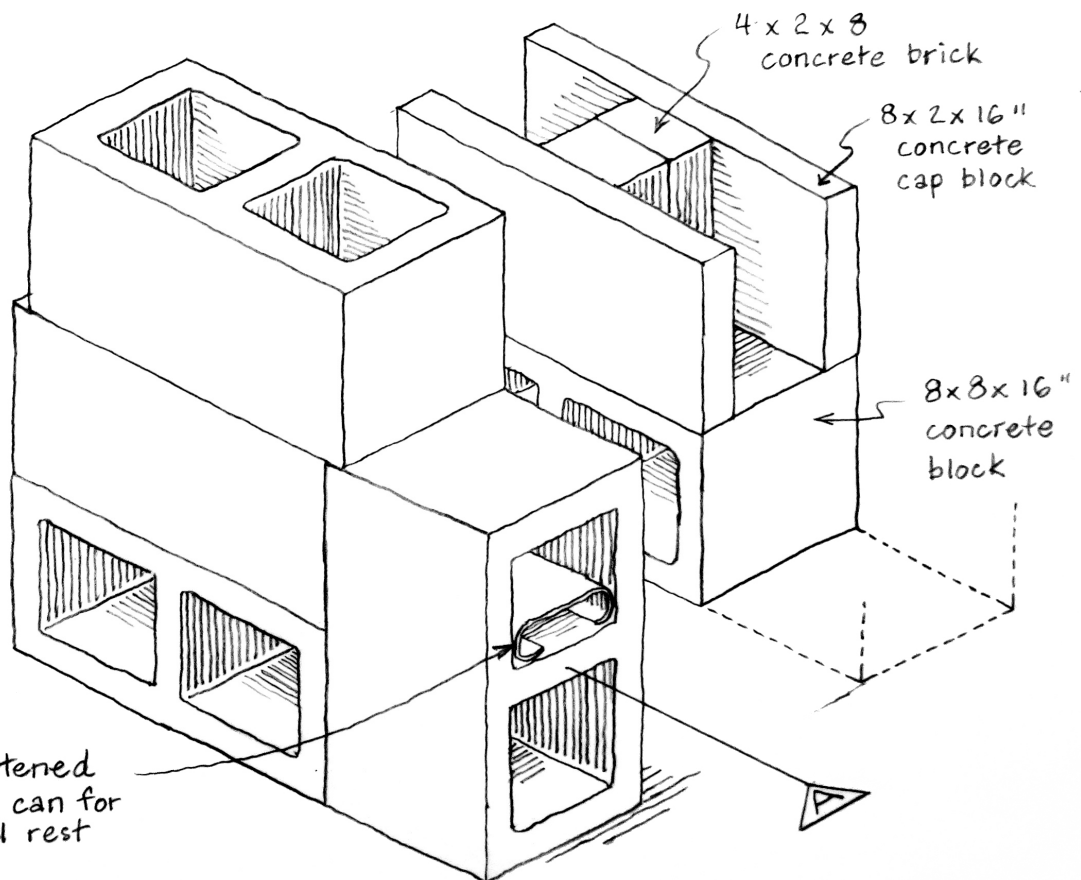
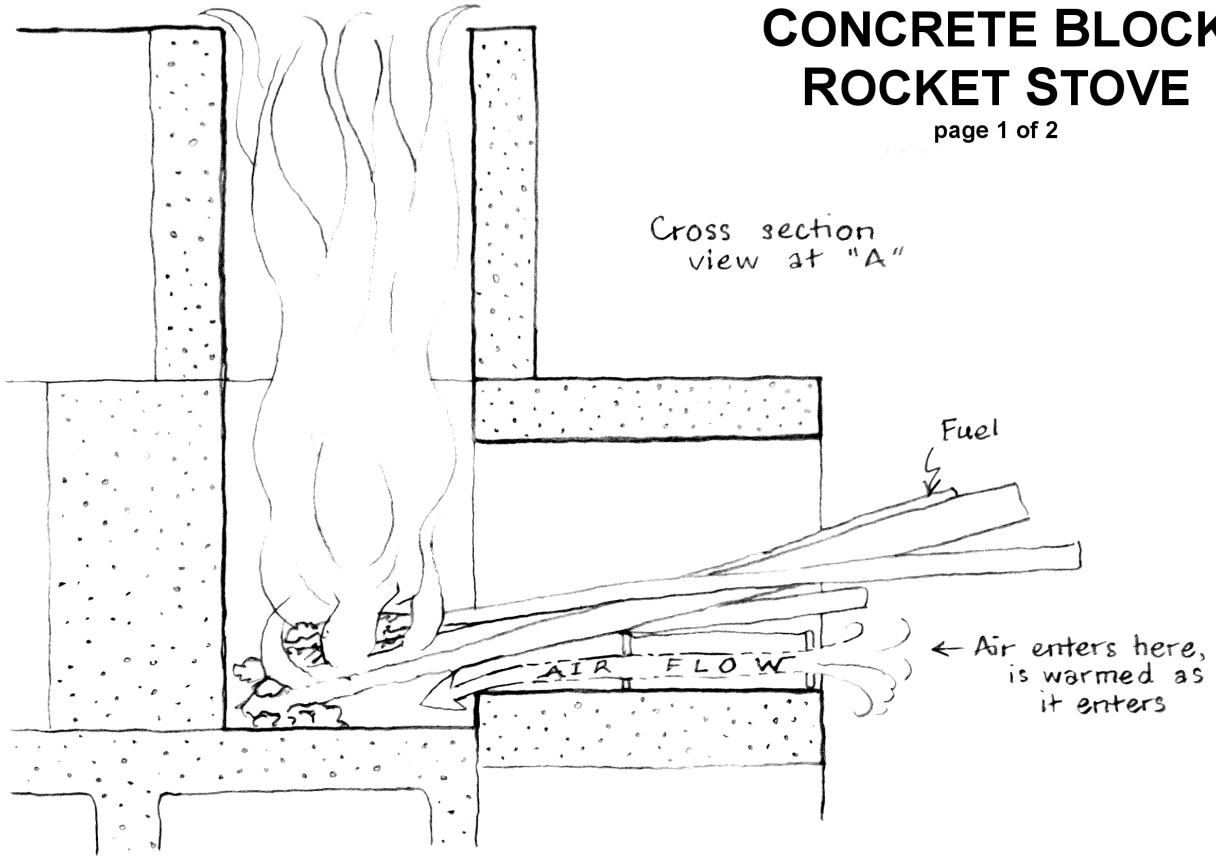


# CONCRETE BLOCK ROCKET STOVE

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# CONCRETE BLOCK ROCKET STOVE

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## Background:

This stove was developed for use in Ecojustice Camp, a one-week ecology and nature camp in Palo Alto, California, and these plans come from *The Ecojustice Camp Field Book*.

We based our stoves on design principles developed by Dr. Larry Winiarski of the Aprovecho Research Center. A rocket stove makes more efficient use of biomass fuels (wood, twigs) through more complete combustion. The increased efficiency also leads to fewer harmful emissions. According to the Aprovecho Research Center:

“Improved cooking stoves address at least 5 of the 8 United Nations’ Millennium Development Goals: [1] ending poverty and hunger; [2] gender equity; [3] child health; [4] maternal health; and [5] environmental sustainability.”

So while we don’t really need rocket stoves in Palo Alto (except perhaps in disaster situations such as a major earthquake), learning about and building them is a great introduction to using appropriate technology to meet ecojustice goals of human well being and environmental sustainability.

If you’re not familiar with rocket stove design principles, Aprovecho Research Center has an excellent introduction on this Web page:

<http://aprovecho.org/lab/rad/rl/stove-design/category/1>

Scroll down and click on document no. 8, “Design Principles for Wood Burning Cook Stoves,” dated June, 2005. (If you want to tinker with the design, this is the document for you!)

This stove is cheap to make. We spent about 9 dollars for all supplies at a local hardware store.

Thanks to Ecojustice Camp’s fiscal sponsor, the Unitarian Universalist Church of Palo Alto, for giving me financial support while I developed these plans.

—Dan Harper, Director, Ecojustice Camp

## Legal mumbo-jumbo:

We offer no warranty, express or implied, that this stove will perform in the manner expected. You use these plans at your own risk. Supervise kids using this stove, it’s easy to get burned. Don’t do anything stupid, and follow all ordinary safety precautions.

## How to use the stove:

*To light the stove*, wad up some newspaper and throw it down the top hole into the combustion chamber (in the drawing above, the combustion chamber is where flames start). Throw a good handful of tinder wood—thin dry twigs work best—on top of the newspaper. Now drop a match in from the top. This usually works better than trying to light the stove from the bottom.

Once the tinder has caught, feed in 2-4 pieces of fuel wood. The fuel wood should be no more than an inch and a half in diameter—nominal two inch lumber (1-1/2" actual thickness) makes great fuel wood if you split it into one inch wide pieces.

*The rocket stove depends on* an optimal spacing between the stove and the pan being heated. We use three 5/16" lag screws to rest the pan on. This provides just about the right amount of spacing so that the hot gasses rising from the stove have the greatest contact with the pan, without producing much soot.

*The concrete blocks will take a while to heat up*, and until they get good and hot, the stove can be a little fussy. When you’re first learning how to use a rocket stove, have one person watching the fire constantly, feeding the fuel wood in bit by bit. The ideal combustion takes place when you have bright flames in the combustion chamber, with hot gasses rising up and burning more completely in the chimney, thus delivering the maximum heat at the bottom of the pan. This sounds complicated, but you soon get the hang of it. After some practice, you’ll be able to cook and feed fuel at the same time!

*Make sure your concrete blocks stay dry*. Wet concrete blocks can crack in a hot fire.

*Once you get used to the rocket stove*, you’ll find that it uses less fuel, and burns cleaner, than an open fire. It boils water quickly and efficiently, and yet you can bring the heat down to simmer stew, or to cook eggs and bacon.

Have fun, and happy cooking!