

Re: heat value in each color in sunlight – science demo doesn't workwell

Source: <http://sci.tech–archive.net/Archive/sci.astro.amateur/2005–12/msg00836.html>

- *From:* mack <jmack@xxxxxxx>
 - *Date:* Sun, 11 Dec 2005 16:37:54 GMT
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Dan Spisak wrote:

>

> Based on your description I assume that the "back" of the box faces the window and the box
> is located inside a room.

yes. This is how it will be in the classroom

> A few suggestions:

> – Use individual boxes. This will minimize the transfer of heat between the boxes.

there's 1/2" of styrofoam between each box, with silicon glue sealing the
various

components (wall, back, plexiglass) to there's no transfer of hot air between
the boxes (well I hope so anyhow – maybe I'd better check – I should try it with
one box in the sun and another in the shade).

> – Paper is a decent insulator. Use thin copper or aluminum as the back. Paint a thin

> layer of the appropriate color on the side facing the sun.

I may have to go for this if I can't suppress the temperature rise in all boxes.

> – Mount the thermometer securely to the back. Use a heat transfer paste.

OK

> – Locate the boxes outside as the window glass will attenuate certain wavelengths of light.

only UV though? It's certainly letting in the IR. I can feel the
heat standing in the sun.

> This looks like a fun experiment. good Luck!

Thanks.

The experiment sounds simple enough in principle, but
finding a way of implementing it that would show what
I wanted, but using only simple components (so that

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it would be easy to understand) has turned out to be harder than I expected. Showing simple principles isn't as easy as I'd thought.

Joe

—

Joseph Mack NA3T EME(B,D), FM051w North Carolina
jmack (at) wm7d (dot) net – azimuthal equidistant map
generator at <http://www.wm7d.net/azproj.shtml>
Homepage <http://www.austintek.com/> It's GNU/Linux!

• **References:**

- ◆ **[heat value in each color in sunlight – science demo doesn't work well](#)**
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- ◆ **[Re: heat value in each color in sunlight – science demo doesn't work well](#)**
 ◇ From: Dan Spisak

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