



Solar Cookers:

Thinking Outside the Box (Oven)

FAST Conference
October 19-21, 2023



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Box Cookers



**Box cookers can cook foods like a crock-pot
or a traditional oven**

Box Cookers



**Box cookers, contrary to their name,
can be in any shape**

Box Cookers



**Box cookers can even be large enough
to feed an entire village!**

Box Cookers



**A box cooker built into a house
viewed from the outside**

Box Cookers



...and the inside

Box Cookers



...and a modern version being developed

Box Cookers



A student designed box cooker with 2 chambers

Box Cookers



A box cooker built from a repurposed cabinet and mirrors

Box Cookers



What is the advantage of the basket?

Box Cookers



A slanted front opening decreases the need for tilting the cooker

Box Cookers



**What materials are used in this cooker?
Note – make sure you fill all the drain holes!**

Box Cookers

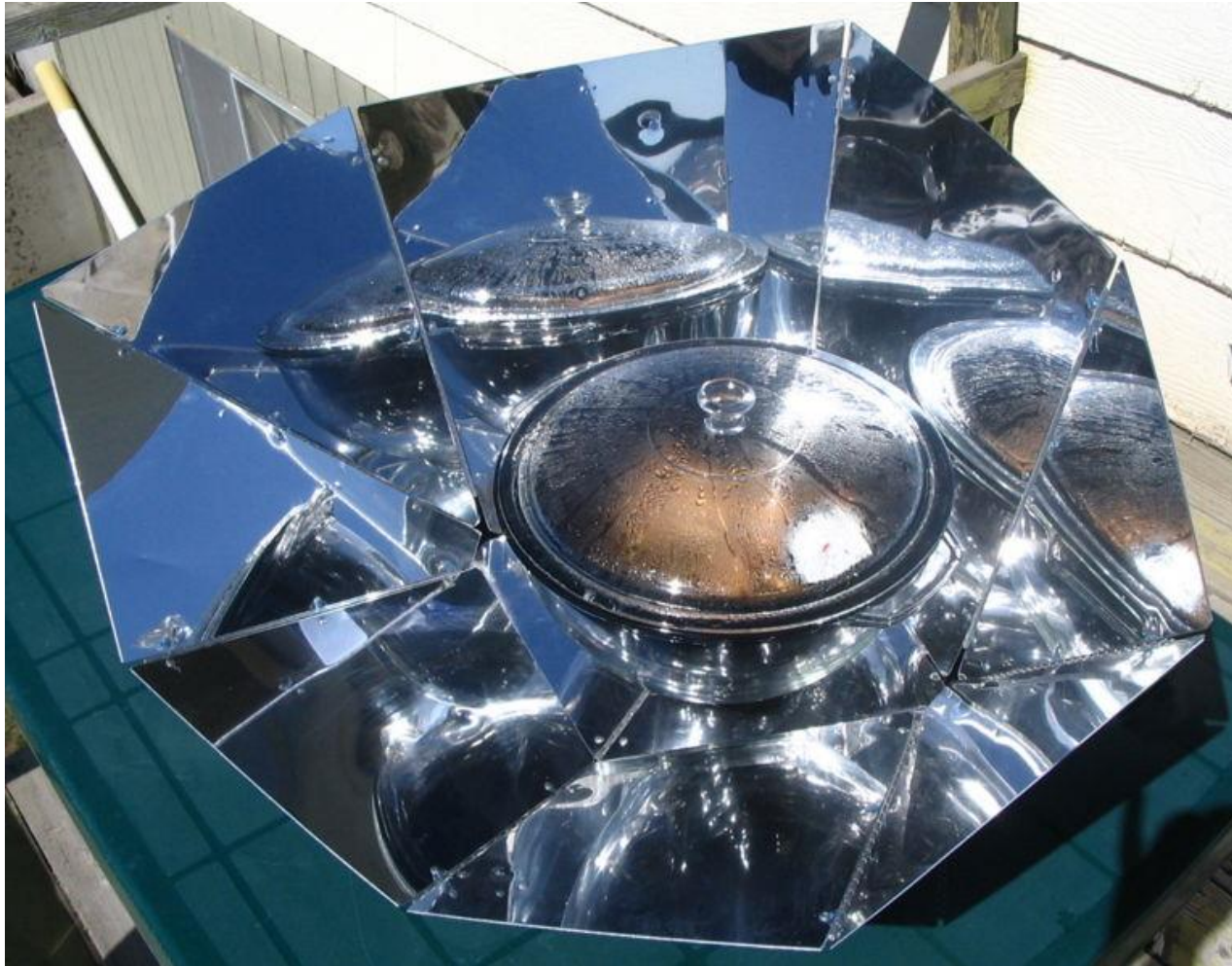


**What materials are used in this cooker?
Do the windshield covers actually add to it?**

Box Cookers



Panel Cookers



**Panel cookers can cook foods
similar to a stovetop or a crock-pot**

Panel Cookers



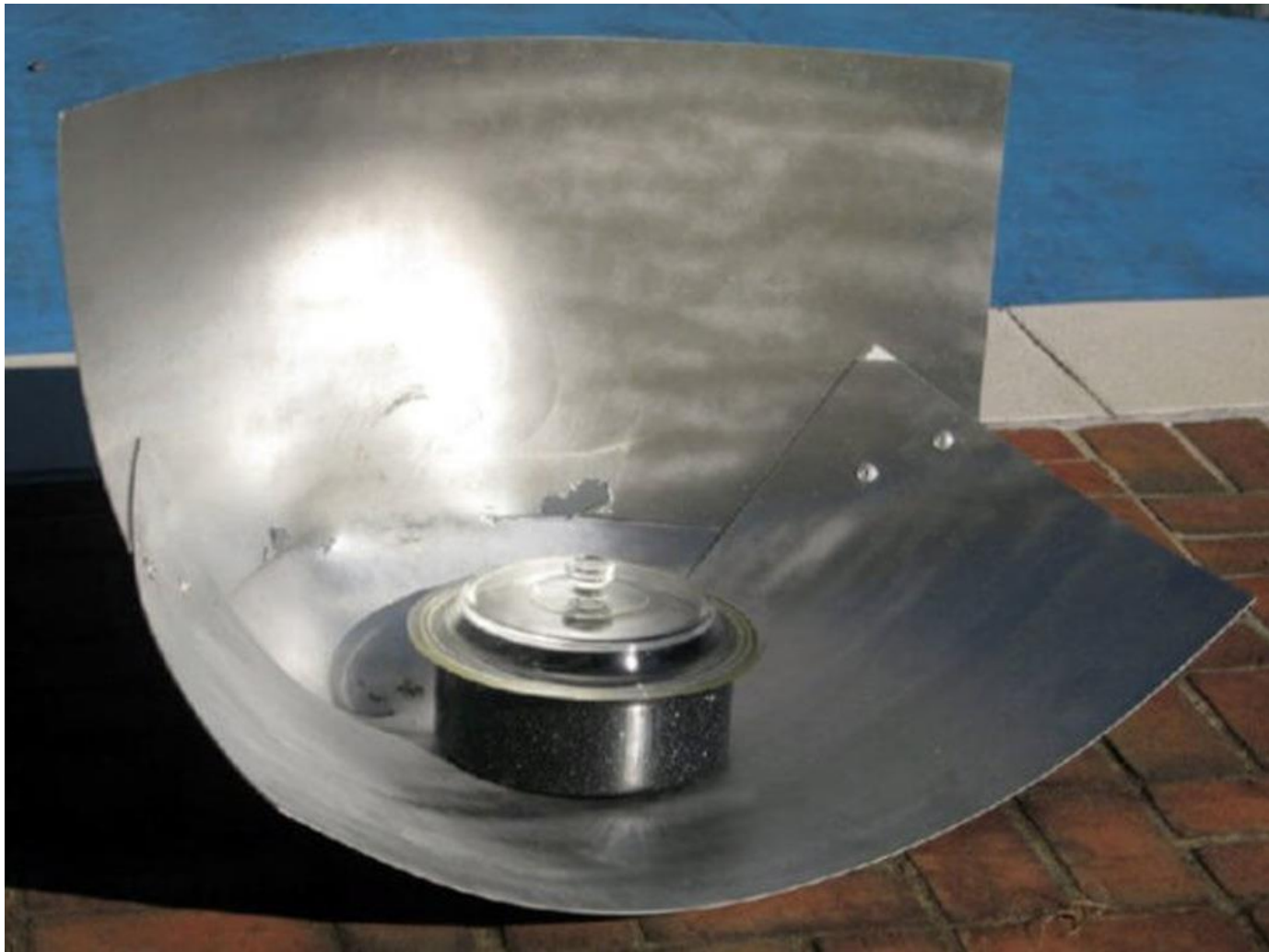
**A commercial panel cooker
that can be wheeled into place**

Panel Cookers



**A commercial panel cooker for campers
Note the glass jar within a glass jar**

Panel Cookers



A simple sheet metal design cooker

Panel Cookers



An inexpensive cooker made from cardboard, mylar, glue and some wooden dowels

Panel Cookers



**What materials are used in this cooker?
Note the pan in a high temperature cooking bag**

Panel Cookers



Parabolic Cookers



**Parabolic cookers can fry foods
and cook in an open pan**

Parabolic Cookers



Parabolic Cookers



A commercial parabolic trough cooker focuses the light to a single horizontal

Parabolic Cookers



**A commercial cooking system that can
cook for 100,000 people**

Parabolic Cookers



A shallow parabolic has a high focal point – a possible safety concern

Parabolic Cookers



**A deep parabolic with a photovoltaic
powered tracking system**

Parabolic Cookers



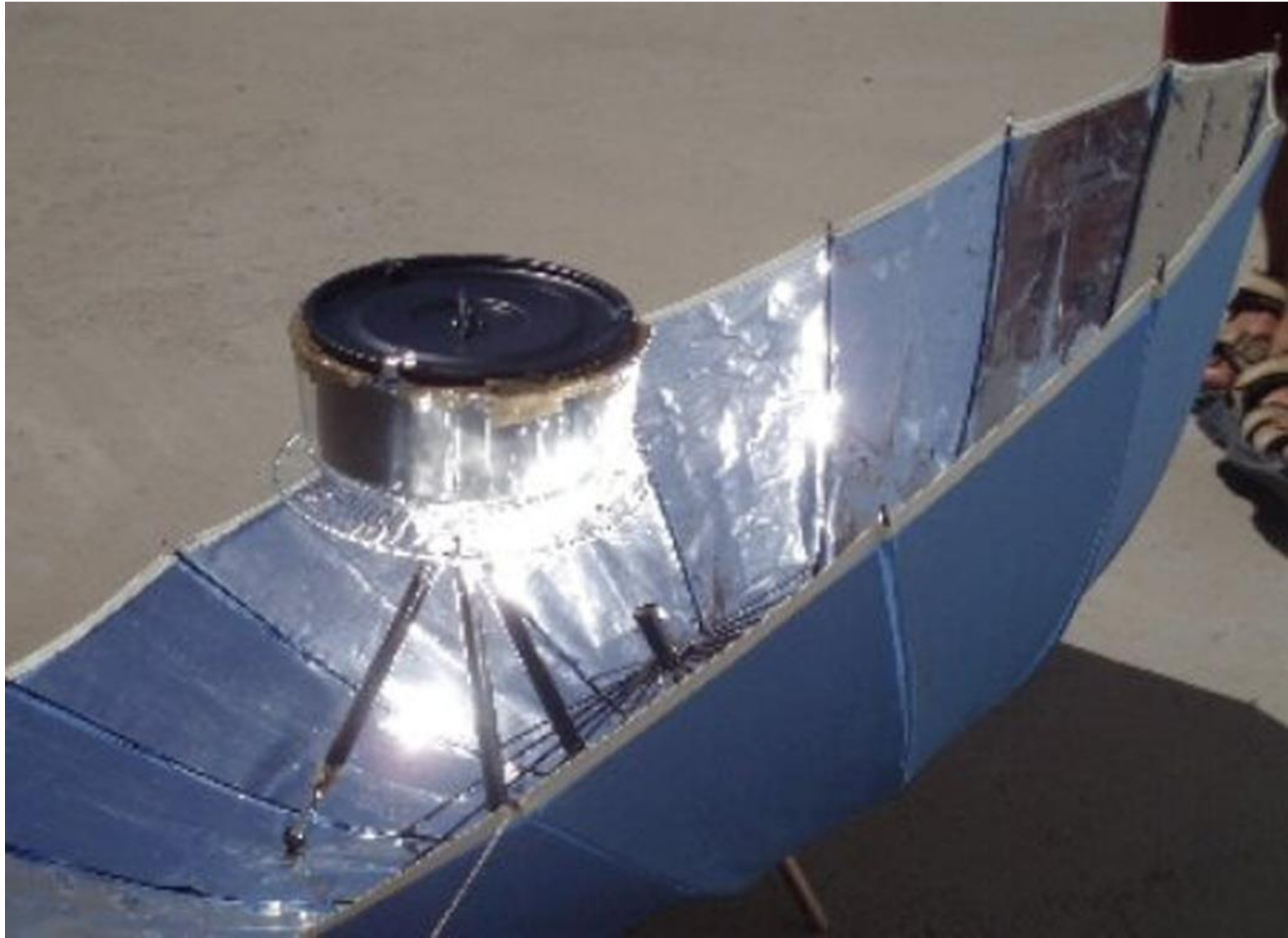
**What materials were used
in the making of this parabolic?**

Parabolic Cookers



**What materials were used
in the making of this dual parabolic cooker?**

Parabolic Cookers



Lens Cookers



**Lens cookers can grill, fry
or brown food -- from above!**

Lens Cookers



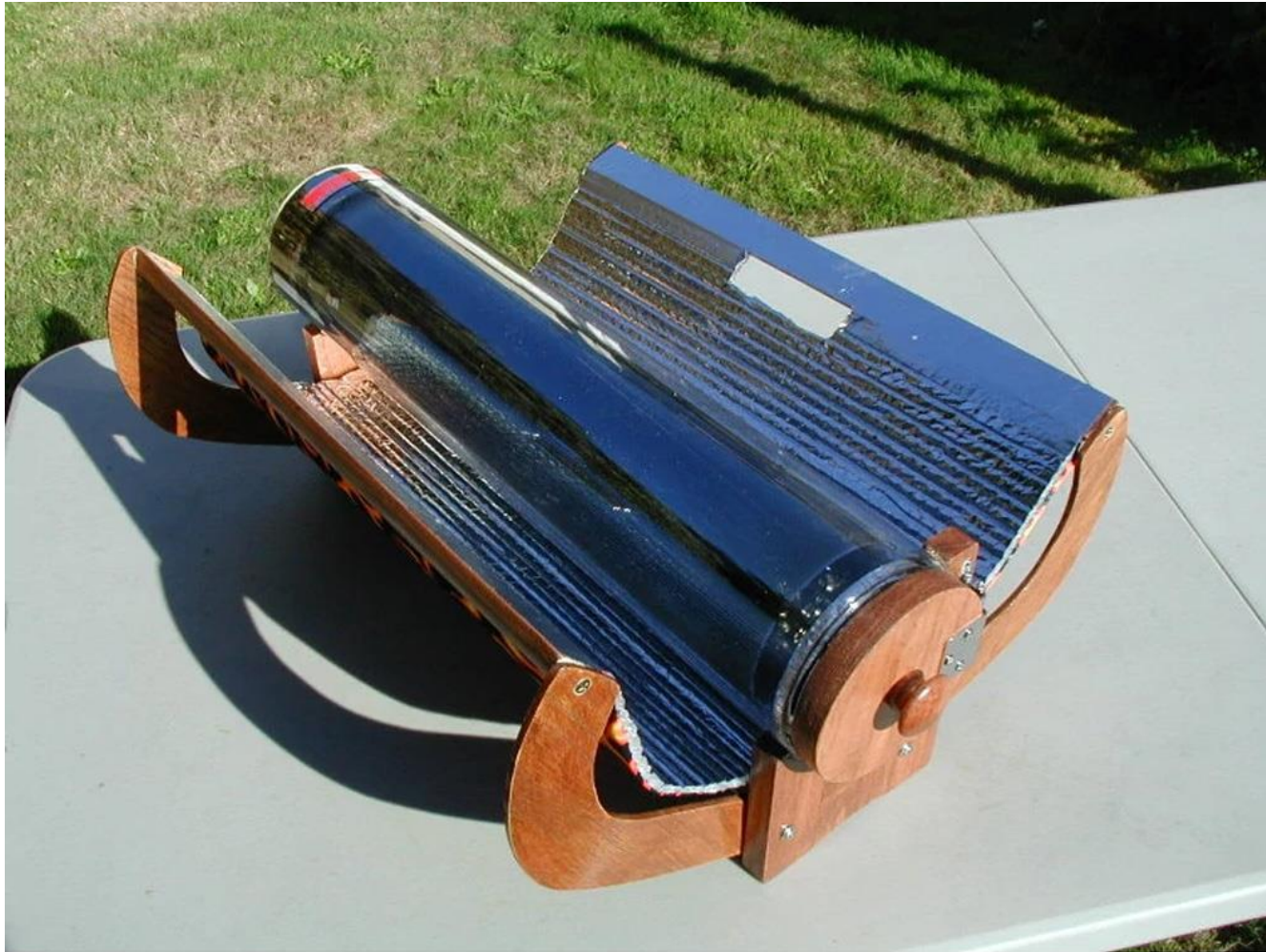
Great use for an ironing board!

Lens Cookers



**Lens cookers are great for browning
the top of food!**

Evacuated Tube Cookers



**Evacuated Tube cookers are being hailed
as the 'new great thing'**

Evacuated Tube Cookers



But their cooking size can be a challenge

Hybrid Systems



**A box cooker with a convection component.
Our students are so creative!**

Now that you know
what to do—

Any ideas for
improvements for the
following cookers?















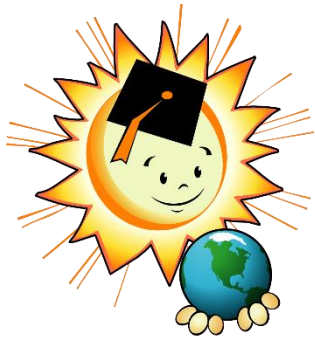






#1-E
Gardendale Elementary
Solar Sphere





EnergyWhiz – April 20, 2024

at FSEC in Cocoa

Solar Energy Cook-Off



Projects Due Online by April 3, 2024

EnergyWhiz.com



Competition Day



Competition Day



Competition Day



Technical Judging



Technical Judging



Technical Judging



**If you use more than one cooker for cooking,
put your team number on the one to be judged**

WOW! Judging



Disaster relief kit includes cooker and food for a family of four for five days

WOW! Judging



**Judges like a theme worked through
the food and presentation**

WOW! Judging



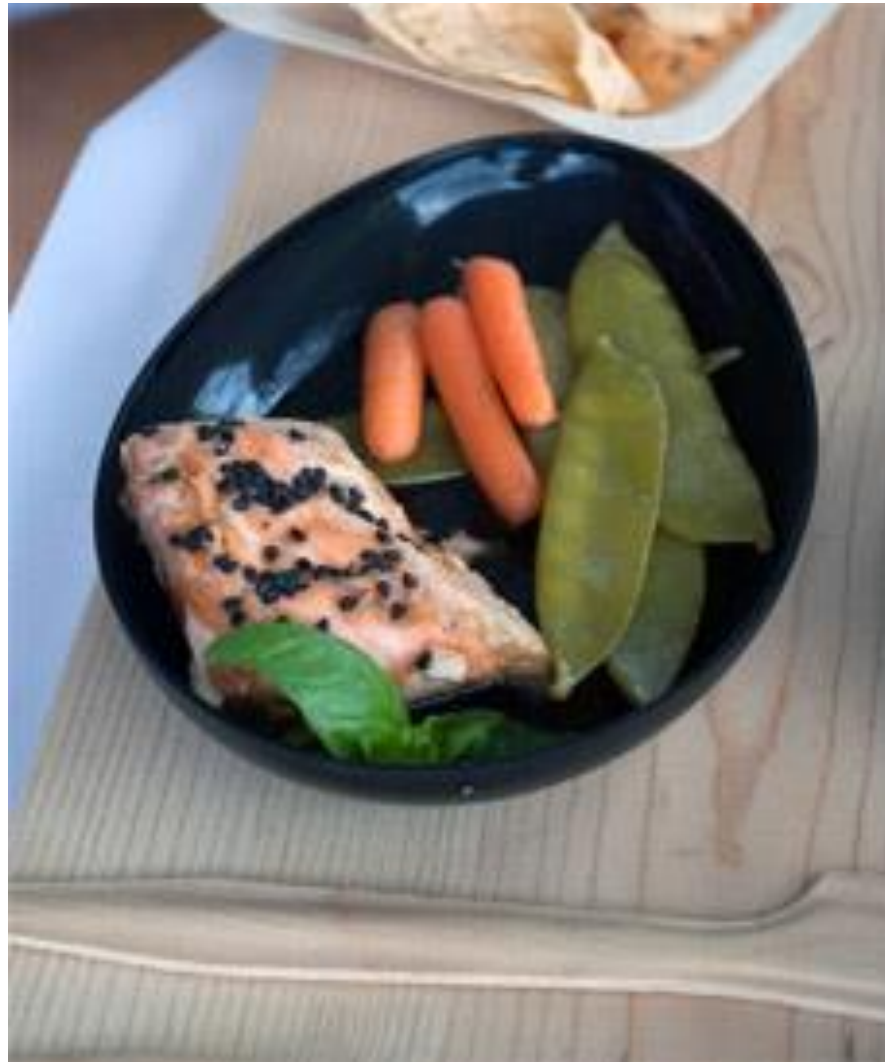
Construction site theme

WOW! Judging



...carried over to their plating

WOW! Judging



...and check out the food!

Cooking!



Cooking!



Cooking!



Cooking!



Cooking!



Culinary Judging



Teams plate their dishes and line up

Cooking!



Of course the clean-up is also important

Culinary Judging



Presentation is important in judging

Culinary Judging



Showmanship can make an impression

Culinary Judging



Show time!

Culinary Judging



The judges sample each dish

Culinary Judging



and ask the students questions about their ingredient choices and cooking techniques

...check out the food!











Hungry yet?



Solar Cooker Plans

- Double-Angle-12-sided (DAT) Cooker
- Dual Angle Funnel
- Dual-Setting Panel Cooker
- File Box Cooker
- Fun Panel
- Heavens Flame Solar Cooker
- Sun Stove
- Sunny Cooker Tan
- Trashcan lid Parabolic

Box-in-a-Box Cooker



Umbrella Parabolic



The Eagle Panel Cooker



Copenhagen Cooker



Cook-It Design



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