

Solar Energy Cook-Off Rules



These rules are for the Solar Energy Cook-Off in-person competition, which includes culinary judging. These rules are not valid for virtual Solar Cook-Off competitions.

Each team is responsible for designing and building a fully operational solar cooking device, documenting the process on a team created web page, and also cooking a dish of their choice using their cooker for a panel of judges. The challenge is to design an effective solar cooker and to pair the operational capability of the cooker to the type of food cooked.

The Solar Energy Cook-Off competition is open to teams of 2 - 6 students in grades 3 - 12. The competition is divided into three divisions: Yellow Division (3rd - 5th grade), Orange Division (6th - 8th grade), and Red Division (9th - 12th grade). Teams of mixed grade levels will compete in the division of the highest grade level student. Each school may send up to two teams total to the Solar Cook-Off competition.

Construction Requirements

Teams may design and build any style of cooker (i.e. box, panel, parabolic, etc), using any non-toxic materials they wish. Only students are allowed to build their cooker; however, for safety reasons, teams may have assistance with power tools, and may buy pre-cut parts such as glass or plexiglass. Adults are encouraged to monitor the use of tools., but are not to actively participate in the design or construction of the cooker.

All cookers must be large enough to cook at least (3) servings of the food to be judged.

No commercially produced cookers will be allowed in the competition.

The solar cooker is to be powered exclusively by the sun using solar thermal energy to heat the food. No additional power sources are permitted for heating food. For example, photovoltaic powered hotplates are not allowed.

The cooker submitted for design judging must be one created for this year's event, it cannot have been used in a previous statewide in-person EnergyWhiz competition. However, cookers from previous years may also be used in the cooking process—teams may use several cookers to prepare their food, but must submit only one to design judging.

Cooking Requirements

Teams are to prepare a recipe of their choosing and cook it using their solar cooking device. To do this effectively, the food cooked must be paired to the operational capability of the team's cooker, such as heat attainable, type of cooking (baking, frying), size of cooker, etc. Since the weather on the day of the competition is unknown and can vary, teams may want to plan for different types of cooking conditions.

The team must cook at least three servings of their dish to be judged.

Teams may use any kind of non-toxic cooking vessel or container.

Non-cooked items may be added as garnish to a dish after it has been in the cooker. However, this garnish must be specified in the printed recipe.

If recipe ingredients need to be changed the day of the event from those specified in the recipe posted on the team web page, notice must be given to the administrative team prior to culinary judging.

Team Web Page Submission

Each team will populate a web page on the EnergyWhiz site (using Wordpress) that showcases their solar cooker. These pages will be used to judge the design of the cooker, and will be viewed by other students and the public.

The web page must include:

1) Photo and Basic Info

- Team name
- School name
- First name(s) and last initials of students on the team (no last names on the public page)
- Grade level of each team member
- A photo of the completed cooker (use this as the Featured Image on your page)
- List any past ‘historical’ information about your cooker team and/or school (this will be used by the announcer during EnergyWhiz when introducing you and your school). For example:
 - ▶ if your team has competed in the Solar Cook-Off before (how many years?)
 - ▶ if your school has previously competed in any other solar cooking event
 - ▶ past Solar Cook-Off awards won by the school
 - ▶ interesting fact(s) about your team, your recipe, or your school

2) Design Documentation

- Photos - a minimum of two photos of the cooker with one of them showing the cooker as it is being used to cook food or tested (with a thermometer or temperature probe).
- A list of any help received from non-team members (i.e. Home Depot staff, internet, parents, teacher, etc). Include in this section any help you had with power tools, plans you downloaded. or items that you had pre-cut at a store or shop.
- A statement of where the idea for your cooker (or unique parts) came from, and why you chose that type of cooker.
- A list of parts used in construction, including any recycled parts used.

3) Test Results

Include a statement of the highest temperature that you measured with your cooker, with the time of day and the weather conditions (cloud cover) during the testing.

4) Team Design Video

Once your cooker is built record a video that includes:

- Why the team chose this type of cooker
- How the cooker works when it is put out in the sun
- Special features of the cooker—close-ups are strongly encouraged
- Each team member’s contribution to the project

This video will be hosted on our Vimeo site and included on your team web page. It may be edited and/or pieced together, or included on the web page in separate segments; however, it may not exceed 5 minutes total.

5) Recipe(s)

Include the recipe(s) that you will present to the judges at the competition. Since teams may wish to plan/test two types of recipes for different solar thermal conditions (full sun and partly cloudy), you may include more recipes than you eventually end up using; however, the recipe that you do present to the judges must be included on the web page.

These are the minimum requirements for the web page. However, teams are encouraged to use the judging criteria as a guide to what extras they may want to include in their web page. For example, the web page may include:

- extra photos of the design, building and testing process
- videos of the team during the building, testing process or cooking with their cooker
- an explanation of unusual and/or recycled parts used in their cooker
- an explanation of the challenges encountered while building and testing their cooker, and what the team did to overcome the challenge
- project log - entries made on workdays documenting the engineering process
- list of internet sites used in the planning process
- any items that the team feels will showcase their cooker, or be helpful to the judges to pick them as the winning team!

Solar Energy Cook-Off web page submissions are due approximately one week before the event. The exact due date will be communicated to the team and posted on the EnergyWhiz page.

During the week leading up to the event and during EnergyWhiz itself, all Solar Energy Cook-Off web pages will be available for public viewing. Students are encouraged to share their web page address with family and friends, and to visit other team pages.

Competition Day - Time To Cook!

Note: Because competitions run concurrently, individual students may only participate in two (2) EnergyWhiz competitions as team members.

At the competition, each team will have a 'booth' space (at least 12' x 12' with a 6' table), in which to cook their food, discuss their cooker with the judges and present to the general public.

Judges for the *Fresh From Florida* award will visit your area during your cooking time to discuss with you the Florida products (or garden grown produce) you are using in your recipes. Teams are also expected to interact with, and display to the general public.

Food will be plated and presented to the three judges for tasting at your team's designated time (this will be assigned at check-in); however, Yellow/Orange division times will not be earlier than 12:30, and Red Division times will not be earlier than 12:00 noon. Further information on this will be given at the morning team meeting. Teams may begin setting up any time after 8:00am, and can begin cooking whenever they wish.

The Solar Energy Cook-Off will not be canceled for cloudy weather—teams will be expected to do the best that they can in all weather conditions except rain. In the event of severe inclement weather, the culinary portion of the competition will be canceled. The decision whether or not to cancel the culinary judging will be made by the administrative team between 11:30 and 12:00 on the day of the event. If

this happens, the judging for the other awards will continue.

Each team is responsible for removing their cooker and any associated cooking debris from the premises once the competition is complete.

No pets except service animals will be permitted at EnergyWhiz.

Judging Criteria

Awards (1st - 3rd) will be given in each division for **Design** and **Culinary**, as well as a 1st place award in each division for **Fresh From Florida** and the **Wow!** Award.

Design judging includes:

- **Design decisions** - Does the team understand solar cooking and solar thermal design? Was careful attention paid to parts selection and integration?
- **Construction** - How well is the cooker constructed? Is the cooker sturdy enough to cook food? Is the design replicable?
- **Function** – From the test results and design decisions the team made, how well is it expected that the cooker will function?
- **Creativity** - How creative is the design and/or the use of materials? Were recycled materials used? Is the design and the web page presented in a creative way?
- **Durability** - Has the cooker been designed for repeated usage? Can the cooker stand up to moderate wind, humidity and light rain?
- **Web Page** - Does the contents of the team web page document the design, building and engineering process in a way that the viewer can see how the cooker works and see the special features that the team incorporated in their design? Is the web page arranged attractively?

Culinary judging includes:

- **Suitability** – Does the prepared recipe fit the capabilities of the cooker design? Was the team able to prepare it easily? Did the team finish cooking in a timely manner?
- **Appeal** – How appealing is the prepared dish in appearance? How does it taste?
- **Difficulty** – Was the recipe too easy (i.e. a simple heat and serve)?
- **Creativity** – Does the recipe use a variety of ingredients? Has the team shown creativity in their recipe, cooking technique, or presentation?

Fresh From Florida judging includes:

- **Recipe** – Does the prepared recipe highlight Fresh From Florida commercial or homegrown products and/or produce?
- **Availability** – How well does the team understand product and/or produce seasonal availability?
- **Benefits** – Do the students understand the benefits of using Fresh From Florida products and produce?

Wow! judging includes:

- **Presentation** – How well does the team communicate? Are they enthusiastic? Do they approach & interact with the crowd?
- **Impression** – Does the team have a unified appearance (i.e. team t-shirts, theme, etc.)?

Do they give a good first impression? Do they make you want to taste their food? Is their cooking table attractive?

- **Message** – How well does the team convey the message that solar cooking works? How well does the team know their subject?
- **WOW! Factor** – How creative is the team? Do they go above and beyond the average to promote solar cooking, their recipes, their school/team?