



HOW PARABOLIC SOLAR COOKERS WORK

Parabolic solar cookers are powered by LIGHT radiating from an immense hydrogen fueled fusion reaction located in outer-space, 93 million miles from Earth, within the core of a star we call the Sun. The word parabolic refers to the precise mathematical curvature of the reflective mirror-lens which collects and concentrates the sunlight to a focal point when aimed directly at the sun. A black kettle positioned at the focal point will receive and absorb more concentrated sunlight than if it were simply set out in direct sunlight on a picnic table. As the concentrated sunlight is absorbed by the kettle it is converted into thermal energy which causes the temperature of the kettle to rise. In contrast, the light striking the mirror is not absorbed but is reflected and so the surface of the mirror remains close to ambient temperatures.

In sub freezing temperatures near the arctic circle, any water spilled upon the surface of the mirror would readily freeze while water in the kettle was boiling, provided that the kettle itself was enclosed in a transparent glass cooking chamber that functions like a green house, allowing light to pass through but trapping the thermal energy.

In this way, the energy of sunlight can be directly converted into thermal energy for cooking, for water pasteurization and for solar flame ignition all around the world.

