

Answers from the Sun Tea Battle activity

- The tea has absorbed heat energy from the sun.
- *(No right or wrong answers here)* Sun Tea is usually clearer than tea made on the stove, and it may also be lighter in color.
- By measuring out the water in the jar, the amount of water was the same for both test teas.
- To make a good test of which tea tastes the best, the amount of sweetness in the two teas must be the same, otherwise you might just pick the one that is sweeter!
- The blindfold makes sure you only use taste as a judge of which tea is better, and also prevents the wearer from knowing which sample they are tasting each time.

Background information about solar brewed tea

Energy is needed to heat water, so many energy conscious people have started using the free energy from the Sun for brewing tea. Solar tea costs less to make, seems less bitter, retains the tea flavor better and won't turn cloudy after being refrigerated.

Boiling water to make tea extracts more tannins and alkaloids than does water heated (but not boiled) by solar energy.

A 10° rise in the water temperature during the making of solar tea is not unusual, and many chemists believe that this minor change in temperature is enough to double the rate of the ongoing chemical reaction. Furthermore, as the tea solution becomes darker, it absorbs more energy causing the extraction to speed up, which in turn makes the tea darker. This simulates an autocatalytic reaction.