

Cooling a Six Pack

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Episode: Cooling a Six Pack

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Myths: Cooling a Six Pack, Baghdad Battery, Buster 2.0 Alpha Test
Pour a Cold One

Expert: Fritzie (bartender, Connecticut Yankee) - never heard myth, but it isn't likely; says 38F is the ideal beer temperature.

Memorable Quotes: "There's nothing more patriotic than gasoline and beer." - Adam

"Science + beer = good!" - Adam

Myth: Bury a six pack of beer in sand, then pour a quart of gas over it and light the gas. After a while, the beer will be cold enough to drink.

Summary: Jamie and Adam, eager to do another myth that requires them to drink on the job, obtain some beer and test its temperature for reference. They fill a fish tank about two-thirds of the way with sand, then bury the beer into the sand. After pouring 1 qt. of gas over the area where they buried the beer, they light the gasoline. The sand surrounding the beer becomes slightly cooler, but the beer itself is warmer. The myth is already BUSTED, but it begs the question: how can you quickly cool a six pack?

Jamie and Adam decide to benchmark the conventional methods of cooling a beer (e.g. cooler with ice, fridge, freezer, et. al.) to see how long they take to cool to about 35-40F. They test the room temperature beer to get a reference point, 62.9F. Then they set up three coolers, one with ice, one with ice water, and one with ice salt water. They also place some beer in the freezer and some in the refrigerator; they plan to test every five minutes to see if it's at drinkable temperature. Meanwhile, they place a six-pack in a bucket and spray it with a fire extinguisher. After three minutes, the beer is at the ideal temperature. At five minutes, the beer in the ice and salt water is done, the fastest of the conventional (and economically feasible) methods. Ice water is next with fifteen, and the freezer is done at 25. Just ice takes half an hour, but the fridge...well, let's just say it's not your best bet.

And now, the ever popular competition! Jamie versus Adam in a one-on-one build-off to see who can make a faster rig that will cool beer to at least 40F. The judge will be none other than the beer expert, Fritzie. Adam's rig is a coil of copper surrounded by ice; unfortunately, it doesn't get the beer cold enough. Jamie's rig is a heat sink dipped in liquid nitrogen, then into the beer. Unfortunately, it not only doesn't cool the beer quite enough, it also spills about half of the beer and sprays nitrogen gas around the bar. Hands down, the best practical method of cooling a beer is a cooler with ice in salt water.

BUSTED

Ancient Electricity

Experts: John Delwatt (sp?) - helped Kari and Scottie throw 10 terra cotta pots

Dr. Qi Han - Acupuncturist

Quotes: "I think I'm going to end up sweaty and messy with a really nice ashtray for my mom." - Kari

"I'm building the Ark of the Covenant. Well, a replica anyway." - Tory

Myth: Near Baghdad, archeologists found a jar with acidic residue inside, an iron rod inside a copper tube, and a pitch plug. Is it evidence of an ancient battery? Could it have worked? What could it be used for?

Summary: Kari sets up a demonstration with a lemon and some metal bars. In her demonstration, she hooked a voltmeter up to a bar of zinc and one of copper; it registers almost a full volt. She replaces the zinc with iron...barely a third of a volt. Similar results occur in vinegar and wine, but the build team decides on lemon juice. They create ten of them, and test one...it registers a third of a volt. When all ten are hooked up in series, they register 4.3 volts. Not amazing, but enough to be felt.

It's PLAUSIBLE to make a battery from ancient materials, but what in the world could they be used for? That is the build team's next task, and they research three possibilities. 1) Electroplating; 2) pain relief through electro-stimulation; 3) and experiencing God. Kari and Scottie chase the first two possibilities, while Tory prepares for the third by building a replica of the Ark of the Covenant. First, Kari sets up a simple electroplating rig by hooking up one of the jars to a zinc electrode and a copper electrode suspended in a saline solution. Overnight, the copper becomes plated with the zinc, proving the electroplating theory PLAUSIBLE. Next, the girls go to an acupuncture clinic to test the second conjecture. The doctor there actually puts his body on the line first to test the effects of the 4.3V battery through the needles. No ill effects, to either him or Scottie, although it does heat one of the needles in Scottie's arm up, causing her to remark that it could also have been used as a torture device. Nevertheless, this conjecture is also PLAUSIBLE.

Finally, they test the religious experience theory...well, sort of. As a joke, they hook up the Red Snapper from the Third Rail revisit. Adam is the one to test this however...and when he touches Kari's carefully sculpted, foil-covered twin angels on top of Tory's replica. It's not the wrath of God that's incurred, though...it's the wrath of Adam. However, Adam curbs his temper long enough to agree that this, too is PLAUSIBLE, if only because the ancient people wouldn't understand electricity and automatically assume it's an otherworldly force.

Buster v2.0 Alpha Test

No myth...just the first time out for the new Buster and Earl the Cadillac's demise, as the Mythbusters promised Cadillac Ben when they were given it.

Quotes: "I just had one of those 'what the hell are we doing' moments!" - Adam

"Now I'm going off the Jamie model...the Greek god." - Adam, when sculpting Buster's torso

"Now, enter the Dragon...err, Skin." - Rob, the narrator

Most of the construction of Buster was already covered in the classic Buster special, "The Rise and Fall of Buster". (At least, that's what I call it.) But a quick review is in order, so here it goes: the joints are cast aluminum, the bones are made of poplar stock, and the skin is a special silicone-rubber called Dragon Skin. It's so called because it's extremely durable and fire resistant. Now that Buster is fully assembled, let the destruction commence!

Outside we go, joining the Mythbusters (including build team) and Cadillac Ben. A giant crane is on hand to lift Earl up before dropping it straight down. Adam sets up a quick-release rig and attaches it to the crane and Earl before the Caddy rise into the air with Buster onboard. With a pull of the rope, both car and dummy hurtle toward ground, meeting the concrete in a loud crash of carnage. Needless to say, Earl is no longer usable...as for Buster, the breakable poplar bones do their job to a tee, and the test is considered a success. Good to know that Buster 2.0 is good to go!