

1

00:00:00,000 --> 00:00:02,000

Give us a break.

2

00:00:02,000 --> 00:00:05,000

Don't try what you're about to see at home.

3

00:01:01,000 --> 00:01:03,000

Who are the Mythbusters?

4

00:01:03,000 --> 00:01:05,000

Adam Savage

5

00:01:05,000 --> 00:01:06,000

Dangerous Mind

6

00:01:06,000 --> 00:01:07,000

Middle-Mine

7

00:01:07,000 --> 00:01:08,000

and Jamie Heidemann

8

00:01:08,000 --> 00:01:11,000

The behavior we're going to make you into a coat.

9

00:01:11,000 --> 00:01:15,000

Between them, over 30 years, special effects experience.

10

00:01:17,000 --> 00:01:18,000

Joining them,

11

00:01:18,000 --> 00:01:19,000

Tori Balechi

12

00:01:19,000 --> 00:01:21,000

Bang in the bang in the bang

13

00:01:21,000 --> 00:01:22,000

Carrie Byron

14

00:01:22,000 --> 00:01:23,000

Don't try what you're about to see at home.

15

00:01:23,000 --> 00:01:24,000

and Grant Imahara

16

00:01:24,000 --> 00:01:26,000

He's alive!

17

00:01:26,000 --> 00:01:29,000

They don't just tell the myths.

18

00:01:29,000 --> 00:01:31,000

They took them to the test.

19

00:01:46,000 --> 00:01:48,000

What's the myth?

20

00:01:48,000 --> 00:01:50,000

Quite simply, it's that you can extinguish a fire

21

00:01:50,000 --> 00:01:52,000

using only the power of a human voice.

22

00:01:52,000 --> 00:01:53,000

You're making that up.

23

00:01:53,000 --> 00:01:54,000

I am not.

24

00:01:54,000 --> 00:01:58,000

It actually comes from an early 20th century naturalist named Charles Kellogg

25

00:01:58,000 --> 00:02:01,000

who claimed foreign wine that he could put out fires

26

00:02:01,000 --> 00:02:03,000

using only his voice.

27

00:02:03,000 --> 00:02:05,000

And didn't he also invent cereal or something?

28

00:02:05,000 --> 00:02:06,000

No, wrong guy.

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00:02:06,000 --> 00:02:10,000

Charles Kellogg, unlike the cereal guy, was a vocal genius.

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00:02:10,000 --> 00:02:15,000

In the early 1900s, he traveled the states in a hollow redwood tree

31

00:02:15,000 --> 00:02:18,000

and wowed audiences with his bird impersonations

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00:02:18,000 --> 00:02:21,000

which could supposedly put out fires.

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00:02:23,000 --> 00:02:26,000

He claimed he could do this not with his exhale breath

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00:02:26,000 --> 00:02:29,000

but with the sound waves themselves.

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00:02:29,000 --> 00:02:33,000

As sound travels through air, it creates pressure waves.

36

00:02:33,000 --> 00:02:36,000

These pressure waves can cause air molecules to vibrate

37

00:02:36,000 --> 00:02:41,000

and if they vibrate enough, a flame can apparently be blown out.

38

00:02:41,000 --> 00:02:43,000

Do we have a plan?

39

00:02:43,000 --> 00:02:45,000

Well, I think we have a reasonable plan.

40

00:02:45,000 --> 00:02:47,000

Kellogg claimed he could put out a fire with his voice

41

00:02:47,000 --> 00:02:49,000

and he demonstrated it.

42

00:02:49,000 --> 00:02:52,000

We should find out how, replicate that demonstration

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00:02:52,000 --> 00:02:53,000

and see what we get.

44

00:02:53,000 --> 00:02:54,000

Okay.

45

00:02:54,000 --> 00:02:59,000

What I have here are the rudiments of Kellogg's exact experimental setup

46

00:02:59,000 --> 00:03:02,000

for using his voice to extinguish fire.

47

00:03:02,000 --> 00:03:06,000

It consists of gas feeding into a chamber that has a membrane on it

48

00:03:06,000 --> 00:03:11,000

and the membrane moves in relation to the sound in the room

49

00:03:11,000 --> 00:03:13,000

and affects the pressure of the fire.

50

00:03:13,000 --> 00:03:15,000

You can see as I'm talking, the fire is moving

51

00:03:15,000 --> 00:03:17,000

and it doesn't have to do with my breath,

52

00:03:17,000 --> 00:03:19,000

it has to do with the sound of my voice.

53

00:03:19,000 --> 00:03:22,000

With the so-called sensitive flame fired up,

54

00:03:22,000 --> 00:03:29,000

Adams got a copy of a 1905 gramophone recording of Kellogg singing like a bird.

55

00:03:29,000 --> 00:03:31,000

Alright, here's a little history.

56

00:03:31,000 --> 00:03:37,000

His human voice was analyzed and found to be normal under 4,000 Hz.

57

00:03:37,000 --> 00:03:43,000

However, his bird voice soared into the inaudible above 14,000 Hz.

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00:03:43,000 --> 00:03:46,000

His voice reputedly had a range of 12 and 1 half octaves

59

00:03:46,000 --> 00:03:51,000

while the normal range of a singing voice is just 2 and 1 half.

60

00:03:51,000 --> 00:03:53,000

We will see.

61

00:03:59,000 --> 00:04:01,000

Kellogg's bird voice is astonishing.

62

00:04:01,000 --> 00:04:05,000

I don't care whether he's whistling or grabbing his neck and doing this or whatever.

63

00:04:05,000 --> 00:04:08,000

The comes out of a person is amazing.

64

00:04:08,000 --> 00:04:12,000

The high-frequency bird voice makes the flame go ballistic,

65

00:04:12,000 --> 00:04:14,000

but extinguished it ain't.

66

00:04:14,000 --> 00:04:17,000

That's kind of spooky actually.

67

00:04:17,000 --> 00:04:19,000

Isn't it?

68

00:04:19,000 --> 00:04:24,000

There's a specific bird call of Kellogg's

69

00:04:24,000 --> 00:04:29,000

that makes the flame do the largest differential dance.

70

00:04:29,000 --> 00:04:31,000

Bango, bango, bango, bango, like that.

71

00:04:31,000 --> 00:04:35,000

Is he saying red rum?

72

00:04:35,000 --> 00:04:39,000

Despite their lack of success, all is not lost.

73

00:04:39,000 --> 00:04:44,000

It's possible that Adams' CD of a recording made over a hundred years ago

74

00:04:44,000 --> 00:04:47,000

is simply not good enough quality.

75

00:04:48,000 --> 00:04:52,000

I'm going to try to put this flame out using my dog voice.

76

00:04:52,000 --> 00:04:54,000

So to keep testing this myth,

77

00:04:54,000 --> 00:04:58,000

the voice must come up with a way of replicating Kellogg's full vocal range

78

00:04:58,000 --> 00:05:00,000

before Adam goes barking mad.

79

00:05:03,000 --> 00:05:05,000

Now my dog voice doesn't work.

80

00:05:05,000 --> 00:05:09,000

MUSIC

81

00:05:09,000 --> 00:05:14,000

MUSIC

82

00:05:14,000 --> 00:05:16,000

Look into my eyes.

83

00:05:16,000 --> 00:05:17,000

Deeper.

84

00:05:17,000 --> 00:05:19,000

You will fall into a deep, deep sleep.

85

00:05:19,000 --> 00:05:21,000

What are you doing?

86

00:05:21,000 --> 00:05:22,000

Trying to hypnotize Grant.

87

00:05:22,000 --> 00:05:23,000

Why?

88

00:05:23,000 --> 00:05:26,000

We're working on hypnosis myths.

89

00:05:26,000 --> 00:05:31,000

Hypnosis has long sparked a spiral of myths about its so-called powers.

90

00:05:31,000 --> 00:05:35,000

Myths that are about to get the myth busters treatment,

91

00:05:35,000 --> 00:05:38,000

starting with an all-time classic.

92

00:05:39,000 --> 00:05:43,000

An evil hypnotist can plant a post-hypnotic suggestion

93

00:05:43,000 --> 00:05:46,000

that forces you to do something against your will.

94

00:05:46,000 --> 00:05:49,000

You mean like in the movies when there's like a sleeper agent

95

00:05:49,000 --> 00:05:52,000

and they give him a code word and he wakes them up and he kills people?

96

00:05:52,000 --> 00:05:53,000

Exactly.

97

00:05:53,000 --> 00:05:55,000

So we probably won't kill people.

98

00:05:57,000 --> 00:05:59,000

Who is the most effective assassin?

99

00:05:59,000 --> 00:06:05,000

Well, I would think anyone who manages to conceal his identity as an assassin.

100

00:06:05,000 --> 00:06:08,000

One who doesn't know is an assassin.

101

00:06:08,000 --> 00:06:11,000

It's another mad movie plot line.

102

00:06:11,000 --> 00:06:14,000

An evil villain uses hypnosis to plant a trigger

103

00:06:14,000 --> 00:06:17,000

that turns an ordinary person into the perfect assassin

104

00:06:17,000 --> 00:06:19,000

without them even knowing.

105

00:06:22,000 --> 00:06:24,000

I must kill Papshbir.

106

00:06:24,000 --> 00:06:26,000

Papshbir.

107

00:06:31,000 --> 00:06:33,000

Will that be with cream and sugar, sir?

108

00:06:33,000 --> 00:06:37,000

So is this Hollywood hocus pocus or can it really happen?

109

00:06:37,000 --> 00:06:39,000

Alright, so which one of us is going to get hypnotized?

110

00:06:39,000 --> 00:06:41,000

Unfortunately, it's not that easy.

111

00:06:41,000 --> 00:06:43,000

Apparently not everyone can be hypnotized.

112

00:06:43,000 --> 00:06:46,000

So I think first of all, we need to go find a hypnotist.

113

00:06:46,000 --> 00:06:48,000

Find out which one of us is susceptible.

114

00:06:48,000 --> 00:06:52,000

And whoever that is, that's the person that gets the post-hypnotic suggestion.

115

00:06:52,000 --> 00:06:53,000

Great.

116

00:06:54,000 --> 00:06:56,000

Let's go find a hypnotist.

117

00:06:56,000 --> 00:07:00,000

To put this myth to the test, the starting point is to see if any of them

118

00:07:00,000 --> 00:07:03,000

can actually be hypnotized in the first place.

119

00:07:04,000 --> 00:07:06,000

Here we have a hypnotherapist and a neurotherapist.

120

00:07:06,000 --> 00:07:09,000

They're going to figure out which one of us can be hypnotized.

121

00:07:09,000 --> 00:07:13,000

For this test, we need post-hypnotic suggestion.

122

00:07:13,000 --> 00:07:16,000

And if none of us can be hypnotized, we're stuck.

123

00:07:16,000 --> 00:07:18,000

And first up is Torey.

124

00:07:18,000 --> 00:07:21,000

The plan is that Karrion Grant will monitor his progress

125

00:07:21,000 --> 00:07:25,000

with the help of neurotherapist Cynthia and her EEG machine.

126

00:07:27,000 --> 00:07:30,000

So it's like if I get a wrong answer, then you shock me.

127

00:07:30,000 --> 00:07:34,000

While clinical hypnotist Seth will try to put him under her spell.

128

00:07:34,000 --> 00:07:37,000

Just keep on focusing on my hand.

129

00:07:37,000 --> 00:07:40,000

Noticing that your eyes start to feel heavy.

130

00:07:40,000 --> 00:07:45,000

Allow that feeling of heaviness to get more and more, more and more heavy.

131

00:07:45,000 --> 00:07:49,000

Do you know what percentage of people are able to be hypnotized?

132

00:07:49,000 --> 00:07:51,000

Easily 85%.

133

00:07:51,000 --> 00:07:52,000

85%.

134

00:07:52,000 --> 00:07:53,000

To some degree.

135

00:07:53,000 --> 00:07:56,000

Despite the odds, they're not off to a good start.

136

00:07:56,000 --> 00:08:01,000

Because even after 10 minutes, Torey's brain activity has only dropped by 5%.

137

00:08:03,000 --> 00:08:07,000

I would want to see it get to about half of what it was.

138

00:08:07,000 --> 00:08:10,000

So if he was about 9.5, I'd like to see it at about maybe 4.

139

00:08:11,000 --> 00:08:14,000

Torey's inability to relax means he's out of the race.

140

00:08:14,000 --> 00:08:16,000

So next up is Karrion.

141

00:08:16,000 --> 00:08:18,000

And the boys have high hopes for her.

142

00:08:19,000 --> 00:08:23,000

I actually think that she's a reasonable candidate to be hypnotized.

143

00:08:23,000 --> 00:08:24,000

Why?

144

00:08:24,000 --> 00:08:27,000

I don't know, it's kind of a gut feeling.

145

00:08:27,000 --> 00:08:29,000

Could you tell her to do things and she doesn't?

146

00:08:29,000 --> 00:08:32,000

No, that's definitely not the reason why.

147

00:08:32,000 --> 00:08:36,000

But their hopes are ill-founded because Karrion won't go under either.

148

00:08:37,000 --> 00:08:42,000

I think I would start to get relaxed enough that I was almost in a sleep-like state.

149

00:08:42,000 --> 00:08:45,000

But then I'd be like, oh, I'm trying to be in a sleep-like state.

150

00:08:45,000 --> 00:08:46,000

I'm trying so hard.

151

00:08:46,000 --> 00:08:50,000

So it's almost like I couldn't let myself completely relax.

152

00:08:51,000 --> 00:08:55,000

So with the score standing at 0-2, it all boils down to Grant.

153

00:08:55,000 --> 00:08:58,000

But will Mr. Science submit to Seth?

154

00:08:59,000 --> 00:09:01,000

Deeply, deeply down.

155

00:09:01,000 --> 00:09:03,000

More and more relaxed.

156

00:09:03,000 --> 00:09:08,000

Despite Grant's initial discomfort, after 5 minutes, things are looking good.

157

00:09:09,000 --> 00:09:11,000

Like a rag doll, deeper down.

158

00:09:11,000 --> 00:09:18,000

The EEG machine shows Grant's brain activity has already dropped from a level 9 to a 4.

159

00:09:18,000 --> 00:09:20,000

I think he's in a deep state.

160

00:09:20,000 --> 00:09:22,000

I think he's more hypnotizable.

161

00:09:22,000 --> 00:09:24,000

There you go, look at that.

162

00:09:24,000 --> 00:09:29,000

And what that means is he's just the kind of highly suggestible subject they're looking for.

163

00:09:29,000 --> 00:09:32,000

Grant would make a good subject for a post-hypnotic suggestion.

164

00:09:32,000 --> 00:09:35,000

He's a very susceptible person.

165

00:09:35,000 --> 00:09:36,000

You're the winner.

166

00:09:36,000 --> 00:09:38,000

Okay, what does that mean?

167

00:09:38,000 --> 00:09:40,000

Well, you know what that means.

168

00:09:40,000 --> 00:09:45,000

Now we're going to see if we can hypnotize you and see if we can get you to do something that you wouldn't normally do.

169

00:09:45,000 --> 00:09:47,000

She's not going to embarrass me or anything.

170

00:09:47,000 --> 00:09:49,000

Don't worry, it won't be too humiliating.

171

00:09:49,000 --> 00:09:52,000

Still to come. More firefighting with sound.

172

00:09:52,000 --> 00:09:53,000

Fun!

173

00:09:53,000 --> 00:09:54,000

From song...

174

00:09:54,000 --> 00:09:55,000

Yeah, yeah, yeah!

175

00:09:55,000 --> 00:09:57,000

...to sonic booms.

176

00:09:57,000 --> 00:09:58,000

But next...

177

00:09:58,000 --> 00:10:02,000

Can I be hypnotized to do something against my will?

178

00:10:10,000 --> 00:10:17,000

Popular in the early 1900s, Charles Kellogg was a naturalist cum showman with an extraordinary talent.

179

00:10:17,000 --> 00:10:25,000

Not only could he sing like a bird, but he could also supposedly extinguish a sensitive flame with his voice.

180

00:10:25,000 --> 00:10:31,000

But when the mythbusters tried to replicate this feat, they failed to douse anything.

181

00:10:31,000 --> 00:10:36,000

But in case the 100-year-old recording they used was of insufficient quality,

182

00:10:36,000 --> 00:10:39,000

they've now called in the big guns.

183

00:10:39,000 --> 00:10:40,000

Hey, Roger!

184

00:10:40,000 --> 00:10:41,000

Hey!

185

00:10:41,000 --> 00:10:42,000

How you doing?

186

00:10:42,000 --> 00:10:43,000

Good to see you.

187

00:10:43,000 --> 00:10:44,000

Come to help us do some detective work?

188

00:10:44,000 --> 00:10:45,000

Yeah!

189

00:10:45,000 --> 00:10:52,000

Sound engineer Roger has brought a tone generator to replicate the full vocal range of Kellogg's bird voice.

190

00:10:52,000 --> 00:10:57,000

In Kellogg's day, this was the way that you generated a precise frequency.

191

00:10:57,000 --> 00:11:01,000

This is what they used to tune pianos and other things, I believe.

192

00:11:01,000 --> 00:11:03,000

Not that I've ever done it.

193

00:11:03,000 --> 00:11:07,000

But these days we have things called tone generators.

194

00:11:07,000 --> 00:11:14,000

And so we'll be able to get any frequency that we want within any conceivable range.

195

00:11:14,000 --> 00:11:19,000

But before getting into a frequency frenzy, let's get a few things straight.

196

00:11:19,000 --> 00:11:23,000

Sound is vibrations traveling through the air in waves.

197

00:11:23,000 --> 00:11:28,000

Its frequency is a measure of how many times the sound wave vibrates in one second.

198

00:11:28,000 --> 00:11:31,000

The higher the frequency, the higher the pitch.

199

00:11:31,000 --> 00:11:38,000

Kellogg's bird voice could supposedly reach a barely audible frequency of 14,000 Hz.

200

00:11:38,000 --> 00:11:41,000

Something that the tone generator can match.

201

00:11:41,000 --> 00:11:45,000

I'd love to sweep all the way up through and into the inaudible range.

202

00:11:45,000 --> 00:11:48,000

Because again, we keep on seeing, and all the material Kellogg said,

203

00:11:48,000 --> 00:11:53,000

that he thought it was the high frequency that affected the flame more than low frequency.

204

00:11:53,000 --> 00:11:58,000

Roger cuts straight to the chase and tunes into 14,000 Hz.

205

00:11:58,000 --> 00:12:03,000

But the flame keeps burning bright.

206

00:12:03,000 --> 00:12:05,000

So, we're down?

207

00:12:05,000 --> 00:12:11,000

So the team decides to change tactic and lower the frequency and what do you know?

208

00:12:11,000 --> 00:12:18,000

What? Oh! Hey! What was that at?

209

00:12:18,000 --> 00:12:26,000

At 166 Hz, the opposite end of the spectrum to Kellogg and the sensitive flame does go silent.

210

00:12:26,000 --> 00:12:29,000

And Adam's not entirely satisfied.

211

00:12:29,000 --> 00:12:35,000

This is a rig that utilizes fire, it's true, but I can put this fire up by doing that.

212

00:12:35,000 --> 00:12:38,000

That's the rig failing to maintain a fire.

213

00:12:38,000 --> 00:12:41,000

That's not a fire being extinguished.

214

00:12:41,000 --> 00:12:43,000

And I think that's a really key difference.

215

00:12:43,000 --> 00:12:46,000

What I'd like to do now that I've got all this equipment set up,

216

00:12:46,000 --> 00:12:50,000

is just put a candle in front of the speaker and see what kind of responses I get out of it.

217

00:12:50,000 --> 00:12:54,000

It's an ordinary household candle about as simple as fire can get.

218

00:12:54,000 --> 00:12:59,000

And unlike the sensitive flame, it has no special trappings to make it reactive to sound.

219

00:12:59,000 --> 00:13:02,000

Ready? But... yeah.

220

00:13:04,000 --> 00:13:08,000

They start with high frequencies but get nowhere fast.

221

00:13:08,000 --> 00:13:11,000

No appreciable effect on the flame at all.

222

00:13:11,000 --> 00:13:16,000

It's not until they lower the tone that they get the result thereafter.

223

00:13:17,000 --> 00:13:20,000

Oh!

224

00:13:20,000 --> 00:13:26,000

So at low frequencies from a tone generator, a flame can be extinguished with sound.

225

00:13:26,000 --> 00:13:34,000

The low-pitched sound sends out a pressure wave which vibrates the air so much that the flame gets snuffed out.

226

00:13:34,000 --> 00:13:38,000

My question now would be could you and I replicate that with our voices?

227

00:13:38,000 --> 00:13:40,000

Can we pipe our voices to this thing?

228

00:13:40,000 --> 00:13:41,000

Yeah.

229

00:13:41,000 --> 00:13:48,000

So, can the human voice replicate this feat? Time to tackle this myth karaoke style.

230

00:13:52,000 --> 00:13:56,000

Just like in real life, Adam is loud but he's not very deep.

231

00:13:56,000 --> 00:13:58,000

Ba-ba-ba.

232

00:14:00,000 --> 00:14:03,000

And the candle keeps candle-ing on.

233

00:14:03,000 --> 00:14:05,000

That's as low as I can go.

234

00:14:05,000 --> 00:14:07,000

Will Jamie be able to do any better?

235

00:14:07,000 --> 00:14:12,000

Ladies and gentlemen, right now I'd like to bring up to the mic a very good old friend of mine, Mr. James Heidemann.

236

00:14:12,000 --> 00:14:14,000

James Heidemann, let's bring him on up. Come on.

237

00:14:14,000 --> 00:14:16,000

Oh yeah.

238

00:14:16,000 --> 00:14:22,000

Jamie's dulcet tones ring out but the candle keeps on keeping on.

239

00:14:22,000 --> 00:14:24,000

Is that all the volume we've got?

240

00:14:24,000 --> 00:14:25,000

Yeah.

241

00:14:25,000 --> 00:14:30,000

In desperation, Jamie adopts the birthday cake approach.

242

00:14:30,000 --> 00:14:33,000

That seems to be working.

243

00:14:34,000 --> 00:14:38,000

But it doesn't look like he'll be getting his wish anytime soon.

244

00:14:41,000 --> 00:14:47,000

Can you really be hypnotized to do something against your will and without your knowledge?

245

00:14:49,000 --> 00:14:51,000

Will that be with cream and sugar, sir?

246

00:14:51,000 --> 00:14:56,000

The team has already determined that Grant is a suitably susceptible subject.

247

00:14:56,000 --> 00:15:02,000

So, all that remains now is for Carrie and Tori to figure out what they want him to do.

248

00:15:02,000 --> 00:15:09,000

A little apprehensive as to what the other two might have come up with in their little minds.

249

00:15:09,000 --> 00:15:11,000

And apprehensive he should be.

250

00:15:11,000 --> 00:15:12,000

I like that.

251

00:15:12,000 --> 00:15:21,000

The plan is when Tori says the words, quantum physics, Grant will suddenly decide to draw love hearts on his beloved robot, Dead Blow,

252

00:15:21,000 --> 00:15:23,000

something he would never normally do.

253

00:15:23,000 --> 00:15:29,000

And when Carrie yawns, he'll jump up and down, something he might normally do.

254

00:15:29,000 --> 00:15:35,000

It's back into the chair for Labrad Grant, and it's only a few minutes before the souped up EEG machine

255

00:15:35,000 --> 00:15:39,000

shows that Grant's brain activity has dropped by 50%.

256

00:15:39,000 --> 00:15:42,000

It's kind of creepy. He looks like a zombie.

257

00:15:42,000 --> 00:15:47,000

With Grant well and truly under, Seth plants the seeds of post-hypnotic suggestion,

258

00:15:47,000 --> 00:15:50,000

starting with one he would never normally do.

259

00:15:51,000 --> 00:16:02,000

When you hear the words, quantum physics, on your right butt, you're going to draw a beautiful, feminine heart.

260

00:16:02,000 --> 00:16:09,000

Oh my God, she just gave him the command, and he agreed to it without cracking a smile.

261

00:16:09,000 --> 00:16:12,000

He can't, I know he's not that good an actor.

262

00:16:12,000 --> 00:16:17,000

So far, so good. Now for the much easier second suggestion.

263

00:16:17,000 --> 00:16:27,000

Whenever you see Carrie yawn, you are going to have this uncontrollable urge to jump up and down.

264

00:16:27,000 --> 00:16:30,000

He looks like he's putty in her hands.

265

00:16:30,000 --> 00:16:33,000

I'd like you now to get ready to come back.

266

00:16:33,000 --> 00:16:39,000

So the seeds have been sown. They'll have to wait until tomorrow to see if they've taken root.

267

00:16:39,000 --> 00:16:44,000

Later, the team witness an event that leaves Jamie mad as a hatter.

268

00:16:44,000 --> 00:16:48,000

But first, it's Mythbusters the musical.

269

00:16:48,000 --> 00:16:53,000

Coming up next on Mythbusters.

270

00:16:53,000 --> 00:16:56,000

Can a human voice put out a fire?

271

00:17:04,000 --> 00:17:09,000

Jamie and Adam are trying to overturn conventional firefighting techniques

272

00:17:09,000 --> 00:17:12,000

by putting out fires with the human voice.

273

00:17:12,000 --> 00:17:17,000

But the results so far aren't about to set the world ablaze.

274

00:17:17,000 --> 00:17:19,000

So where are we at with this myth?

275

00:17:19,000 --> 00:17:24,000

Well, we have successfully demonstrated that we can put out a fire using a sound,

276

00:17:24,000 --> 00:17:27,000

but we have not demonstrated that a human voice can do it.

277

00:17:27,000 --> 00:17:29,000

Doesn't that mean it's busted?

278

00:17:29,000 --> 00:17:33,000

Not exactly. I mean, just because we can't do it doesn't mean it can't be done.

279

00:17:33,000 --> 00:17:35,000

Remember shattering a wine glass?

280

00:17:35,000 --> 00:17:39,000

When Adam and Jamie tried to shatter a wine glass with their unamplified voices,

281

00:17:39,000 --> 00:17:42,000

they got nowhere fast.

282

00:17:42,000 --> 00:17:46,000

Not surprisingly, I don't think I can do it.

283

00:17:46,000 --> 00:17:51,000

It wasn't until they unleashed the power of rocker pro Jamie Van Derra

284

00:17:51,000 --> 00:17:54,000

that they got their lucky break.

285

00:17:54,000 --> 00:17:57,000

I think it's time to bring in some professionals.

286

00:17:57,000 --> 00:17:58,000

Like some singers.

287

00:17:58,000 --> 00:17:59,000

Exactly.

288

00:18:02,000 --> 00:18:07,000

Q local acapella group hook slide with their most bizarre gig to date.

289

00:18:10,000 --> 00:18:13,000

Whenever you're ready, take it away and try and put out that candle.

290

00:18:16,000 --> 00:18:21,000

Sure, they can hold a harmony, but are they firefighting material?

291

00:18:24,000 --> 00:18:26,000

One of you hit a really specific note.

292

00:18:30,000 --> 00:18:33,000

Once again, it's the low frequencies that have the most effect.

293

00:18:33,000 --> 00:18:37,000

So bassist Jonathan gets his chance for a solo.

294

00:18:40,000 --> 00:18:44,000

At first, even his lowest low doesn't work.

295

00:18:44,000 --> 00:18:46,000

Do the buzz, do the see, get the beat.

296

00:18:46,000 --> 00:18:51,000

But as the saying goes, if at first you don't succeed, well...

297

00:18:52,000 --> 00:18:56,000

It turns out that it is possible to put out a flame with an amplified human voice.

298

00:18:56,000 --> 00:18:58,000

Of course, we can't leave it there.

299

00:18:58,000 --> 00:19:01,000

On the tails of that success, I think we should set up a bigger flame

300

00:19:01,000 --> 00:19:04,000

and some bigger speakers and put you on to the test.

301

00:19:04,000 --> 00:19:11,000

With mission accomplished on the candle, it's time to turn up the heat to record breaking proportions.

302

00:19:11,000 --> 00:19:16,000

This is our next test bed to try and put a fire out with sound or a voice.

303

00:19:16,000 --> 00:19:19,000

This is simply propane that you took up to your barbecue.

304

00:19:19,000 --> 00:19:21,000

It's really simple.

305

00:19:21,000 --> 00:19:23,000

We're going to kind of supersize it here.

306

00:19:23,000 --> 00:19:26,000

We've got a much bigger flame, much bigger speakers.

307

00:19:26,000 --> 00:19:28,000

We'll see whether we can get the same effect.

308

00:19:28,000 --> 00:19:31,000

It's back to the booth for our beatbox bassist.

309

00:19:34,000 --> 00:19:37,000

Blowing raspberries in the name of science.

310

00:19:38,000 --> 00:19:47,000

Try as he might, even at a whopping 146 decibels, Jonathan's raspberries are no match for the

bigger burn.

311

00:19:47,000 --> 00:19:49,000

I think it's time to move on to tones. Thank you so much.

312

00:19:49,000 --> 00:19:50,000

I appreciate it.

313

00:19:50,000 --> 00:19:52,000

Roger, it's all up to you now. You ready?

314

00:19:52,000 --> 00:19:53,000

Ready.

315

00:19:53,000 --> 00:20:00,000

Armed with \$80,000 worth of audio equipment, is there anything Roger can do to put out this fire?

316

00:20:00,000 --> 00:20:10,000

He works his way through the frequencies and cranks it up to a bone jarring, painfully loud, 155 decibels.

317

00:20:10,000 --> 00:20:13,000

But even that can't put out the fire.

318

00:20:13,000 --> 00:20:15,000

There's stuff falling off of the ceiling.

319

00:20:15,000 --> 00:20:18,000

But Jamie's got one last idea.

320

00:20:18,000 --> 00:20:20,000

We're going to give it one last shot.

321

00:20:20,000 --> 00:20:24,000

We've reconfigured the speakers so they're more or less coming at the flame in one wall.

322

00:20:24,000 --> 00:20:27,000

Frankly, we're a little baffled. We don't know what else to do.

323

00:20:27,000 --> 00:20:30,000

Will the V formation be V for victory?

324

00:20:30,000 --> 00:20:36,000

Roger cranks up the base at Adams on his hands and knees, praying for a sweet spot.

325

00:20:36,000 --> 00:20:42,000

It's less about intricate planning and more about trial and error, but suddenly...

326

00:20:48,000 --> 00:20:49,000

Oh my God.

327

00:20:49,000 --> 00:20:59,000

It's a red letter day for science because at 55 hertz at a room shaking 149 decibels, they've achieved a world first.

328

00:20:59,000 --> 00:21:05,000

No one has ever put out a fire of this size with sound until now.

329

00:21:05,000 --> 00:21:15,000

This is yet another in a long line of cases in which I completely didn't expect the result we got at the very end of the day.

330

00:21:16,000 --> 00:21:21,000

Everything we've done up until we got that flame to go out was telling me not going to happen.

331

00:21:21,000 --> 00:21:26,000

The difference between a candle and a real fire is significant and we were not going to get any positive results.

332

00:21:26,000 --> 00:21:30,000

And we did. That's stunning. I love being wrong.

333

00:21:30,000 --> 00:21:37,000

But it's not over yet because before this myth is extinguished, there's an explosive twist to the tale.

334

00:21:37,000 --> 00:21:40,000

This one's about putting out fire with your voice.

335

00:21:40,000 --> 00:21:46,000

If you want to see other interesting ways that sound and fire interact, log on to discovery.com.

336

00:21:46,000 --> 00:21:48,000

It's hot stuff.

337

00:21:53,000 --> 00:21:56,000

It's like any other morning at Mythbusters.

338

00:21:56,000 --> 00:22:00,000

Except today, Grant is a ticking time bomb.

339

00:22:00,000 --> 00:22:04,000

Yesterday, he was implanted with two post-hypnotic suggestions.

340

00:22:04,000 --> 00:22:07,000

It's time to see if those seeds have taken root.

341

00:22:07,000 --> 00:22:15,000

The two triggers are one, we're saying quantum physics, and that's going to cause Grant to pull out his marker and go draw hearts on his robot.

342

00:22:15,000 --> 00:22:20,000

And then the second one is, Carrie's going to yawn and that's going to get him to jump around.

343

00:22:20,000 --> 00:22:23,000

So either way, it should be a very entertaining day.

344

00:22:23,000 --> 00:22:28,000

Neither Carrie nor Tori have spoken to Grant about yesterday's hypnosis session.

345

00:22:28,000 --> 00:22:32,000

As far as he's concerned, he's designing a diet coke and Mentos rig.

346

00:22:32,000 --> 00:22:35,000

So bring on the trigger words.

347

00:22:36,000 --> 00:22:40,000

You know what I can do is make something that will just push them all in really quick.

348

00:22:40,000 --> 00:22:43,000

That just seems like a lot of extra work.

349

00:22:43,000 --> 00:22:45,000

I think getting too complicated.

350

00:22:45,000 --> 00:22:47,000

I mean, it's not like this is quantum physics.

351

00:22:47,000 --> 00:22:49,000

That was the trigger.

352

00:22:49,000 --> 00:22:51,000

Okay.

353

00:22:51,000 --> 00:22:55,000

But the robot remains graffiti free.

354

00:22:55,000 --> 00:22:59,000

Maybe the more subtle suggestion will stand a better chance.

355

00:22:59,000 --> 00:23:01,000

I have some...

356

00:23:01,000 --> 00:23:03,000

Some...

357

00:23:03,000 --> 00:23:09,000

Carrie yawns once and twice, but nothing.

358

00:23:11,000 --> 00:23:16,000

The triggers are enough to give him the giggles, but not enough to put him under their power.

359

00:23:16,000 --> 00:23:18,000

So what went wrong?

360

00:23:18,000 --> 00:23:22,000

I had a clear idea of what they wanted me to do.

361

00:23:22,000 --> 00:23:32,000

And all through, I was trying to say, okay, well, maybe hopefully I'll forget and then it'll be subliminal, but just kept coming back.

362

00:23:33,000 --> 00:23:40,000

So it didn't work on Gray, but is it a little too soon to call this one game over for the myth?

363

00:23:40,000 --> 00:23:44,000

I think the real problem is you always knew you were going to get a suggestion while you were under.

364

00:23:44,000 --> 00:23:47,000

You didn't know what it was, but you always knew.

365

00:23:47,000 --> 00:23:48,000

All right.

366

00:23:48,000 --> 00:23:52,000

Well, maybe what we'd do is we find somebody from the crew who believes in hypnosis and wants to change.

367

00:23:52,000 --> 00:23:57,000

While they're under, we secretly put a post-hypnotic suggestion in there.

368

00:23:57,000 --> 00:23:59,000

I have the perfect candidate.

369

00:23:59,000 --> 00:24:04,000

Alice, who's one of our producers, wants to stop chewing the tops of her pens.

370

00:24:04,000 --> 00:24:10,000

And she is a big believer in alternative healing techniques like hypnosis.

371

00:24:10,000 --> 00:24:19,000

So I say we bring her in, give her hypnosis for chewing the tops of the pens, but while she's under, we give her our own suggestion.

372

00:24:19,000 --> 00:24:26,000

Producer Alice has been working with Jamie and Adam on another story and has no idea what this team is up to.

373

00:24:26,000 --> 00:24:32,000

She thinks she's here to be hypnotized to kick her disgusting, pen-chewing habit.

374

00:24:32,000 --> 00:24:38,000

Just allow your eyes to close and allow yourself to double the relaxation.

375

00:24:38,000 --> 00:24:43,000

But what she doesn't know is that while she's under, something devious is going on.

376

00:24:43,000 --> 00:24:47,000

So we're going to give her post-hypnotic suggestions the same way that we gave you.

377

00:24:47,000 --> 00:24:52,000

We're going to give her one that is something that she could easily do, like grabbing her ear.

378

00:24:52,000 --> 00:24:59,000

And then the second one we're going to do is completely against her moral fiber, something she would not do.

379

00:24:59,000 --> 00:25:00,000

That is.

380

00:25:00,000 --> 00:25:01,000

Slapping me in the face.

381

00:25:01,000 --> 00:25:06,000

With the session in full swing, it's time to plant the first suggestion.

382

00:25:06,000 --> 00:25:14,000

When you hear the word Adam, would it be okay with you if you were to scratch your ear?

383

00:25:14,000 --> 00:25:18,000

I don't like the idea of this. This is trickery.

384

00:25:18,000 --> 00:25:19,000

She's hot.

385

00:25:20,000 --> 00:25:25,000

Despite an encouraging start, it doesn't look like producer Alice is going to take the bait.

386

00:25:25,000 --> 00:25:29,000

I did not agree to this before.

387

00:25:29,000 --> 00:25:33,000

Looks like this myth is sinking faster than a lead balloon.

388

00:25:33,000 --> 00:25:38,000

She knows we're trying to sneak in some post-hypnotic suggestions and it's not working.

389

00:25:38,000 --> 00:25:45,000

We didn't even get to the fun part. I wanted to see what she would do if we told her to do something totally crazy, like slap me.

390

00:25:45,000 --> 00:25:50,000

Instead, it's a slap in the face for post-hypnotic suggestion. It works fine in the movies.

391

00:25:50,000 --> 00:25:54,000

I must kill the queen.

392

00:25:54,000 --> 00:25:59,000

But in the real world, well, even hypnotists say it can't be done.

393

00:25:59,000 --> 00:26:04,000

Hypnosis can't control you. You have to want to accept the suggestion.

394

00:26:04,000 --> 00:26:07,000

But if you don't want to do it, it's not going to happen.

395

00:26:07,000 --> 00:26:10,000

I'm so sad. I really wanted this one to work.

396

00:26:10,000 --> 00:26:12,000

You wanted to get slapped in the face?

397

00:26:12,000 --> 00:26:19,000

Well, we did get a good result. As soon as the hypnotist tried to make Alice do something against her will, she came right out of the hypnosis.

398

00:26:19,000 --> 00:26:23,000

So it is just like they say, you never really go totally unconscious.

399

00:26:23,000 --> 00:26:30,000

And most hypnotherapists and hypnotists agree that you can't make anyone do anything that's against their moral fiber.

400

00:26:30,000 --> 00:26:32,000

So this one's busted?

401

00:26:32,000 --> 00:26:33,000

Busted.

402

00:26:33,000 --> 00:26:36,000

It's too bad, because I kind of wanted to take over the world.

403

00:26:42,000 --> 00:26:47,000

Later, the mythbusters get all fired up and try to put it out with a bang.

404

00:26:47,000 --> 00:26:49,000

Fire in the hole!

405

00:26:50,000 --> 00:26:53,000

But next, Jamie and Adam act for science.

406

00:26:53,000 --> 00:26:54,000

When was that?

407

00:26:54,000 --> 00:26:57,000

And put the team's memory to the test.

408

00:26:57,000 --> 00:26:59,000

I can't remember anything else.

409

00:27:03,000 --> 00:27:08,000

Hey, don't try what you're about to see at home. We're what you call experts.

410

00:27:08,000 --> 00:27:11,000

That's right. We do this for a living.

411

00:27:12,000 --> 00:27:16,000

Grant and Tory have been having so much fun exploring hypnosis myths...

412

00:27:16,000 --> 00:27:18,000

I don't like it's fun to visit.

413

00:27:19,000 --> 00:27:22,000

...that Adam and Jamie can't help but join them.

414

00:27:22,000 --> 00:27:23,000

What are you doing?

415

00:27:23,000 --> 00:27:26,000

I'm carrying Grant and Tory are doing hypnosis myths.

416

00:27:26,000 --> 00:27:31,000

And as long as they're exploring the subject, there is one I have always wanted to try.

417

00:27:31,000 --> 00:27:32,000

Now, what's that?

418

00:27:32,000 --> 00:27:38,000

Well, it's that you can remember more details under hypnosis than under normal circumstances.

419

00:27:38,000 --> 00:27:42,000

The police could put you under hypnosis and you'd remember all sorts of things about a crime you witnessed...

420

00:27:42,000 --> 00:27:45,000

...that you had no conscious memory of witnessing.

421

00:27:46,000 --> 00:27:50,000

It's one of the most pervasive myths associated with hypnosis.

422

00:27:50,000 --> 00:27:55,000

But can going under really unleash a vast resource of hidden memories?

423

00:27:55,000 --> 00:28:00,000

So to put this myth to the test, they've enlisted the help of local actors Brian and Brian...

424

00:28:00,000 --> 00:28:05,000

...to stage a scene that will take place in front of Carrie, Tory and Grant.

425

00:28:05,000 --> 00:28:09,000

The goal of this scene is to elevate their stress levels a little bit...

426

00:28:09,000 --> 00:28:15,000

...make them view something that's slightly uncomfortable and then they're going to have to remember exactly what happened.

427

00:28:15,000 --> 00:28:19,000

We're going to fill a little scenario with a bunch of details that they're supposed to remember.

428

00:28:19,000 --> 00:28:24,000

And we're going to see if they can remember more of those details under hypnosis than under normal conditions.

429

00:28:25,000 --> 00:28:26,000

Excellent.

430

00:28:26,000 --> 00:28:31,000

The basic scene is that Brian and Brian are going to be delivery men with attitude.

431

00:28:31,000 --> 00:28:32,000

Wait, wait, wait, wait.

432

00:28:32,000 --> 00:28:34,000

You're a big man, huh?

433

00:28:34,000 --> 00:28:35,000

You're a big star.

434

00:28:35,000 --> 00:28:37,000

...who push Jamie over the edge.

435

00:28:38,000 --> 00:28:39,000

Well that ought to work.

436

00:28:39,000 --> 00:28:40,000

That is perfect.

437

00:28:40,000 --> 00:28:42,000

This is going to be an ideal test.

438

00:28:42,000 --> 00:28:44,000

Yeah, there's a lot for them to remember there.

439

00:28:44,000 --> 00:28:50,000

What's important for this myth is that there are plenty of actions and words to remember.

440

00:28:50,000 --> 00:28:54,000

But Adam wants to leave a series of visual clues as well.

441

00:28:55,000 --> 00:28:56,000

Look at that.

442

00:28:56,000 --> 00:29:02,000

A tattoo here, a few name tags there and some company logos for good measure.

443

00:29:02,000 --> 00:29:08,000

These are the kinds of quality clues which, if remembered, could break a real life crime case.

444

00:29:09,000 --> 00:29:16,000

But over at M7, will an unsuspecting Kari, Tori and Grant be able to remember more of these clues when under hypnosis?

445

00:29:17,000 --> 00:29:22,000

Only the camera crew have been led in on the little secret so they can record it going down.

446

00:29:22,000 --> 00:29:25,000

So, let the scene be seen.

447

00:29:25,000 --> 00:29:27,000

I have a package for M7.

448

00:29:27,000 --> 00:29:28,000

I can take it.

449

00:29:28,000 --> 00:29:29,000

You're that guy, man.

450

00:29:29,000 --> 00:29:30,000

Hey, how's it going?

451

00:29:30,000 --> 00:29:32,000

This is the guy from the show, right?

452

00:29:32,000 --> 00:29:34,000

You're from the show where they blow stuff up and stuff?

453

00:29:34,000 --> 00:29:35,000

Oh my God.

454

00:29:35,000 --> 00:29:37,000

You mind if I get a signature though?

455

00:29:37,000 --> 00:29:44,000

A whole array of clues are being dropped as the scene gets underway, but are any being picked up by the team?

456

00:29:44,000 --> 00:29:48,000

Just put something like, live the myth, live the dream or something like that.

457

00:29:48,000 --> 00:29:49,000

You got to be kidding me.

458

00:29:49,000 --> 00:29:51,000

At first, they don't take much notice.

459

00:29:51,000 --> 00:29:54,000

Can I take a picture of you, you and me?

460

00:29:54,000 --> 00:29:56,000

I'm going to wear the beanie.

461

00:29:56,000 --> 00:29:58,000

Until things escalate.

462

00:29:58,000 --> 00:30:00,000

They leave the hat alone and say it's cool.

463

00:30:00,000 --> 00:30:02,000

We got to get back to work here.

464

00:30:02,000 --> 00:30:03,000

Big TV star, huh?

465

00:30:03,000 --> 00:30:04,000

Yeah, you don't have to.

466

00:30:04,000 --> 00:30:07,000

Now, the scene has got their undivided attention.

467

00:30:07,000 --> 00:30:08,000

You know what?

468

00:30:08,000 --> 00:30:09,000

You know what?

469

00:30:09,000 --> 00:30:10,000

Screw that.

470

00:30:10,000 --> 00:30:11,000

No photo, no package.

471

00:30:11,000 --> 00:30:12,000

God.

472

00:30:12,000 --> 00:30:13,000

Movie star.

473

00:30:13,000 --> 00:30:14,000

What?

474

00:30:14,000 --> 00:30:15,000

It's coming.

475

00:30:15,000 --> 00:30:16,000

It's time for this.

476

00:30:16,000 --> 00:30:17,000

What was that?

477

00:30:17,000 --> 00:30:22,000

The only way that any of that would make sense if some music started and he started taking his clothes off or something.

478

00:30:22,000 --> 00:30:23,000

It was like a...

479

00:30:23,000 --> 00:30:24,000

It was like a...

480

00:30:24,000 --> 00:30:27,000

With the show over, it's time.

481

00:30:27,000 --> 00:30:29,000

It's time to let them in on the scan.

482

00:30:29,000 --> 00:30:30,000

How'd you like that?

483

00:30:30,000 --> 00:30:31,000

It was pretty good.

484

00:30:31,000 --> 00:30:32,000

It was crazy.

485

00:30:32,000 --> 00:30:37,000

We constructed that whole scene to give you guys a bunch of facts to try and remember.

486

00:30:37,000 --> 00:30:45,000

The myth is that under hypnosis, you might remember more about a crime or an event that happened in front of you than you would under normal conditions.

487

00:30:45,000 --> 00:30:46,000

That's good.

488

00:30:46,000 --> 00:30:53,000

So we wrote down a whole bunch of details about the physical appearance of those guys and about the narrative of exactly what happened.

489

00:30:53,000 --> 00:30:55,000

And we have those questions in here.

490

00:30:55,000 --> 00:31:02,000

We're going to ask you guys this questionnaire, not under hypnosis, and then under hypnosis and see if there's a difference in the results.

491

00:31:02,000 --> 00:31:08,000

Time to find out, as Tori, Carrie and Grant submit to the Mythbusters memory exam.

492

00:31:08,000 --> 00:31:10,000

I feel like I'm back in high school.

493

00:31:10,000 --> 00:31:12,000

No, because if you're back in high school, you'd be cheating off of me.

494

00:31:12,000 --> 00:31:14,000

I wouldn't have been a cheat off of you.

495

00:31:14,000 --> 00:31:15,000

I'm a cheat off of Grant.

496

00:31:15,000 --> 00:31:16,000

Ready?

497

00:31:16,000 --> 00:31:19,000

One, two, three, and begin.

498

00:31:19,000 --> 00:31:24,000

They're going to be asked the same set of questions before and after hypnosis.

499

00:31:25,000 --> 00:31:26,000

Right?

500

00:31:26,000 --> 00:31:33,000

Questions about the culprit's names, their distinguishing features, and even their smell.

501

00:31:33,000 --> 00:31:35,000

That's a weird question.

502

00:31:35,000 --> 00:31:38,000

Will test their range of recall across all the senses.

503

00:31:38,000 --> 00:31:40,000

I think that's it.

504

00:31:40,000 --> 00:31:41,000

I'm done.

505

00:31:41,000 --> 00:31:43,000

I can't remember anything else.

506

00:31:43,000 --> 00:31:45,000

So how do they rate their recall?

507

00:31:45,000 --> 00:31:49,000

I mean, I know there's a lot of details that I probably got wrong.

508

00:31:49,000 --> 00:31:55,000

I remember things, but I don't remember specifics about those things.

509

00:31:55,000 --> 00:31:56,000

He's not kidding.

510

00:31:56,000 --> 00:31:59,000

Although they could all remember some general info about the scene,

511

00:31:59,000 --> 00:32:05,000

no one was able to recall anything critical that could lead to an arrest in a real life case.

512

00:32:05,000 --> 00:32:10,000

But will hypnosis help paint a clearer picture before this case goes cold?

513

00:32:10,000 --> 00:32:14,000

Those guys don't seem to be doing too well with the Mythbusters memory exam.

514

00:32:14,000 --> 00:32:15,000

No, they're not.

515

00:32:15,000 --> 00:32:17,000

Think you can do better?

516

00:32:17,000 --> 00:32:24,000

Log on to Discovery.com slash Mythbusters, where you'll find a video you can use to put your own memory to the test.

517

00:32:24,000 --> 00:32:27,000

Coming right up, the team goes into a trance.

518

00:32:27,000 --> 00:32:29,000

Sleep, sleep, sleep.

519

00:32:29,000 --> 00:32:33,000

But first, fighting fires with fire power.

520

00:32:33,000 --> 00:32:40,000

In Voice Fire Extinguisher, Adam and Jamie have something to shout about.

521

00:32:40,000 --> 00:32:47,000

They've just used amplified sound waves to put out a record-sized flame.

522

00:32:47,000 --> 00:32:53,000

So where does that leave the Myth?

523

00:32:53,000 --> 00:32:55,000

Are we ready to call this one?

524

00:32:55,000 --> 00:32:58,000

I think based on what we've gotten so far, yeah.

525

00:32:58,000 --> 00:33:05,000

I think Charles Kellogg's original claim, the source of our myth that you can put out a fire with an unamplified human voice, is totally busted.

526

00:33:05,000 --> 00:33:08,000

And yet, like any good myth, there is an element of truth here.

527

00:33:08,000 --> 00:33:16,000

Oh no, I could not believe the results we got when our singer was able, although amplified, to put out that candle with his voice.

528

00:33:16,000 --> 00:33:24,000

Yeah, and with a tone generator and a truckload of amplifiers and speakers, we were able to put out a pretty good-sized flame.

529

00:33:24,000 --> 00:33:26,000

Which is really impressive.

530

00:33:26,000 --> 00:33:30,000

And yet, I don't feel like we can let this one rest here.

531

00:33:30,000 --> 00:33:33,000

Well, what about explosives?

532

00:33:33,000 --> 00:33:37,000

I mean, sounds a pressure wave and explosives create a pressure wave.

533

00:33:37,000 --> 00:33:42,000

As far as I know, they actually put out oil rigged fires with explosives.

534

00:33:42,000 --> 00:33:45,000

Sold, let's do it.

535

00:33:45,000 --> 00:33:49,000

Once again, we find ourselves at the Alameda County bomb range.

536

00:33:49,000 --> 00:33:52,000

JD, Frank Doyle are helping us out.

537

00:33:52,000 --> 00:33:56,000

We're going to try and put out the fire with explosives.

538

00:33:56,000 --> 00:34:00,000

In other words, they're going to fight fire with fire power.

539

00:34:00,000 --> 00:34:06,000

A technique that was developed to put out arguably the most dangerous infernos of all, oil well fires.

540

00:34:06,000 --> 00:34:12,000

This technique was made famous by the late Red Adair, is probably the most famous firefighter ever.

541

00:34:12,000 --> 00:34:14,000

He put out over 2,000 fires in his career.

542

00:34:14,000 --> 00:34:16,000

The guy was amazing.

543

00:34:16,000 --> 00:34:18,000

But how exactly did he do it?

544

00:34:18,000 --> 00:34:20,000

Sound is nothing but pressure.

545

00:34:20,000 --> 00:34:27,000

In the case of a sound wave, we've got repeated cycling of this pressure wave over and over again to create something that you hear.

546

00:34:27,000 --> 00:34:36,000

The theory of using an explosive to put out a fire is that the single pressure wave the explosive creates removes all of the oxygen from the fire so it can't burn.

547

00:34:36,000 --> 00:34:40,000

To put this theory to the test, the first thing they're going to need is a fire.

548

00:34:40,000 --> 00:34:42,000

And that's Jamie's department.

549

00:34:42,000 --> 00:34:44,000

OK, sis.

550

00:34:44,000 --> 00:34:47,000

Let's check in 3, 2, 1.

551

00:34:47,000 --> 00:34:49,000

That worked perfectly.

552

00:34:49,000 --> 00:34:51,000

Is that beautiful or what?

553

00:34:51,000 --> 00:34:53,000

Look at that thing.

554

00:34:53,000 --> 00:34:55,000

Yeah, it doesn't get much neater than that.

555

00:34:55,000 --> 00:35:01,000

And first up for the fire in the hole test is black powder, a low velocity explosive.

556

00:35:01,000 --> 00:35:02,000

Are we ready?

557

00:35:02,000 --> 00:35:03,000

We are ready.

558

00:35:03,000 --> 00:35:05,000

This is the burrito.

559

00:35:05,000 --> 00:35:07,000

The black powder burrito.

560

00:35:07,000 --> 00:35:14,000

With the black powder burrito in place, it's time for the three amigos to hunker in the bunker.

561

00:35:14,000 --> 00:35:16,000

OK, are we set?

562

00:35:16,000 --> 00:35:18,000

This is for real.

563

00:35:18,000 --> 00:35:20,000

OK, black powder test.

564

00:35:20,000 --> 00:35:23,000

I'm going to go ahead and ignite now.

565

00:35:23,000 --> 00:35:25,000

Fire, we have fire.

566

00:35:25,000 --> 00:35:27,000

OK, it's all yours now.

567

00:35:27,000 --> 00:35:29,000

OK, pulling in.

568

00:35:29,000 --> 00:35:31,000

We're in place, go.

569

00:35:31,000 --> 00:35:33,000

Beautiful!

570

00:35:33,000 --> 00:35:35,000

That worked perfectly.

571

00:35:35,000 --> 00:35:37,000

That could not have gone better.

572

00:35:37,000 --> 00:35:43,000

The fire rig and explosives delivery system work like a charm.

573

00:35:43,000 --> 00:35:49,000

But through fighting fires, they'd have been better off using black magic than black powder.

574

00:35:49,000 --> 00:35:55,000

Because as the high speed shows, the post boom flame is burning as strong as ever.

575

00:35:55,000 --> 00:36:00,000

So they'll have to try again with something that has a little bit of a spark.

576

00:36:00,000 --> 00:36:05,000

They'll have to try again with something that has a little more bang for their buck.

577

00:36:05,000 --> 00:36:07,000

That's fun!

578

00:36:30,000 --> 00:36:39,000

With all three flunking the Mythbusters memory exam, now it's time to find out if hypnosis will help them remember any critical clues.

579

00:36:39,000 --> 00:36:42,000

Hypnotist Dave Hill thinks it will.

580

00:36:42,000 --> 00:36:46,000

I'm going to do everything in my hypnotic ability to help you gain more memory.

581

00:36:46,000 --> 00:36:48,000

Sound like fun?

582

00:36:48,000 --> 00:36:57,000

Dave spent the last 20 years putting people under, and he's convinced he can refresh memories using the technique of rapid hypnosis.

583

00:36:57,000 --> 00:36:59,000

Just give me your hand if you would.

584

00:36:59,000 --> 00:37:01,000

I'm going to place my hand here if that's okay.

585

00:37:01,000 --> 00:37:06,000

By the time I reach the count of one, you'll be in a very deep state of hypnotic sleep.

586

00:37:06,000 --> 00:37:08,000

That's fine, you're doing perfectly in sleep.

587

00:37:08,000 --> 00:37:12,000

The idea is to overload the mind with sudden, firm commands.

588

00:37:12,000 --> 00:37:14,000

Close your eyes down, my friend.

589

00:37:14,000 --> 00:37:16,000

Roll your eyeballs up to the top.

590

00:37:16,000 --> 00:37:18,000

Try and open your eyelids once, twice.

591

00:37:18,000 --> 00:37:20,000

Notice they don't work.

592

00:37:20,000 --> 00:37:22,000

Way down on sleep.

593

00:37:22,000 --> 00:37:24,000

Way down on sleep.

594

00:37:24,000 --> 00:37:26,000

Now, I want to help you with your memory.

595

00:37:26,000 --> 00:37:45,000

What we're going to now give you in your mind's eye is a wonderful TV set with a remote control that allows you to fast forward, to reverse scenes, to put the scenes in slow motion.

596

00:37:45,000 --> 00:37:51,000

With Dave at the helm, the team retakes the very same test in their hypnotic state.

597

00:37:51,000 --> 00:37:54,000

Did their uniforms have name tags or patches?

598

00:37:54,000 --> 00:37:56,000

Look at them carefully.

599

00:37:59,000 --> 00:38:02,000

What was written on their name tags?

600

00:38:05,000 --> 00:38:09,000

Did either delivery men have a tattoo?

601

00:38:12,000 --> 00:38:20,000

Several probing questions later, and it's time to reemerge and find out if hypnosis helped them remember any additional information

602

00:38:20,000 --> 00:38:22,000

that'll crack the case.

603

00:38:26,000 --> 00:38:30,000

The papers have been graded, and the new scores are in with exciting results.

604

00:38:30,000 --> 00:38:33,000

Carrie has remembered some important dialogue.

605

00:38:33,000 --> 00:38:37,000

You're that guy, dude. You know that guy from the show? They blow stuff up.

606

00:38:37,000 --> 00:38:41,000

This is the guy from the show, right? You're from the show where they blow stuff up.

607

00:38:41,000 --> 00:38:43,000

Wait, I want to call my brother.

608

00:38:43,000 --> 00:38:45,000

You know what? I'm going to call my brother real fast.

609

00:38:45,000 --> 00:38:48,000

All of that, I remembered after we relaxed with the hypnosis.

610

00:38:48,000 --> 00:38:56,000

But it's Grant and Tori that have come up trumps with the types of quality information that would really help a real-life investigation.

611

00:38:56,000 --> 00:39:01,000

I don't even remember name tags, but when we went under hypnosis, a name popped up.

612

00:39:01,000 --> 00:39:02,000

Was it the right name?

613

00:39:02,000 --> 00:39:03,000

Yeah.

614

00:39:03,000 --> 00:39:04,000

What's his name?

615

00:39:04,000 --> 00:39:05,000

Joe.

616

00:39:05,000 --> 00:39:08,000

And Grant was able to describe the tattoo in detail.

617

00:39:08,000 --> 00:39:13,000

For purposes of identifying someone at a crime scene, that's really important information.

618

00:39:13,000 --> 00:39:15,000

I'm totally impressed by the results.

619

00:39:15,000 --> 00:39:20,000

So, thanks to hypnosis, looks like the case might be solved after all.

620

00:39:20,000 --> 00:39:24,000

So, did you guys do any better remembering details under hypnosis?

621

00:39:24,000 --> 00:39:28,000

Well, I remember that one of the guys had a tattoo on his neck under hypnosis.

622

00:39:28,000 --> 00:39:29,000

That's really important.

623

00:39:29,000 --> 00:39:30,000

Oh, yeah.

624

00:39:30,000 --> 00:39:32,000

Tori remembered a name.

625

00:39:32,000 --> 00:39:37,000

I totally did not expect this to work. I mean, given that, are we calling this confirmed?

626

00:39:37,000 --> 00:39:39,000

We have what it takes to be confirmed.

627

00:39:39,000 --> 00:39:40,000

Confirmed?

628

00:39:40,000 --> 00:39:42,000

I'm a believer.

629

00:39:42,000 --> 00:39:43,000

That's amazing.

630

00:39:46,000 --> 00:39:52,000

Coming right up, will an even bigger boom silence the sizzle ring?

631

00:39:52,000 --> 00:39:54,000

Two, one, go.

632

00:40:07,000 --> 00:40:12,000

At the bomb range, the mythbusters are trying to put out fires with explosives.

633

00:40:13,000 --> 00:40:15,000

I'll let Adam explain why.

634

00:40:15,000 --> 00:40:17,000

We have already tried putting out fires with sound.

635

00:40:17,000 --> 00:40:19,000

We started out with our voice.

636

00:40:20,000 --> 00:40:23,000

Then we moved on to sound generating equipment.

637

00:40:24,000 --> 00:40:25,000

Now we're trying explosives.

638

00:40:25,000 --> 00:40:28,000

We have already tried black powder to put out fires.

639

00:40:29,000 --> 00:40:31,000

Now we're going with high explosives.

640

00:40:31,000 --> 00:40:36,000

The throughput here, the key point that travels through all these experiments is attempting to use waves,

641

00:40:36,000 --> 00:40:39,000

either sound waves or shock waves, to put out fire.

642

00:40:39,000 --> 00:40:43,000

And next up in this thread, it's the mythbusters favorite.

643

00:40:43,000 --> 00:40:51,000

We've used high explosives a number of times on the show, exploding safe, exploding pants.

644

00:40:52,000 --> 00:40:57,000

And then there, of course, is the granddaddy of them all, which was 22,000 foot fall.

645

00:40:58,000 --> 00:41:04,000

The thousand pounds of high explosives triggered not only the biggest blast in mythbusters history,

646

00:41:04,000 --> 00:41:10,000

but also, rather alarmingly for this test, set the surrounding hillside ablaze.

647

00:41:10,000 --> 00:41:18,000

Now, in a reversal of fate, Jamie and Adam want to know if the same ingredients can be used to put

out fires.

648

00:41:19,000 --> 00:41:22,000

That's high explosive, huh? That is a high explosive.

649

00:41:23,000 --> 00:41:26,000

Wow, it looks more like a taco.

650

00:41:27,000 --> 00:41:31,000

So why would high explosives work when low explosives fail?

651

00:41:32,000 --> 00:41:38,000

Is there a real qualitative difference between a high explosive shock wave and a low explosive shock wave?

652

00:41:38,000 --> 00:41:47,000

Oh, very definitely. A high explosive shock wave is much more intense. It's more of a wall. It has more push and more speed.

653

00:41:49,000 --> 00:41:55,000

It's that push, that immense pressure wave that should apparently be able to extinguish the flame.

654

00:41:55,000 --> 00:42:01,000

This is, can we put out a fire with high explosives? Three, two, one, go.

655

00:42:03,000 --> 00:42:04,000

There it is.

656

00:42:04,000 --> 00:42:06,000

We got fire. Taking out spark.

657

00:42:06,000 --> 00:42:07,000

Spark off.

658

00:42:07,000 --> 00:42:12,000

We're putting explosives into position. It's in. And firing.

659

00:42:14,000 --> 00:42:15,000

Wow!

660

00:42:15,000 --> 00:42:17,000

That was awesome!

661

00:42:17,000 --> 00:42:18,000

Woo!

662

00:42:24,000 --> 00:42:30,000

For Jamie's fire, it was a boom of doom. It's been completely and utterly extinguished.

663

00:42:31,000 --> 00:42:36,000

The high explosives sure did the trick. By removing the oxygen, they suffocated the fire.

664

00:42:37,000 --> 00:42:41,000

But as a firefighting technique, Jamie spotted an obvious flaw.

665

00:42:41,000 --> 00:42:45,000

It's not something you want to put out a fire in your house with or you'll remove your house.

666

00:42:46,000 --> 00:42:52,000

You don't want to put out a fire on your car just because you happen to have some firecrackers in

the trunk.

667

00:42:52,000 --> 00:42:58,000

This is a very specialized thing that works sometimes if it's set up exactly right.

668

00:43:00,000 --> 00:43:02,000

So what do you think? Does the fire big enough?

669

00:43:03,000 --> 00:43:04,000

I think so.

670

00:43:06,000 --> 00:43:09,000

Well, talk about fighting fire with fire.

671

00:43:09,000 --> 00:43:12,000

We were able to put out a fire with explosives.

672

00:43:12,000 --> 00:43:19,000

I gotta say, this one has carried us very far afield, but it's been some of the most fun experiments I think we've ever done.

673

00:43:19,000 --> 00:43:23,000

And it was pretty high up there on the don't try this at home list, wasn't it?

674

00:43:23,000 --> 00:43:24,000

Absolutely.