

1

00:00:00,000 --> 00:00:04,500

Attention viewers, do not try anything you're about to see at home.

2

00:00:04,500 --> 00:00:07,000

Wear what you call experts.

3

00:00:07,000 --> 00:00:16,500

On this episode of Mythbusters, Adam and Jamie go on a grime wave with two frightfully filthy fables.

4

00:00:16,500 --> 00:00:18,000

That is nasty.

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

First, they call in the rat pack.

6

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

I see some rat urine on a can.

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00:00:22,000 --> 00:00:26,500

For the terrible tale that rat pee on a pop can can kill.

8

00:00:26,500 --> 00:00:28,500

Oh, this one is so gross.

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00:00:28,500 --> 00:00:33,000

Then they test the myth that everyday items are dirtier than your toilet seat.

10

00:00:33,000 --> 00:00:37,500

Mary had a little lamb. Its fleece was white as snow.

11

00:00:37,500 --> 00:00:41,000

Meanwhile, Jesse Torrey and Grant cut to the chase.

12

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

Why'd you stop? We're supposed to skip it.

13

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

As they find out if a souped-up supercar...

14

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

Oh! That's a fast car.

15

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

...can bounce across the surface of a lake like a skipping stone.

16

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

We're like Delmar and Louise.

17

00:00:59,500 --> 00:01:02,000

Who are the Mythbusters?

18

00:01:02,000 --> 00:01:04,000

Adam Savage

19

00:01:04,000 --> 00:01:06,000

and Jamie Heineman.

20

00:01:06,000 --> 00:01:08,000

Relax. This one hurt a bit.

21

00:01:08,000 --> 00:01:12,000

Between them more than 30 years of special effects experience,

22

00:01:12,000 --> 00:01:14,000

joining them,

23

00:01:14,000 --> 00:01:16,000

Torrey Velaychee

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00:01:16,000 --> 00:01:19,000

and Grant Imahara.

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00:01:19,000 --> 00:01:20,000

We're good to go.

26

00:01:20,000 --> 00:01:21,000

Carrie Byron

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

It's terrifying.

28

00:01:22,000 --> 00:01:24,000

And featuring Jesse Combs.

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00:01:24,000 --> 00:01:27,000

This is going to be so rad.

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00:01:27,000 --> 00:01:29,000

They don't just tell the myth.

31

00:01:30,000 --> 00:01:32,500

They put them to the test.

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00:01:47,500 --> 00:01:49,000

What do you got there?

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00:01:49,000 --> 00:01:51,500

A story about very small things?

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00:01:51,500 --> 00:01:53,000

Yep.

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00:01:53,000 --> 00:01:55,500

We're talking about millions of tiny organisms

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00:01:55,500 --> 00:01:58,000

that you come into contact with every day.

37

00:01:58,000 --> 00:02:00,500

Some of them could have a nasty surprise waiting for you

38

00:02:00,500 --> 00:02:02,500

and be really harmful.

39

00:02:02,500 --> 00:02:04,000

I got one that fits that, Bill.

40

00:02:04,000 --> 00:02:06,000

I got a chain letter recently

41

00:02:06,000 --> 00:02:08,500

that stated a woman had died

42

00:02:08,500 --> 00:02:11,500

from a deadly pathogen she contracted

43

00:02:11,500 --> 00:02:13,500

drinking from a soda can

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00:02:13,500 --> 00:02:16,000

tainted with rat urine.

45

00:02:16,000 --> 00:02:18,000

That's exactly what I'm talking about.

46

00:02:18,000 --> 00:02:19,500

Well, let's get to it.

47

00:02:19,500 --> 00:02:20,500

Okay.

48

00:02:20,500 --> 00:02:22,500

Wherever there are rats,

49

00:02:22,500 --> 00:02:24,000

filth follows.

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00:02:24,000 --> 00:02:28,000

But are soda cans really contaminated by rat pee?

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00:02:28,000 --> 00:02:29,500

And if they are,

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00:02:29,500 --> 00:02:33,000

could drinking directly from the can be deadly?

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00:02:34,000 --> 00:02:35,500

So how do you want to test this?

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00:02:35,500 --> 00:02:38,000

Well, you know this myth is so pervasive,

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00:02:38,000 --> 00:02:39,500

we need to get it right.

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00:02:39,500 --> 00:02:42,500

And that means we need to have a nice, large sample size.

57

00:02:42,500 --> 00:02:43,500

Okay.

58

00:02:43,500 --> 00:02:47,000

And I think we should start with a positive pee control

59

00:02:47,000 --> 00:02:48,500

so that we know what rat urine looks like,

60

00:02:48,500 --> 00:02:50,000

we know how to test for it,

61

00:02:50,000 --> 00:02:52,500

we know how to know when it's there.

62

00:02:52,500 --> 00:02:56,500

And we need to just get a whole parcel of rats,

63

00:02:56,500 --> 00:02:59,500

a bunch of cans, and let nature take its course, huh?

64

00:02:59,500 --> 00:03:01,500

Is PASL the collective noun for rats?

65

00:03:01,500 --> 00:03:03,500

I don't know.

66

00:03:03,500 --> 00:03:06,500

Well, actually it's a horde, swarm,

67

00:03:06,500 --> 00:03:08,500

rabble, or pack of rats.

68

00:03:08,500 --> 00:03:10,500

But before they get started,

69

00:03:10,500 --> 00:03:12,500

but I don't understand, how is it possible

70

00:03:12,500 --> 00:03:14,500

that rat pee could kill you?

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00:03:14,500 --> 00:03:17,500

Yes, it's not rat pee itself that could kill you.

72

00:03:17,500 --> 00:03:20,000

It's the fact that rat pee could potentially carry

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00:03:20,000 --> 00:03:22,000

both leptosporosis and hand virus

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00:03:22,000 --> 00:03:25,000

that makes it potentially dangerous.

75

00:03:25,000 --> 00:03:26,000

I see.

76

00:03:26,000 --> 00:03:28,000

According to this myth,

77

00:03:28,000 --> 00:03:32,000

deadly pathogens transfer from rat through rat urine

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00:03:32,000 --> 00:03:35,000

to soda can, and from there, to people.

79

00:03:35,000 --> 00:03:38,000

So first, they're starting with a positive control.

80

00:03:38,000 --> 00:03:40,500

Now normally we certify our tasty, tasty

81

00:03:40,500 --> 00:03:43,000

MythBusters Cola as both a life extending elixir

82

00:03:43,000 --> 00:03:47,000

and rat pee free, until today.

83

00:03:47,000 --> 00:03:49,500

Today a thousand of these puppies are going to be set up

84

00:03:49,500 --> 00:03:52,500

as a rat run to be used as what we like to call

85

00:03:52,500 --> 00:03:55,000

a control for exposure to rat pee.

86

00:03:55,000 --> 00:03:58,500

Adam Janney will hone their rat pee tracking technique

87

00:03:58,500 --> 00:04:02,500

before moving on to test real world soda cans.

88

00:04:02,500 --> 00:04:04,500

So why go to all this trouble to clean the cans

89

00:04:04,500 --> 00:04:06,500

just to have rats pee on them?

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00:04:06,500 --> 00:04:09,500

Well, it's because all we want to find is rat pee,

91

00:04:09,500 --> 00:04:11,500

not random dirt or other false positives

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00:04:11,500 --> 00:04:13,500

that may be introduced into our test.

93

00:04:13,500 --> 00:04:16,500

So, we scrub every single one.

94

00:04:16,500 --> 00:04:19,000

And I gotta say, looking at a thousand cans,

95

00:04:19,000 --> 00:04:21,000

there's a lot of dirt to be cleaned up.

96

00:04:21,000 --> 00:04:23,000

Now that the cans are pristine,

97

00:04:23,000 --> 00:04:26,000

let the rodent incontinence begin.

98

00:04:26,000 --> 00:04:28,000

Oh, I see some rat urine on a can.

99

00:04:28,000 --> 00:04:29,000

Nice!

100

00:04:29,000 --> 00:04:30,000

This is awesome.

101

00:04:30,000 --> 00:04:34,000

This is one of those sounds that you'll only hear on MythBusters.

102

00:04:34,000 --> 00:04:37,000

Sound of 40 rats on a thousand cans.

103

00:04:41,000 --> 00:04:46,000

And after 90 minutes of the pitter-patter of ratty feet,

104

00:04:46,000 --> 00:04:48,500

the rat party is wrapped.

105

00:04:48,500 --> 00:04:50,500

Let's put it back in their cages.

106

00:04:50,500 --> 00:04:53,500

There's certainly rat pee on those cans.

107

00:04:53,500 --> 00:04:56,500

And the first tracking technique, black light.

108

00:04:56,500 --> 00:04:59,500

Did you know that rat pee fluoresces under black light?

109

00:04:59,500 --> 00:05:01,500

That's the next thing we're going to do.

110

00:05:01,500 --> 00:05:04,500

We're going to get some black lights and go take a look for them.

111

00:05:04,500 --> 00:05:08,500

I feel like I'm one of those police procedural drundas.

112

00:05:08,500 --> 00:05:11,500

And with plenty of glowing puddles,

113

00:05:11,500 --> 00:05:12,500

It's got to be urine.

114

00:05:12,500 --> 00:05:14,500

Lights up like a pinball machine.

115

00:05:14,500 --> 00:05:17,000

Oh, this one is so gross. Look at that.

116

00:05:19,000 --> 00:05:25,000

The boys are positive that the black light is the perfect way to pinpoint the pee.

117

00:05:25,000 --> 00:05:26,000

Well, that's gross.

118

00:05:26,000 --> 00:05:30,000

I guess it's time to collect our real-world random samples now.

119

00:05:30,000 --> 00:05:31,000

Well, we better get started.

120

00:05:31,000 --> 00:05:34,000

We've got a thousand cans to collect from all over the city.

121

00:05:34,000 --> 00:05:35,000

A thousand?

122

00:05:35,000 --> 00:05:37,000

Okay, let's do it.

123

00:05:37,000 --> 00:05:40,000

With their identification method lighting up the pee,

124

00:05:40,000 --> 00:05:41,000

the main test begins.

125

00:05:41,000 --> 00:05:45,000

As the guys collect one thousand cans from a variety of sources.

126

00:05:45,000 --> 00:05:46,000

Perfect.

127

00:05:46,000 --> 00:05:48,000

And a variety of storage conditions.

128

00:05:48,000 --> 00:05:52,000

Some upmarket, some not so much.

129

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

All set?

130

00:05:59,000 --> 00:06:01,000

Check this out, man.

131

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

First can, I see little fluorescing spotty spots.

132

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

That's a good sign.

133

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

I'm going to put that in the...

134

00:06:07,000 --> 00:06:08,000

No, it's a bad sign.

135

00:06:08,000 --> 00:06:09,000

I'm going to put it in the...

136

00:06:09,000 --> 00:06:11,000

For further research category.

137

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

A sign that gets worse with every can.

138

00:06:14,000 --> 00:06:15,000

Spots.

139

00:06:15,000 --> 00:06:17,000

Oh, yeah, spots.

140

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

The whole world is contaminated.

141

00:06:21,000 --> 00:06:22,000

Spots.

142

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

What are we going to do, dude?

143

00:06:24,000 --> 00:06:27,000

I mean, these can be all contaminated.

144

00:06:27,000 --> 00:06:28,000

Can they?

145

00:06:32,000 --> 00:06:36,000

Next, a myth that's sink or skin.

146

00:06:39,000 --> 00:06:42,000

Well, you guys may have figured out by now that, well, me and Kars,

147

00:06:42,000 --> 00:06:44,000

we kind of have this thing, and there's a myth on the fan site

148

00:06:44,000 --> 00:06:45,000

that I really want to test out.

149

00:06:45,000 --> 00:06:46,000

All right, what is it?

150

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

Are you familiar with the cannonball films?

151

00:06:48,000 --> 00:06:49,000

Yeah, from the 80s, right?

152

00:06:49,000 --> 00:06:52,000

Okay, so it's the third installment that our myth comes from.

153

00:06:52,000 --> 00:06:54,000

The beginning of the movie, there's a red-layer burgundy

154

00:06:54,000 --> 00:06:55,000

that is trying to evade the cops.

155

00:06:55,000 --> 00:06:58,000

Well, there's a lot of speeding and a lot of weaving and trickery,

156

00:06:58,000 --> 00:07:01,000

but man, the cops are not going to accept a fee.

157

00:07:01,000 --> 00:07:03,000

So what the sports car driver does is he drives off the road

158

00:07:03,000 --> 00:07:05,000

and heads straight towards the lake.

159

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

He totally floors it, skips across the water,

160

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

makes it to the other side, and gets away from the cops.

161

00:07:09,000 --> 00:07:10,000

Exactly.

162

00:07:10,000 --> 00:07:11,000

I love it.

163

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

Fast cars skipping across the water, you should come here more often.

164

00:07:17,000 --> 00:07:21,000

To flee the forest, a speedy sports car skips the lake fantastic.

165

00:07:21,000 --> 00:07:26,000

But is this filmic fantasy or stone-cold fact?

166

00:07:26,000 --> 00:07:31,000

Could a 1.2-ton car really skim upon like a skipping stone?

167

00:07:32,000 --> 00:07:33,000

So what's the plan?

168

00:07:33,000 --> 00:07:36,000

I have watched the scene over and over in slow motion.

169

00:07:36,000 --> 00:07:38,000

And what I have found that watching frame by frame

170

00:07:38,000 --> 00:07:41,000

and measuring points of reference, the car wasn't going very fast.

171

00:07:41,000 --> 00:07:44,000

Maybe 50 miles an hour, it went off a little launch

172

00:07:44,000 --> 00:07:48,000

and skipped about four times over a 100-foot body of water.

173

00:07:48,000 --> 00:07:49,000

Okay, sounds easy enough.

174

00:07:49,000 --> 00:07:52,000

We get a Lamborghini, drive it at 50 miles an hour,

175

00:07:52,000 --> 00:07:55,000

and see if it can skip across 100 feet of water.

176

00:07:55,000 --> 00:07:58,000

Who is going to let us borrow their \$250,000 car

177

00:07:58,000 --> 00:08:00,000

and drive into a lake to test this?

178

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

I mean, it's not going to happen.

179

00:08:01,000 --> 00:08:03,000

This isn't going to be easy.

180

00:08:03,000 --> 00:08:04,000

No, it's not.

181

00:08:04,000 --> 00:08:07,000

But although you can't always get what you want,

182

00:08:07,000 --> 00:08:09,000

sometimes you get what you need.

183

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

What in the heck did she get that for?

184

00:08:13,000 --> 00:08:15,000

That doesn't look like a Lamborghini.

185

00:08:15,000 --> 00:08:16,000

Yeah, far from it.

186

00:08:16,000 --> 00:08:20,000

Super car it ain't, but it's still a perfect stunt stand-in.

187

00:08:20,000 --> 00:08:25,000

On price tag and top speed, the luxury car has ours beat.

188

00:08:25,000 --> 00:08:28,000

But for this myth, what's key is that the surface area,

189

00:08:28,000 --> 00:08:32,000

weight and weight distribution are almost identical.

190

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

But because nobody is volunteering to drive into a lake,

191

00:08:36,000 --> 00:08:39,000

our resident control geek gets to work.

192

00:08:39,000 --> 00:08:40,000

I got a plan.

193

00:08:40,000 --> 00:08:41,000

I got a plan.

194

00:08:41,000 --> 00:08:44,000

With Grant's remote control under control,

195

00:08:44,000 --> 00:08:46,000

Tari's talking tracks.

196

00:08:46,000 --> 00:08:49,000

Now for this myth, as well as the car, we need two things.

197

00:08:49,000 --> 00:08:52,000

One, we need a long straight road that we can get this car up

198

00:08:52,000 --> 00:08:54,000

to some pretty high speeds.

199

00:08:54,000 --> 00:08:58,000

And two, at the end of that road, we need a 100-foot pond

200

00:08:58,000 --> 00:08:59,000

for this car to try to skip across.

201

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

Now, we've looked all over San Francisco.

202

00:09:01,000 --> 00:09:05,000

We've looked all over California, and we have come up with nothing,

203

00:09:05,000 --> 00:09:07,000

which means only one thing.

204

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

Road trip, baby.

205

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

Wouldn't it have been easier if we could fly?

206

00:09:11,000 --> 00:09:14,000

With local lakes few and far between,

207

00:09:14,000 --> 00:09:17,000

the team hits the road to a familiar location.

208

00:09:19,000 --> 00:09:22,000

The last time the team visited the test track of Freightliner,

209

00:09:22,000 --> 00:09:25,000

they put some big rig myths to the test.

210

00:09:25,000 --> 00:09:29,000

With open space and miles of track weight,

211

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

it was the perfect place to put their lives on the line.

212

00:09:35,000 --> 00:09:39,000

And this time, they've added a crucial addition to the end of the track,

213

00:09:39,000 --> 00:09:41,000

a giant, purpose-built pond.

214

00:09:41,000 --> 00:09:44,000

Ideal for a sports car to skip.

215

00:09:44,000 --> 00:09:45,000

Only not this one.

216

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

This is just for show.

217

00:09:48,000 --> 00:09:49,000

Why'd you stop?

218

00:09:49,000 --> 00:09:51,000

We're supposed to skip it.

219

00:09:51,000 --> 00:09:53,000

Yeah, but that's why we have make-and-believe Lamborghinis.

220

00:09:53,000 --> 00:09:55,000

Where did you get that car?

221

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

Well, a good friend let me buy it.

222

00:09:57,000 --> 00:09:59,000

What do you think about our pond?

223

00:09:59,000 --> 00:10:00,000

This is a gorgeous pond.

224

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

This is a little bit bigger than I thought it was going to be.

225

00:10:02,000 --> 00:10:04,000

Yeah, we made it to the same dimensions as in the movie.

226

00:10:04,000 --> 00:10:07,000

100 feet long, 27 feet wide, and 3 feet deep.

227

00:10:07,000 --> 00:10:09,000

Yep, with a perfect pond to skim,

228

00:10:09,000 --> 00:10:12,000

Tori and Jesse break out the heavy machinery.

229

00:10:12,000 --> 00:10:16,000

All right, so now what we're doing here is we are building a little ramp

230

00:10:16,000 --> 00:10:18,000

before we actually hit the water.

231

00:10:18,000 --> 00:10:20,000

Why? Because that's what they had in the movie.

232

00:10:20,000 --> 00:10:22,000

We can look at as close as we possibly can,

233

00:10:22,000 --> 00:10:26,000

and that Lamborghini had a little bit of lift before it went across the water.

234

00:10:26,000 --> 00:10:30,000

And a little lift that equates to a movie matching 8-inch mount.

235

00:10:30,000 --> 00:10:34,000

With that time lapsed into place, Jesse casts the first stone.

236

00:10:34,000 --> 00:10:38,000

Now this whole myth is about skipping a car across the water like a stone.

237

00:10:38,000 --> 00:10:40,000

I'm sure you've all tried it before.

238

00:10:40,000 --> 00:10:42,000

If you get a smooth enough stone and you fling it just right,

239

00:10:42,000 --> 00:10:45,000

it'll actually bounce across the water's surface.

240

00:10:46,000 --> 00:10:47,000

But why?

241

00:10:47,000 --> 00:10:49,000

Well, it's all about spin and speed.

242

00:10:49,000 --> 00:10:53,000

The spin on the stone stabilizes it and stops it from simply falling into the water.

243

00:10:53,000 --> 00:10:55,000

If the stone is traveling at a fast enough speed,

244

00:10:55,000 --> 00:10:59,000

then each time it hits the water's surface and pushes some of the water downwards,

245

00:10:59,000 --> 00:11:01,000

the stone is forced upwards.

246

00:11:01,000 --> 00:11:06,000

So the stone continues to skip along the surface until eventually it runs out of speed and sinks.

247

00:11:06,000 --> 00:11:12,000

So if skipping is all down to spin and speed with a car that isn't revolving, skip.

248

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

There's something that doesn't look quite right with this car.

249

00:11:15,000 --> 00:11:17,000

It doesn't look fast enough.

250

00:11:17,000 --> 00:11:22,000

That's a fast car.

251

00:11:22,000 --> 00:11:26,000

We are ready to find out if this car is going to skip.

252

00:11:26,000 --> 00:11:28,000

Is it going to work?

253

00:11:28,000 --> 00:11:29,000

Probably not.

254

00:11:29,000 --> 00:11:33,000

What I think is going to happen is it might skip once?

255

00:11:33,000 --> 00:11:34,000

Maybe probably not.

256

00:11:34,000 --> 00:11:35,000

Probably not.

257

00:11:35,000 --> 00:11:37,000

It's not going to make it to the end, either way.

258

00:11:37,000 --> 00:11:39,000

Well, all is about to be revealed.

259

00:11:39,000 --> 00:11:44,000

As Jesse heads to her vantage point, a clearly excited Grant starts the engines.

260

00:11:44,000 --> 00:11:45,000

The car is armed.

261

00:11:45,000 --> 00:11:46,000

This is it, you guys.

262

00:11:46,000 --> 00:11:48,000

And Tori gives the countdown.

263

00:11:48,000 --> 00:11:51,000

The car skipped just like in the movie.

264

00:11:51,000 --> 00:11:52,000

Here we go.

265

00:11:52,000 --> 00:11:56,000

In three, two, one, hit it.

266

00:11:56,000 --> 00:12:03,000

Next, Adam and Jamie get to the bottom of the Rat P puzzle.

267

00:12:03,000 --> 00:12:08,000

Oh, it's like a concentrated pet store.

268

00:12:08,000 --> 00:12:10,000

That's what that smells like.

269

00:12:10,000 --> 00:12:11,000

Dirty rats.

270

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

They're everywhere.

271

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

But are these crafty rodents leaving disease-ridden calling cards on soda cans?

272

00:12:18,000 --> 00:12:23,000

Well, after examining a thousand cans from all over San Francisco,

273

00:12:23,000 --> 00:12:26,000

Adam and Jamie are working.

274

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

So, we're going to have to find out what's going on.

275

00:12:29,000 --> 00:12:31,000

We're going to have to find out what's going on.

276

00:12:31,000 --> 00:12:33,000

We're going to have to find out what's going on.

277

00:12:33,000 --> 00:12:35,000

We're going to have to find out what's going on.

278

00:12:35,000 --> 00:12:37,000

We're going to have to find out what's going on.

279

00:12:37,000 --> 00:12:38,000

And this is my appetite.

280

00:12:38,000 --> 00:12:40,000

Adam and Jamie are working.

281

00:12:40,000 --> 00:12:42,000

So, where does this leave us?

282

00:12:42,000 --> 00:12:45,000

Am I lying on a mountain of Rat P infested cans?

283

00:12:45,000 --> 00:12:48,000

Are we going to need to add it as an ingredient on every soda can,

284

00:12:48,000 --> 00:12:53,000

or did we just happen to see a bunch of other run-of-the-mill things

285

00:12:53,000 --> 00:12:55,000

that happen to fluoresce under black light?

286

00:12:55,000 --> 00:12:59,000

Well, the only way we're going to know is by taking testing to another level.

287

00:12:59,000 --> 00:13:03,000

Clearly, we need to swab the top of our sample and take it to a lab

288

00:13:03,000 --> 00:13:05,000

and find out what's on top of them for sure.

289

00:13:05,000 --> 00:13:09,000

First up is the Rat P positive 1000 can control.

290

00:13:09,000 --> 00:13:11,000

I'll tell you one thing.

291

00:13:11,000 --> 00:13:14,000

I am never letting my rats play on my soda cans again.

292

00:13:14,000 --> 00:13:16,000

The things you learn on this show.

293

00:13:16,000 --> 00:13:19,000

Using a sterile swab dipped in sterile water,

294

00:13:19,000 --> 00:13:23,000

each can is swabbed and then a vacuum extracts the sample.

295

00:13:23,000 --> 00:13:27,000

I got to tell you, this may be boring and it may be painful,

296

00:13:27,000 --> 00:13:29,000

but it's also really cool.

297

00:13:29,000 --> 00:13:32,000

Yeah, this is so much fun I can hardly stand it.

298

00:13:35,000 --> 00:13:40,000

Oh, it's like a concentrated pet store.

299

00:13:40,000 --> 00:13:42,000

That's what that smells like.

300

00:13:42,000 --> 00:13:48,000

The lab should show that their positive control is brimming with rat pee,

301

00:13:48,000 --> 00:13:52,000

but will the random cans also have rodent remains?

302

00:13:52,000 --> 00:13:54,000

Or did the black light get it wrong?

303

00:13:54,000 --> 00:13:58,000

You got to try the one-handed bag opening can flip I got going on over here, Jamie.

304

00:13:58,000 --> 00:14:00,000

It's really saved me time.

305

00:14:02,000 --> 00:14:04,000

I can see that.

306

00:14:06,000 --> 00:14:10,000

That is my last can. I'm done. I'll see you later.

307

00:14:10,000 --> 00:14:11,000

Okay.

308

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

Eventually with both samples collected,

309

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

the Mythbusters head to Stanford University.

310

00:14:17,000 --> 00:14:18,000

Thank you, sir.

311

00:14:18,000 --> 00:14:19,000

You're welcome.

312

00:14:19,000 --> 00:14:22,000

Where Chris Adams and his mass spectrometer

313

00:14:22,000 --> 00:14:25,000

find out just how the two compare.

314

00:14:25,000 --> 00:14:31,000

This meticulous machine will detect exactly what each sample contains.

315

00:14:31,000 --> 00:14:33,000

Rat pee or otherwise.

316

00:14:33,000 --> 00:14:35,000

The results are in.

317

00:14:35,000 --> 00:14:36,000

We're done.

318

00:14:36,000 --> 00:14:37,000

The results are here.

319

00:14:37,000 --> 00:14:39,000

First up is the positive control.

320

00:14:39,000 --> 00:14:46,000

We identified 15 proteins specific to rat urine in the positive control samples.

321

00:14:46,000 --> 00:14:48,000

Urinary proteins. That would be rat pee.

322

00:14:48,000 --> 00:14:49,000

That's rat pee.

323

00:14:49,000 --> 00:14:50,000

Okay.

324

00:14:50,000 --> 00:14:53,000

But what about the reason we're here?

325

00:14:53,000 --> 00:14:55,000

Yeah, was there any urine on the random sample?

326

00:14:55,000 --> 00:14:57,000

Absolutely none detected.

327

00:14:57,000 --> 00:14:59,000

The real world cans are clean.

328

00:14:59,000 --> 00:15:00,000

They are.

329

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

That is a load off my mind.

330

00:15:03,000 --> 00:15:06,000

Let's go and get some sodas.

331

00:15:06,000 --> 00:15:08,000

Turns out the black light had it wrong.

332

00:15:08,000 --> 00:15:13,000

That glowing organic matter, not rat pee, but harmless dust.

333

00:15:13,000 --> 00:15:17,000

The mass spectrometer, however, is completely precise.

334

00:15:17,000 --> 00:15:21,000

This machine is capable of detecting peptides on a femtomol level.

335

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

Something like one in a bazillion.

336

00:15:23,000 --> 00:15:26,000

Or in other words, it's extremely sensitive.

337

00:15:26,000 --> 00:15:30,000

So if it says rat urine's not there, it ain't there.

338

00:15:30,000 --> 00:15:33,000

But given that millions of sodas are drunk every day,

339

00:15:33,000 --> 00:15:36,000

Jamie's not prepared to call this without a second opinion.

340

00:15:36,000 --> 00:15:42,000

He wants to find out if you could ever contract a deadly pathogen via a soda can.

341

00:15:42,000 --> 00:15:45,000

So how likely is it you can catch one of these bugs in this wire?

342

00:15:45,000 --> 00:15:47,000

Highly unlikely.

343

00:15:47,000 --> 00:15:54,000

In the case of let's brosis, number one, the usual route of transmission is through broken skin that comes into contact with contaminated bodies of water.

344

00:15:54,000 --> 00:15:59,000

Number two, the organism when ingested orally is rapidly killed in the stomach.

345

00:15:59,000 --> 00:16:07,000

So finally, let's spire is highly fragile and it is rapidly killed when it's exposed to a dried environment.

346

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

So even if infected urine did make it onto a soda can, the pathogen would be long dead before anyone took a swig.

347

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

Hey, so what do you say?

348

00:16:18,000 --> 00:16:26,000

Well, according to the good doctor, catching hantavirus or leptospirosis from rat pee on soda cans is all but impossible.

349

00:16:26,000 --> 00:16:34,000

Well, that's great. You couple that with our results where we found not a smidgen of rat protein whatsoever on a thousand randomly collected cans.

350

00:16:34,000 --> 00:16:38,000

And I think we can call this one busted.

351

00:16:38,000 --> 00:16:40,000

Yeah, busted.

352

00:16:41,000 --> 00:16:55,000

After the break, will a supercar skip a lake in four bounds and its cops and swobbers as Adam and Jamie turned dirt detectives.

353

00:16:55,000 --> 00:16:58,000

Mary had a little lamb as fleece was right in the snow.

354

00:16:59,000 --> 00:17:12,000

Usually when a car drives into water, it does anything but skip.

355

00:17:12,000 --> 00:17:18,000

But according to this myth, a supercar can leap a lake in four bounds.

356

00:17:18,000 --> 00:17:24,000

And at Freightliner HQ, our intrepid trio is about to put that to the test.

357

00:17:24,000 --> 00:17:26,000

Here we go.

358

00:17:26,000 --> 00:17:33,000

We're about ready to take this and do exactly like they did in the movie, going 50 miles an hour launching off the ramp and skipping it across water.

359

00:17:33,000 --> 00:17:38,000

Here we go. In three, two, one, hit it.

360

00:17:38,000 --> 00:17:45,000

Grant's actuators put the pedal to the metal and the mustard menace takes off.

361

00:17:45,000 --> 00:17:50,000

As the car gains speed, Grant expertly steers it straight down a guideline.

362

00:17:50,000 --> 00:17:51,000

45.

363

00:17:51,000 --> 00:17:52,000

Until...

364

00:17:52,000 --> 00:17:54,000

50 miles an hour.

365

00:17:57,000 --> 00:18:05,000

With a hop, a flip and a thump, the car crosses the pond but not quite as home.

366

00:18:05,000 --> 00:18:08,000

That car didn't skip, it flipped.

367

00:18:12,000 --> 00:18:13,000

Oh my God.

368

00:18:13,000 --> 00:18:14,000

I don't think...

369

00:18:14,000 --> 00:18:16,000

That was insane.

370

00:18:16,000 --> 00:18:20,000

Look at what it did though. It actually made it to the other side of the pond.

371

00:18:20,000 --> 00:18:22,000

That's not how it's supposed to do it.

372

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

Wow.

373

00:18:23,000 --> 00:18:24,000

Oh wow.

374

00:18:24,000 --> 00:18:27,000

Oh my God, we destroyed this car.

375

00:18:28,000 --> 00:18:31,000

Now we matched pretty much every aspect of the movie.

376

00:18:31,000 --> 00:18:37,000

The ramp, the speed, the specifications of the car and we got a completely different result.

377

00:18:37,000 --> 00:18:43,000

What this means is that the movie stunt was fake, that it wasn't a real skip across a leg.

378

00:18:43,000 --> 00:18:51,000

Now the most likely scenario is that there was a submerged platform, just a few inches below the surface of the water, that the car actually bounced across.

379

00:18:51,000 --> 00:18:56,000

In addition, in the movie, the car lands on its rear wheels first.

380

00:18:56,000 --> 00:19:01,000

The only way it could have gotten that trajectory is if it were specifically weighted for the stunt.

381

00:19:01,000 --> 00:19:09,000

Our car, on the other hand, was weighted to match a stock off the lot 1980's era Lamborghini and it plummeted the nose first.

382

00:19:09,000 --> 00:19:14,000

All this to say, however you look at it, this myth is busted.

383

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

Busted indeed, but surely they're not going to leave it there.

384

00:19:22,000 --> 00:19:26,000

Next, Adam and Jamie go on a grime wave.

385

00:19:27,000 --> 00:19:31,000

Relative filth, the myth and the plan, take one.

386

00:19:35,000 --> 00:19:38,000

Dude, this one's yours, you're leading this one in.

387

00:19:38,000 --> 00:19:39,000

Can you remind me?

388

00:19:39,000 --> 00:19:41,000

Yeah, most people think their toilet seats are pretty dirty.

389

00:19:41,000 --> 00:19:42,000

Yeah.

390

00:19:42,000 --> 00:19:50,000

This myth states that that's not necessarily the case, that there are many other locations and things within your average person's immediate vicinity that are far filthier

391

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

than their toilet seat.

392

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

That's what we're going to test.

393

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

We're going to pick a bunch of different places, go out and take samples, grow cultures, compare the results, see what happens, that kind of thing.

394

00:20:00,000 --> 00:20:01,000

Exactly. Shall we start?

395

00:20:01,000 --> 00:20:02,000

Yeah.

396

00:20:02,000 --> 00:20:03,000

Okay.

397

00:20:03,000 --> 00:20:07,000

It seems every week there's a new claim about hidden household hazards.

398

00:20:07,000 --> 00:20:15,000

But are the microscopic critters on everyday items more menacing than the beastly bugs found on the old porcelain throne?

399

00:20:16,000 --> 00:20:18,000

Well, the mythbusters are on the swab.

400

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

But where to start?

401

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

Now you may be wondering what are the criteria under which we chose the samples that we were just about to test.

402

00:20:25,000 --> 00:20:27,000

And it's actually pretty straightforward.

403

00:20:27,000 --> 00:20:32,000

We looked for objects that you touch every single day that others might touch too.

404

00:20:32,000 --> 00:20:33,000

Great.

405

00:20:33,000 --> 00:20:38,000

But since germs aren't visible to the naked eye, they'll need a way to track them down.

406

00:20:38,000 --> 00:20:41,000

Allow me to demonstrate our sample collection methodology.

407

00:20:41,000 --> 00:20:46,000

It begins with a dry, cotton-tipped applicator, with which I swab a one inch square of the object in question.

408

00:20:46,000 --> 00:20:49,000

In this case, it's a scale model of the lunar lander.

409

00:20:49,000 --> 00:20:53,000

Then I dip that cotton swab in tryptic soy broth for exactly 10 seconds.

410

00:20:53,000 --> 00:20:56,000

This is basically like a growth medium, a sterile growth medium.

411

00:20:56,000 --> 00:20:58,000

It's a liquid petri dish, if you will.

412

00:20:58,000 --> 00:21:04,000

At the end of 10 seconds, which is now, I remove the cotton swab, cap and label my soy broth.

413

00:21:04,000 --> 00:21:07,000

Later, I'll use it to try and grow some bacteria.

414

00:21:07,000 --> 00:21:08,000

Yuck!

415

00:21:08,000 --> 00:21:10,000

If you'll excuse me, I've got some samples to collect.

416

00:21:11,000 --> 00:21:15,000

First up, our yardstick, the toilet seat.

417

00:21:16,000 --> 00:21:22,000

Mary had a little lamb.

418

00:21:22,000 --> 00:21:25,000

Its fleece was white as snow.

419

00:21:25,000 --> 00:21:28,000

Three, nine, 10 seconds.

420

00:21:28,000 --> 00:21:30,000

Money.

421

00:21:30,000 --> 00:21:33,000

Mary had a little lamb as fleece as white as snow.

422

00:21:33,000 --> 00:21:34,000

They're not regressing.

423

00:21:34,000 --> 00:21:38,000

The ride ensures that each sample is swabbed for the same count.

424

00:21:38,000 --> 00:21:40,000

Shopping cart handle.

425

00:21:40,000 --> 00:21:43,000

Mary had kitchen sponge.

426

00:21:43,000 --> 00:21:46,000

Everything they swabbed has one thing in common.

427

00:21:46,000 --> 00:21:47,000

A little lamb.

428

00:21:47,000 --> 00:21:49,000

Hotel room remote.

429

00:21:49,000 --> 00:21:54,000

In a plethora of reports, they've all been deemed dirtier than a toilet seat.

430

00:21:54,000 --> 00:21:56,000

Keyboard.

431

00:21:56,000 --> 00:21:58,000

Light switch.

432

00:21:58,000 --> 00:22:01,000

But can that really be true?

433

00:22:01,000 --> 00:22:03,000

Cell phone.

434

00:22:03,000 --> 00:22:05,000

Hold on a second.

435

00:22:05,000 --> 00:22:10,000

With the everyday eight collected, the guys call in Dr. Russell Vance,

436

00:22:10,000 --> 00:22:13,000

an expert in microbiology.

437

00:22:13,000 --> 00:22:15,000

You guys ready?

438

00:22:15,000 --> 00:22:16,000

Ready.

439

00:22:16,000 --> 00:22:17,000

Then let's begin.

440

00:22:17,000 --> 00:22:19,000

Okay.

441

00:22:19,000 --> 00:22:21,000

Number one, toilet seat.

442

00:22:21,000 --> 00:22:25,000

A precisely pipetted amount of each broth is carefully transferred

443

00:22:25,000 --> 00:22:27,000

onto an agar petri dish.

444

00:22:29,000 --> 00:22:32,000

End to the incubator they go.

445

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

They'll sit there overnight at 98.6 degrees.

446

00:22:35,000 --> 00:22:39,000

And tomorrow, after a steamy night of bacteria breeding,

447

00:22:39,000 --> 00:22:42,000

there should be plenty of germy growths.

448

00:22:42,000 --> 00:22:44,000

Let's go.

449

00:22:44,000 --> 00:22:46,000

Next up.

450

00:22:46,000 --> 00:22:48,000

Dude, that is nasty.

451

00:22:48,000 --> 00:22:51,000

The results of the Mythbusters Grime Wave.

452

00:22:54,000 --> 00:22:57,000

Don't try anything you see on the show at home.

453

00:22:57,000 --> 00:22:59,000

Wear what you call experts.

454

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

The Mythbusters are dishing the dirt.

455

00:23:03,000 --> 00:23:06,000

And last but not least, cell phone.

456

00:23:06,000 --> 00:23:11,000

Testing the myth that everyday items are more germ-ridden than a toilet seat.

457

00:23:11,000 --> 00:23:15,000

And after a night of micro multiplication.

458

00:23:15,000 --> 00:23:17,000

The colonies that are growing in there could be anything.

459

00:23:17,000 --> 00:23:19,000

They could be yeast, mold, bacteria, whatever.

460

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

So what we're going to do is count and record the different types of colonies

461

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

and also the other types of bacteria that are growing in there.

462

00:23:26,000 --> 00:23:28,000

And we'll pick the dirtiest ones.

463

00:23:28,000 --> 00:23:30,000

I see two.

464

00:23:30,000 --> 00:23:32,000

That's it? Just two from the toilet seat?

465

00:23:32,000 --> 00:23:34,000

Just two.

466

00:23:34,000 --> 00:23:36,000

This is already getting interesting.

467

00:23:36,000 --> 00:23:38,000

The toilet seat is remarkably clean.

468

00:23:38,000 --> 00:23:40,000

But that's not so true of the others.

469

00:23:40,000 --> 00:23:42,000

Particularly the kitchen sponge.

470

00:23:42,000 --> 00:23:47,000

Oh, dude, that is nasty.

471

00:23:47,000 --> 00:23:50,000

Oh, dude, that is nasty.

472

00:23:50,000 --> 00:23:52,000

I'm going to get a little bit of that.

473

00:23:52,000 --> 00:23:54,000

Dude, that is nasty.

474

00:23:54,000 --> 00:23:58,000

Have fun counting that.

475

00:23:58,000 --> 00:24:00,000

I'll see you next summer.

476

00:24:00,000 --> 00:24:02,000

Yeah.

477

00:24:02,000 --> 00:24:04,000

Well, we don't have that long.

478

00:24:04,000 --> 00:24:06,000

So Dr. Vance has a solution.

479

00:24:06,000 --> 00:24:08,000

I think it's almost uncountable.

480

00:24:08,000 --> 00:24:11,000

So then how do you write that down?

481

00:24:11,000 --> 00:24:14,000

Well, I would say that's just off the charts.

482

00:24:14,000 --> 00:24:20,000

The remaining six samples from cell phone to light switch are counted and locked.

483

00:24:20,000 --> 00:24:25,000

Well, that's it. All present and counted for.

484

00:24:25,000 --> 00:24:28,000

Which means it's time to sum up the results.

485

00:24:28,000 --> 00:24:31,000

So our everyday eight swaps have become eight Petri dishes,

486

00:24:31,000 --> 00:24:33,000

which in turn have yielded eight results.

487

00:24:33,000 --> 00:24:38,000

And those results are, in order from least filthy to most filthy,

488

00:24:38,000 --> 00:24:41,000

can you editors help me out with a graphic here?

489

00:24:41,000 --> 00:24:42,000

That's better.

490

00:24:42,000 --> 00:24:46,000

So you can see at number eight, with only two colonies, is the toilet seat.

491

00:24:46,000 --> 00:24:49,000

Then the colony counting increases only slightly until you reach it.

492

00:24:49,000 --> 00:24:52,000

Number four, the keyboard with 65.

493

00:24:52,000 --> 00:24:57,000

From there on things start to get really dirty as the colonies go through the roof

494

00:24:57,000 --> 00:25:01,000

with the light switch and the money before finally topping the chart,

495

00:25:01,000 --> 00:25:04,000

we have the kitchen sponge.

496

00:25:04,000 --> 00:25:07,000

A sample so numerous we couldn't even count it.

497

00:25:07,000 --> 00:25:11,000

So does this mean that the kitchen sponge is the dirtiest thing in your house?

498

00:25:11,000 --> 00:25:15,000

Well, it actually all depends on what your definition of dirty is.

499

00:25:15,000 --> 00:25:19,000

Sure, there's a ton of colonies, but suppose those colonies are all totally harmless,

500

00:25:19,000 --> 00:25:23,000

whereas the two colonies we found on the toilet seat are really nasty.

501

00:25:23,000 --> 00:25:27,000

What we need to know now is what we're looking at on those Petri dishes.

502

00:25:27,000 --> 00:25:30,000

Luckily, we found a microbiologist to help us out.

503

00:25:30,000 --> 00:25:32,000

Yep, it's over to Dr. Vance.

504

00:25:32,000 --> 00:25:34,000

There you go. Fabulous.

505

00:25:34,000 --> 00:25:39,000

To find out exactly what kinds of gasly germs lurk within our everyday eight.

506

00:25:45,000 --> 00:25:49,000

Can a car skip a pond like a skimming stone?

507

00:25:49,000 --> 00:25:51,000

No, apparently not.

508

00:25:51,000 --> 00:25:56,000

But of course, the Mythbusters never leave any stone unturned.

509

00:25:56,000 --> 00:25:59,000

All right, so the scene as portrayed in the movie is busted.

510

00:25:59,000 --> 00:26:02,000

A car going that fast hitting that ramp, there's no way it would skip to freedom.

511

00:26:02,000 --> 00:26:03,000

But that's got me thinking.

512

00:26:03,000 --> 00:26:08,000

I wonder what it would take for a sports car like that to make it all the way across the water surface by skipping.

513

00:26:08,000 --> 00:26:11,000

Well, that's why we have our patented small scale here at Mythbusters.

514

00:26:11,000 --> 00:26:14,000

We'll take a 112 scale car, a 112 scale pond.

515

00:26:14,000 --> 00:26:17,000

We'll fiddle around with the parameters until it works, and then we'll take a full scale.

516

00:26:17,000 --> 00:26:20,000

And those parameters include presence or absence of the ramp.

517

00:26:20,000 --> 00:26:22,000

What are we waiting for? Let's go!

518

00:26:22,000 --> 00:26:24,000

Speed. Don't forget the speed.

519

00:26:24,000 --> 00:26:30,000

And to find out exactly what it will take to skip a car, first they'll need a scale vehicle.

520

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

So, what I have here is 112 scale Lamborghini.

521

00:26:33,000 --> 00:26:37,000

It's an exact replica in every detail except for one, the weight.

522

00:26:37,000 --> 00:26:40,000

They did not scale the weight correctly.

523

00:26:41,000 --> 00:26:46,000

Alright, so right now this weighs four pounds. I need to get it to two pounds.

524

00:26:46,000 --> 00:26:49,000

This is a pretty nice car. It kind of pains me to do this.

525

00:26:51,000 --> 00:26:53,000

Look at the detail on this thing.

526

00:26:53,000 --> 00:27:00,000

It's a little auto shop of horrors as Tori strips his teeny turbo down to two pounds.

527

00:27:05,000 --> 00:27:08,000

You're probably thinking to yourself, it's not aerodynamic anymore.

528

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

Well, this is how I'm going to take care of that problem.

529

00:27:11,000 --> 00:27:14,000

I'm going to use some tape to cover up all the holes.

530

00:27:14,000 --> 00:27:19,000

That way it'll remain aerodynamic and light.

531

00:27:19,000 --> 00:27:24,000

So with a streamlined supercar, how's the small scale going to go down?

532

00:27:24,000 --> 00:27:29,000

So I have this car jacked up. All I need to do is hit the gas and then stick this car underneath the wheel,

533

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

which will fire it out just like a baseball pitching machine.

534

00:27:32,000 --> 00:27:35,000

It'll go down the track, into the truck, and skip across the water.

535

00:27:35,000 --> 00:27:37,000

At least that's the plan. I'm really testing this yet.

536

00:27:39,000 --> 00:27:45,000

As a final touch, Tori adds a bike speedometer to track the speed of the car when it's pushed into the wheel.

537

00:27:45,000 --> 00:27:49,000

First things first, we're going to set it up just like in the movie with a slight ramp

538

00:27:49,000 --> 00:27:52,000

and a scale car going at a scale 50 miles an hour.

539

00:27:52,000 --> 00:27:55,000

Here we go in three, two, one.

540

00:27:58,000 --> 00:28:00,000

Wow, that was exciting.

541

00:28:01,000 --> 00:28:06,000

Maybe not, but off the rabbit, 50 miles per hour, the car noses into the water.

542

00:28:06,000 --> 00:28:08,000

Just like the full scale.

543

00:28:10,000 --> 00:28:15,000

Alright, so my theory is that we need to ditch the ramp and have the car come into the water at a

lower angle.

544

00:28:15,000 --> 00:28:18,000

So for this next test, we're going to do it at myth speed.

545

00:28:18,000 --> 00:28:21,000

50 miles an hour or scale speed of 14 miles an hour.

546

00:28:21,000 --> 00:28:24,000

And we won't have the ramp, so we'll see if it works any better.

547

00:28:24,000 --> 00:28:26,000

Three, two, one.

548

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

That was cool.

549

00:28:28,000 --> 00:28:33,000

Indeed it was. That was a small scale car skip.

550

00:28:33,000 --> 00:28:36,000

Now without the ramp going at 50 miles an hour, the car skipped.

551

00:28:36,000 --> 00:28:38,000

I mean, eventually it sank, but it did skip.

552

00:28:38,000 --> 00:28:41,000

So it's obvious the ramp is a hindrance.

553

00:28:41,000 --> 00:28:44,000

The shallower the angle of attack could better for this.

554

00:28:44,000 --> 00:28:49,000

And I think if we get the car going fast enough, we're going to get that little Lamborghini to skip the whole way.

555

00:28:49,000 --> 00:28:51,000

Well, for kicks and giggles, should we try and go faster?

556

00:28:51,000 --> 00:28:53,000

Like 100 miles an hour?

557

00:28:53,000 --> 00:28:54,000

Yeah.

558

00:28:56,000 --> 00:28:57,000

Hit it.

559

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

20.

560

00:29:02,000 --> 00:29:03,000

28.

561

00:29:05,000 --> 00:29:06,000

Holy crap.

562

00:29:06,000 --> 00:29:07,000

Tori's right.

563

00:29:07,000 --> 00:29:14,000

At 100 miles per hour, the model car skips and would skip again, except it runs out of trough.

564

00:29:16,000 --> 00:29:17,000

Check out this high speed.

565

00:29:17,000 --> 00:29:23,000

At 28 miles an hour, which is 100 miles an hour for a real car, the car is skipping across the water,

566

00:29:23,000 --> 00:29:27,000

which means speed is going to be a huge factor when we go to do this full scale.

567

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

But this is just small scale.

568

00:29:28,000 --> 00:29:30,000

I mean, this is a toy we're using right now.

569

00:29:30,000 --> 00:29:35,000

When we go to full scale using a car weighing 2600 pounds, who knows what's going to happen?

570

00:29:36,000 --> 00:29:37,000

Coming up.

571

00:29:37,000 --> 00:29:40,000

Everybody knows that cars with flames are more awesome.

572

00:29:40,000 --> 00:29:44,000

Our Intrepid Trio soup up for a super car skid.

573

00:29:52,000 --> 00:29:53,000

Dirt.

574

00:29:53,000 --> 00:29:54,000

It's everywhere.

575

00:29:54,000 --> 00:29:57,000

You can't run and you can't hide.

576

00:29:57,000 --> 00:30:02,000

But is there more frightening filth lurking on everyday items than on your toy seat?

577

00:30:02,000 --> 00:30:06,000

Adam and Jamie are finding out and the results are in.

578

00:30:06,000 --> 00:30:10,000

For those of you playing at home, it is finally time to count down the everyday eight.

579

00:30:10,000 --> 00:30:13,000

Now, this is the table based solely on colony count.

580

00:30:13,000 --> 00:30:17,000

And as you can see, kitchen sponge off the charts is the filthiest thing we found.

581

00:30:17,000 --> 00:30:20,000

Toilet seat, the cleanest.

582

00:30:20,000 --> 00:30:24,000

But check out what happens to this list when we count not only for the number of bacterial colonies,

583

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

but also for how nasty they might be.

584

00:30:27,000 --> 00:30:31,000

Toilet seat moves up a couple of notches specifically because while it only had two colonies,

585

00:30:31,000 --> 00:30:34,000

those colonies were actually pretty nasty.

586

00:30:34,000 --> 00:30:38,000

The other two big movers, hotel remote control, moved down because it had some colonies,

587

00:30:38,000 --> 00:30:43,000

but they weren't actually bacteria and the cell phone moved up because what was on it was pretty nasty.

588

00:30:43,000 --> 00:30:49,000

But staying strong at number one, kitchen sponge, which had a synod, this stuff,

589

00:30:49,000 --> 00:30:52,000

which is apparently really bad if you have a weakened immune system.

590

00:30:52,000 --> 00:30:55,000

James Franklin Heidemann, what do you think?

591

00:30:55,000 --> 00:30:58,000

Nice work, but I don't think we can call it yet.

592

00:30:58,000 --> 00:31:02,000

I mean, it's only a single solitary swap. We need a larger sample size.

593

00:31:02,000 --> 00:31:07,000

All right. Well, what say we choose the top five? Toilet seat as a control plus the four top contenders

594

00:31:07,000 --> 00:31:11,000

and do a really nice large sample size with those. Our filthy five.

595

00:31:11,000 --> 00:31:12,000

Works for me.

596

00:31:12,000 --> 00:31:16,000

So to expand their sample size, they're off to UC Berkeley,

597

00:31:16,000 --> 00:31:21,000

where a class of microbiologists are about to start myth busting 101.

598

00:31:21,000 --> 00:31:22,000

Hello.

599

00:31:22,000 --> 00:31:23,000

Hello.

600

00:31:23,000 --> 00:31:28,000

We need your help. We've selected several surfaces that we're calling the filthy five.

601

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

Now, these are surfaces that people come into contact with on a daily basis.

602

00:31:32,000 --> 00:31:37,000

And the question we need to answer is how dirty are they? That's where you come in.

603

00:31:37,000 --> 00:31:43,000

Now, in order to get a nice big fat sample size, we need 50 of you to collect us samples from the following.

604

00:31:43,000 --> 00:31:50,000

Toilet seat, a light switch, a kitchen sponge, money, and a computer keyboard.

605

00:31:50,000 --> 00:31:51,000

Can you guys help us?

606

00:31:51,000 --> 00:31:52,000

Yeah.

607

00:31:53,000 --> 00:31:54,000

Awesome.

608

00:31:54,000 --> 00:32:02,000

And with a hunger for the filthy five facts, our mob of microbiologists quickly get the swap done.

609

00:32:02,000 --> 00:32:05,000

Mary had a little lamb and its fleece was white as snow.

610

00:32:06,000 --> 00:32:15,000

Then once again, the samples are transferred to the Petriagar, incubated, counted, and finally DNA tested.

611

00:32:21,000 --> 00:32:26,000

Want more? Log on to [Discovery.com](http://Discovery.com) slash MythBusters. Go.

612

00:32:30,000 --> 00:32:36,000

So far in the Cannonball Run Caper, we've seen a spectacular flip, but there's been no scale.

613

00:32:36,000 --> 00:32:41,000

But after small scale success, this myth is far from sunk.

614

00:32:42,000 --> 00:32:45,000

In the small scale test, we did learn a couple of important things.

615

00:32:45,000 --> 00:32:48,000

Yeah. First thing is that the ramp has got to go.

616

00:32:48,000 --> 00:32:53,000

We need to glide onto the water surface as seamlessly as possible, so the ramp is out.

617

00:32:53,000 --> 00:33:00,000

And also speed is a very important factor here. The faster the car is going, the better chances it has of getting across the pond.

618

00:33:00,000 --> 00:33:03,000

Now, how fast are we talking? We're talking rocket fast?

619

00:33:03,000 --> 00:33:06,000

No, it's actually surprising how little speed we need.

620

00:33:06,000 --> 00:33:12,000

All we would have to do is get another sports car, take it to the max, and it should make it across the water.

621

00:33:12,000 --> 00:33:16,000

But just in case, why don't I add some nitrous just for the extra little kick?

622

00:33:16,000 --> 00:33:17,000

Perfect.

623

00:33:17,000 --> 00:33:21,000

Wait, yes. I think I see some radio controlling in my future.

624

00:33:21,000 --> 00:33:23,000

It's like you're a mind reader.

625

00:33:23,000 --> 00:33:30,000

Yep, grants the controlling time, and luckily the team has found just the thing for test two.

626

00:33:31,000 --> 00:33:34,000

So we pretty much know what went wrong with the first car.

627

00:33:34,000 --> 00:33:40,000

Believe it or not, we got a second car of the same vintage, and this one is as good as gold.

628

00:33:40,000 --> 00:33:42,000

In fact, it is gold.

629

00:33:42,000 --> 00:33:46,000

But before we can take it back to Madras for a second try, I've got to do a little radio control magic.

630

00:33:48,000 --> 00:33:53,000

Now after it's tripped across the water, I managed to salvage the control system.

631

00:33:54,000 --> 00:33:55,000

And here it is.

632

00:33:55,000 --> 00:33:59,000

Now all I have to do is install this in the second car and we'll be ready to go.

633

00:33:59,000 --> 00:34:03,000

Since I've already done this once, it should be pretty easy.

634

00:34:03,000 --> 00:34:08,000

Once again, it's a simple setup of servos, cylinders, and wiring.

635

00:34:08,000 --> 00:34:14,000

Which one is it? The brown wire? The other brown wire? Or the other other brown wire?

636

00:34:14,000 --> 00:34:20,000

And while Grantson's installing his system, Jesse is giving the horsepower a boost.

637

00:34:20,000 --> 00:34:23,000

Okay, so what we have here is a normal engine.

638

00:34:23,000 --> 00:34:27,000

Air comes in, mixes with fuel, and then is dispersed down into the cylinders.

639

00:34:27,000 --> 00:34:30,000

Now we need this little engine to go as fast as we can possibly make it go.

640

00:34:30,000 --> 00:34:33,000

So we're going to be adding nitrous.

641

00:34:33,000 --> 00:34:39,000

Now what nitrous does is it's added into the mixture, helping cool it down, giving it a more dense charge.

642

00:34:39,000 --> 00:34:44,000

It adds more oxygen. All of this, making the rate of compression happen a whole lot faster.

643

00:34:44,000 --> 00:34:48,000

Which in turn, takes this little car go as fast as we wanted to go.

644

00:34:48,000 --> 00:34:52,000

You know what would make this car more awesome? Flames.

645

00:34:52,000 --> 00:34:56,000

Because everybody knows that cars with flames are more awesome.

646

00:35:00,000 --> 00:35:02,000

See? I told you.

647

00:35:02,000 --> 00:35:08,000

While flames undoubtedly add style, Jesse's knock system will add much needed speed.

648

00:35:08,000 --> 00:35:13,000

Alright, now being the fact that this is an older car, it's not going to want to get up to the speeds that we really want it to.

649

00:35:13,000 --> 00:35:17,000

So adding this nitrous is definitely going to help us get across that water.

650

00:35:17,000 --> 00:35:22,000

Especially by looking at all of our past tests, we need as much speed as we can get.

651

00:35:22,000 --> 00:35:25,000

So this is just going to be one of those added benefits.

652

00:35:25,000 --> 00:35:29,000

So basically all you got to do is hook up the nitrous, tap into the fuel lines, wire it, and it's ready to go.

653

00:35:29,000 --> 00:35:31,000

It's very, very simple.

654

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

Okay, so the car is looking great.

655

00:35:33,000 --> 00:35:38,000

The radio system's in. Jesse's added the sheet metal on the bottom to reduce the drag and the knock system to increase the speed.

656

00:35:38,000 --> 00:35:41,000

And Tori has finished the nose cone.

657

00:35:41,000 --> 00:35:46,000

Now all we have to do is go back to Oregon and see once and for all if we can get a car to skim.

658

00:35:46,000 --> 00:35:48,000

Who could possibly go wrong?

659

00:35:48,000 --> 00:35:53,000

Next, it's sync or skim for the car to skim finale.

660

00:35:53,000 --> 00:35:57,000

My heart rate just went up. We started that engine. I'm ready to do this.

661

00:36:04,000 --> 00:36:13,000

Skipping. Kids can do it. Insects can do it. Even a well-aimed stone can do it.

662

00:36:13,000 --> 00:36:17,000

But can a car weighing over a ton do it?

663

00:36:17,000 --> 00:36:22,000

Well, the mythbusters are back at Freightliner HQ to find out.

664

00:36:22,000 --> 00:36:25,000

This ain't built for comfort. That's for sure.

665

00:36:25,000 --> 00:36:29,000

But man, it sure looks good.

666

00:36:29,000 --> 00:36:33,000

They've souped up their supercar to give it the best chance of a skip.

667

00:36:33,000 --> 00:36:37,000

But there's still one more modification to make.

668

00:36:37,000 --> 00:36:43,000

The first thing I have to do is get rid of this ramp. I'm going to get my big digger and knock this thing out of here.

669

00:36:43,000 --> 00:36:49,000

Counter-intuitively, ramping up this test means getting rid of the ramp.

670

00:36:49,000 --> 00:36:53,000

Who said TV's not glamorous?

671

00:36:53,000 --> 00:36:57,000

This little wire right here, this is the Go Baby Go wire.

672

00:36:58,000 --> 00:37:05,000

Now, my only concern is that this system gives out over 100 horsepower boost to the engine.

673

00:37:05,000 --> 00:37:09,000

That's basically doubling this little guy's horsepower.

674

00:37:09,000 --> 00:37:15,000

So, my concerns lie in the fact of possibly blowing up before it actually hits the water.

675

00:37:15,000 --> 00:37:19,000

But I have faith that it's actually going to make it all the way. Most of it.

676

00:37:19,000 --> 00:37:23,000

Thanks to the nitrous, it'll be traveling at twice the speed of the last test.

677

00:37:23,000 --> 00:37:28,000

And as far as traveling fast enough, each time it hits the surface and water downward,

678

00:37:28,000 --> 00:37:33,000

the opposing force of the water pushing up on the car should propel it forward.

679

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

At least, that's the theory.

680

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

Nitrous bottle is now open, system engaged.

681

00:37:42,000 --> 00:37:45,000

Nothing's going to happen until you push your Go button.

682

00:37:45,000 --> 00:37:46,000

Alright.

683

00:37:46,000 --> 00:37:47,000

No turning back now.

684

00:37:47,000 --> 00:37:52,000

Grant nervously makes his last minute checks, and then it's Go time.

685

00:37:52,000 --> 00:37:55,000

Alright, time to turn on the car.

686

00:38:00,000 --> 00:38:03,000

The vehicle is in drive.

687

00:38:03,000 --> 00:38:04,000

Yay!

688

00:38:04,000 --> 00:38:06,000

Okay.

689

00:38:06,000 --> 00:38:09,000

Dude, has it hit you yet?

690

00:38:09,000 --> 00:38:11,000

We are about to skip a car across the pond.

691

00:38:11,000 --> 00:38:13,000

This is crazy, man.

692

00:38:13,000 --> 00:38:15,000

This is totally, totally crazy.

693

00:38:15,000 --> 00:38:17,000

We're like Dumb on Louise.

694

00:38:17,000 --> 00:38:18,000

We are?

695

00:38:18,000 --> 00:38:20,000

I just say dumb things when I'm excited.

696

00:38:20,000 --> 00:38:21,000

Okay.

697

00:38:23,000 --> 00:38:27,000

In three, two, one, hit it.

698

00:38:27,000 --> 00:38:29,000

Okay, brakes off.

699

00:38:31,000 --> 00:38:32,000

And here we go.

700

00:38:32,000 --> 00:38:34,000

It's make or break time.

701

00:38:34,000 --> 00:38:39,000

Grant builds up the speed, then presses the Go baby Go button.

702

00:38:39,000 --> 00:38:40,000

Here goes the nitrous.

703

00:38:40,000 --> 00:38:44,000

The car surges forward, and then when it reaches the edge of the lake,

704

00:38:44,000 --> 00:38:46,000

physics take over.

705

00:38:51,000 --> 00:38:52,000

No!

706

00:38:52,000 --> 00:38:55,000

Please skip the car across the lake.

707

00:38:55,000 --> 00:39:01,000

The Mythbusters understandably can't contain their excitement.

708

00:39:01,000 --> 00:39:05,000

That was a full scale car skip.

709

00:39:05,000 --> 00:39:09,000

The high speed shows the super car skip twice across the 100 foot lake,

710

00:39:09,000 --> 00:39:12,000

and then continue to drive on the far bank.

711

00:39:12,000 --> 00:39:15,000

That is until Grant remembers to apply the brakes.

712

00:39:21,000 --> 00:39:22,000

Yes!

713

00:39:22,000 --> 00:39:24,000

I was piloting in the car.

714

00:39:24,000 --> 00:39:25,000

We hit the water.

715

00:39:25,000 --> 00:39:26,000

I saw a big splash.

716

00:39:26,000 --> 00:39:28,000

Like, okay, we hit the water.

717

00:39:28,000 --> 00:39:32,000

And then the water went down, and the car was still driving on the other side.

718

00:39:32,000 --> 00:39:33,000

We did it!

719

00:39:33,000 --> 00:39:34,000

We skipped!

720

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

And this little guy, I'm so proud of it.

721

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

I am so proud of it.

722

00:39:40,000 --> 00:39:43,000

We doubled its horsepower, more than doubled its horsepower.

723

00:39:43,000 --> 00:39:45,000

And it's still running.

724

00:39:45,000 --> 00:39:46,000

Look at this.

725

00:39:46,000 --> 00:39:48,000

I'm so happy.

726

00:39:48,000 --> 00:39:49,000

We did it.

727

00:39:49,000 --> 00:39:52,000

We set out to skip a car, and we actually did it.

728

00:39:52,000 --> 00:39:56,000

I mean, the small scale said it would work, but we didn't believe it.

729

00:39:56,000 --> 00:39:58,000

But we brought it out here, and it did it.

730

00:39:58,000 --> 00:40:00,000

It did exactly what the small scale did.

731

00:40:00,000 --> 00:40:01,000

Seeing is believing.

732

00:40:01,000 --> 00:40:03,000

I can't get over this.

733

00:40:03,000 --> 00:40:06,000

We actually skipped a car across the pond.

734

00:40:06,000 --> 00:40:09,000

It's so awesome that they're both still running.

735

00:40:09,000 --> 00:40:10,000

I can't believe it worked.

736

00:40:10,000 --> 00:40:11,000

I know.

737

00:40:11,000 --> 00:40:13,000

We got a car to flip and skip.

738

00:40:13,000 --> 00:40:15,000

All right, last one of the show.

739

00:40:15,000 --> 00:40:17,000

I know a shortcut.

740

00:40:17,000 --> 00:40:19,000

Go, go, go, go!

741

00:40:19,000 --> 00:40:21,000

Woo-hoo!

742

00:40:25,000 --> 00:40:28,000

You guys, that was pretty awesome.

743

00:40:28,000 --> 00:40:30,000

I have never seen anything like that before.

744

00:40:30,000 --> 00:40:35,000

I mean, we totally replicated the result, and we got a car that weighs over a ton

745

00:40:35,000 --> 00:40:37,000

to bounce across the surface of a pond.

746

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

I know, and how cool was that high speed?

747

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

Absolutely.

748

00:40:41,000 --> 00:40:43,000

But it's not a big deal.

749

00:40:43,000 --> 00:40:44,000

It's a high speed.

750

00:40:44,000 --> 00:40:45,000

Absolutely.

751

00:40:45,000 --> 00:40:49,000

But you know the most amazing thing is how little it actually took to do it.

752

00:40:49,000 --> 00:40:53,000

I mean, that was a 15-year-old car going a little bit more than highway speed.

753

00:40:53,000 --> 00:40:58,000

No rockets, no special tires, no ramp, and no underwater platform.

754

00:40:58,000 --> 00:40:59,000

And it skipped across the lake.

755

00:40:59,000 --> 00:41:01,000

Just like the small scale said it would.

756

00:41:01,000 --> 00:41:02,000

I agree.

757

00:41:02,000 --> 00:41:03,000

However, I'm with Grant.

758

00:41:03,000 --> 00:41:06,000

I just cannot believe how easy it was to do.

759

00:41:06,000 --> 00:41:07,000

In fact, it's so easy.

760

00:41:07,000 --> 00:41:11,000

I think we really need to stop and say, do not try this at home.

761

00:41:11,000 --> 00:41:12,000

Yes.

762

00:41:12,000 --> 00:41:15,000

Let's keep in mind the movie is still busted.

763

00:41:15,000 --> 00:41:18,000

Of course, going 50 miles an hour with a ramp and you're going for a swim.

764

00:41:18,000 --> 00:41:22,000

Yeah, but you get rid of that ramp, you put the pedal to the metal, and you just might

765

00:41:22,000 --> 00:41:24,000

make it home safe and dry.

766

00:41:24,000 --> 00:41:25,000

Yep.

767

00:41:25,000 --> 00:41:26,000

You know what I think?

768

00:41:26,000 --> 00:41:30,000

I think we need to look at that high speed shot one more time.

769

00:41:30,000 --> 00:41:31,000

Absolutely.

770

00:41:31,000 --> 00:41:37,000

Because with results like these, we're skipping over ourselves to show you them again.

771

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

But spectacular high speeds aside, let's not forget that there's another dirty story awaiting

772

00:42:00,000 --> 00:42:01,000

conclusion.

773

00:42:01,000 --> 00:42:09,000

And after a swathe of swabs and a deluge of DNA tests, that conclusion is at last cooked.

774

00:42:09,000 --> 00:42:15,000

Ladies and gentlemen, it is finally time for the filthy five countdown in order from cleanest

775

00:42:15,000 --> 00:42:17,000

to dirtiest and starting at number five.

776

00:42:17,000 --> 00:42:23,000

We have the light switch number four, our control, the toilet seat number three, the keyboard

777

00:42:23,000 --> 00:42:28,000

number two, money and the number one dirtiest thing of everything that we tested.

778

00:42:28,000 --> 00:42:31,000

He's back on top after a year of hard training.

779

00:42:31,000 --> 00:42:34,000

Jamie, come on in and name number one.

780

00:42:34,000 --> 00:42:36,000

The kitchen sponge.

781

00:42:36,000 --> 00:42:38,000

Where does that leave us?

782

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

Well, given the myth that there are everyday things in your house that are far filthier

783

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

than your toilet seat, I'd say it's totally confirmed.

784

00:42:45,000 --> 00:42:46,000

Confirmed it is.