

1

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

Please don't try anything that you're about to see us do at home ever.

2

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

Giant conveyor belt.

3

00:00:33,280 --> 00:00:37,560

Then Tori Grant and Carrie bug out with creepy crawlies.

4

00:00:40,320 --> 00:00:45,920

With the classic myth can cockroaches survive the radiation from a nuclear bomb.

5

00:00:48,800 --> 00:00:52,960

Finally the team blow an internet prank out of all proportion.

6

00:00:53,400 --> 00:00:55,880

Oh my god, Grant, Grant get over here look at this.

7

00:00:55,880 --> 00:00:59,880

When they find out if foam can really soil a sedan.

8

00:00:59,880 --> 00:01:02,880

This is more than a prank, this is evil.

9

00:01:05,400 --> 00:01:07,400

Who are the myth busters?

10

00:01:07,400 --> 00:01:09,400

It's time to blow some stuff up.

11

00:01:10,400 --> 00:01:11,400

Adam Savage.

12

00:01:11,400 --> 00:01:12,400

This is killing me.

13

00:01:12,400 --> 00:01:14,400

And Jamie Heineman.

14

00:01:14,400 --> 00:01:16,400

That was fun.

15

00:01:16,400 --> 00:01:19,920

Between them more than 30 years of special effects experience.

16

00:01:19,920 --> 00:01:21,920

This is the kind of thing I do on the weekend.

17

00:01:22,360 --> 00:01:24,360

Joining them, Carrie Byron.

18

00:01:24,360 --> 00:01:26,360

Come over here, you smell that?

19

00:01:26,360 --> 00:01:27,360

Grant Imahara.

20

00:01:27,360 --> 00:01:28,360

He's alive.

21

00:01:28,360 --> 00:01:30,360

And Tori Balachy.

22

00:01:30,360 --> 00:01:32,360

This is starting to feel like a bad idea.

23

00:01:33,360 --> 00:01:38,360

They don't just tell the myths, they put them to the test.

24

00:01:46,360 --> 00:01:50,360

And first up, a myth that's caused a fan site frenzy.

25

00:01:50,800 --> 00:01:53,800

I gotta tell you, this next myth man is super controversial.

26

00:01:53,800 --> 00:01:58,800

There's literally thousands of pages of the most vitriolic discussions

27

00:01:58,800 --> 00:02:02,800

on both the World Wide Web and the Discovery Fan site about this next myth.

28

00:02:02,800 --> 00:02:06,800

So that probably means that we're doing Plane on a conveyor belt.

29

00:02:06,800 --> 00:02:07,800

Exactly right.

30

00:02:07,800 --> 00:02:08,800

Let me spell it out for you.

31

00:02:08,800 --> 00:02:10,800

Normally a plane sits on a runway, spins up its engine,

32

00:02:10,800 --> 00:02:13,800

moves forward, gets enough air over the wings and takes off.

33

00:02:13,800 --> 00:02:16,800

But in this case the plane is sitting not on a runway

34

00:02:16,800 --> 00:02:19,800

but a huge conveyor belt that is matching the plane's forward speed

35

00:02:20,240 --> 00:02:21,240

and reverse.

36

00:02:21,240 --> 00:02:24,240

The grand question is, can the plane take off?

37

00:02:24,240 --> 00:02:26,240

The myth is that it can't.

38

00:02:26,240 --> 00:02:28,240

Well, I know what I think.

39

00:02:28,240 --> 00:02:31,240

Ah, keep it to yourself because we're going to test it out.

40

00:02:33,240 --> 00:02:36,240

It's a complex myth that's driven the fan site wild

41

00:02:36,240 --> 00:02:39,240

and it's definitely one to get your thinking.

42

00:02:39,240 --> 00:02:42,240

If an airplane is on a conveyor belt

43

00:02:42,240 --> 00:02:45,240

and both are going the plane's take off speed

44

00:02:45,240 --> 00:02:48,240

but in opposite directions, what will happen?

45

00:02:48,680 --> 00:02:50,680

Some say the plane will take off,

46

00:02:50,680 --> 00:02:53,680

others say the plane will be held in place.

47

00:02:53,680 --> 00:02:55,680

But what do you think?

48

00:02:55,680 --> 00:02:57,680

How are we going to test this?

49

00:02:57,680 --> 00:03:00,680

I figured the best thing is, as always, to start small.

50

00:03:00,680 --> 00:03:03,680

Let's go get the simplest conveyor belt we have access to.

51

00:03:03,680 --> 00:03:05,680

That'd be my treadmill.

52

00:03:05,680 --> 00:03:06,680

Exactly.

53

00:03:06,680 --> 00:03:08,680

Put a model plane on it and see what happens

54

00:03:08,680 --> 00:03:10,680

when we put those two things together.

55

00:03:10,680 --> 00:03:12,680

I also think I know the exact model plane I want to use.

56

00:03:12,680 --> 00:03:14,680

Grant has a ton of experience flying it and might be able to teach us.

57

00:03:14,680 --> 00:03:15,680

Okay.

58

00:03:15,680 --> 00:03:16,680

Perfect.

59

00:03:17,120 --> 00:03:19,120

So to curtail this controversy,

60

00:03:19,120 --> 00:03:22,120

they need a conveyor belt and an airplane.

61

00:03:22,120 --> 00:03:26,120

And Grant's been drafted in to help Adam and Jamie get their wings.

62

00:03:26,120 --> 00:03:27,120

Hey.

63

00:03:27,120 --> 00:03:30,120

Can you teach me how to fly this to do an airplane on conveyor belt?

64

00:03:30,120 --> 00:03:31,120

Absolutely.

65

00:03:31,120 --> 00:03:33,120

Alright, let's go.

66

00:03:33,120 --> 00:03:36,120

Okay guys, so this is a park flyer.

67

00:03:36,120 --> 00:03:39,120

It's a very slow directional controls

68

00:03:39,120 --> 00:03:42,120

on the right side so you can keep a position.

69

00:03:42,120 --> 00:03:44,120

Which is an elevator.

70

00:03:44,560 --> 00:03:47,560

That makes it perfect for a beginning flyer.

71

00:03:48,560 --> 00:03:51,560

Grant makes it all sound so easy.

72

00:03:51,560 --> 00:03:54,560

But already Jamie has some grave concerns.

73

00:03:54,560 --> 00:03:57,560

I don't know if I can handle this actually.

74

00:03:57,560 --> 00:04:02,560

We're using this particular item the way that it was intended.

75

00:04:03,560 --> 00:04:05,560

And leaving Jamie stunned,

76

00:04:05,560 --> 00:04:07,560

Adam's cleared for takeoff.

77

00:04:08,560 --> 00:04:10,560

Good, good.

78

00:04:10,560 --> 00:04:12,560

My prediction for Adam is,

79

00:04:13,000 --> 00:04:16,000

he's got an exuberant personality.

80

00:04:16,000 --> 00:04:20,000

He is likely to crash as fast as possible.

81

00:04:26,000 --> 00:04:31,000

Jamie on the other hand has a very controlled personality.

82

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

He is likely to fly a very controlled pattern.

83

00:04:39,000 --> 00:04:41,000

That was some nice flying.

84

00:04:41,440 --> 00:04:44,440

In fact, the man with the fly-boy mustache

85

00:04:44,440 --> 00:04:47,440

proves to be something like the red baron.

86

00:04:49,440 --> 00:04:51,440

With acrobatics like that,

87

00:04:51,440 --> 00:04:54,440

he's qualified as chief aviator on the test.

88

00:04:54,440 --> 00:04:58,440

But will it be enough to quell the quarreling caused by this myth?

89

00:04:58,440 --> 00:05:01,440

Well gentlemen, looks like you've got things under control here.

90

00:05:01,440 --> 00:05:03,440

Reasonably, thanks for your help, Ben.

91

00:05:03,440 --> 00:05:04,440

Alright.

92

00:05:04,440 --> 00:05:05,440

Thanks, Grant.

93

00:05:05,440 --> 00:05:06,440

Take care.

94

00:05:06,440 --> 00:05:07,440

Good luck.

95

00:05:07,440 --> 00:05:09,440

Thanks, I think we're going to need it.

96

00:05:11,440 --> 00:05:13,440

Now, if you've never heard of this next myth,

97

00:05:13,440 --> 00:05:15,440

you must live in a nuclear bunker.

98

00:05:17,440 --> 00:05:20,440

The next myth is a super creepy, crawly one,

99

00:05:20,440 --> 00:05:22,440

and I'm not really happy about it.

100

00:05:22,440 --> 00:05:24,440

It's about cockroaches.

101

00:05:24,440 --> 00:05:26,440

Ugh, I hate cockroaches.

102

00:05:26,440 --> 00:05:28,440

Alright, so what's the myth?

103

00:05:28,440 --> 00:05:30,440

The myth is a classic that everyone's heard of,

104

00:05:30,440 --> 00:05:35,440

that cockroaches will be the only things to survive a nuclear blast.

105

00:05:35,440 --> 00:05:37,440

Well, that sounds cool,

106

00:05:37,440 --> 00:05:40,440

but how are we going to test this without killing ourselves?

107

00:05:41,440 --> 00:05:43,440

Here's food for thought.

108

00:05:43,440 --> 00:05:46,440

Like it or not, cockroaches are everywhere.

109

00:05:48,440 --> 00:05:52,440

And so far, they've survived 300 million years on this planet.

110

00:05:52,440 --> 00:05:56,440

But can they really survive a nuclear explosion?

111

00:05:57,440 --> 00:05:59,440

Specifically, this myth is about the radiation

112

00:05:59,440 --> 00:06:01,440

that the cockroaches would get from the nuclear blast,

113

00:06:01,440 --> 00:06:03,440

and not the blast itself.

114

00:06:03,440 --> 00:06:05,440

Because, face it, that's going to be so hot,

115

00:06:05,440 --> 00:06:07,440

it's going to fry anything anyway.

116

00:06:07,440 --> 00:06:09,440

Alright, so how are we going to test this?

117

00:06:09,880 --> 00:06:11,880

The roaches are going to be the easy thing.

118

00:06:11,880 --> 00:06:13,880

The radiation might be a little harder.

119

00:06:13,880 --> 00:06:15,880

Well, I think for completeness,

120

00:06:15,880 --> 00:06:17,880

we should try a few other types of insects,

121

00:06:17,880 --> 00:06:19,880

just to make sure the cockroaches

122

00:06:19,880 --> 00:06:21,880

are the only thing that will survive.

123

00:06:21,880 --> 00:06:23,880

Why don't we do fruit flies,

124

00:06:23,880 --> 00:06:25,880

because that's a classic insect for these types of experiments.

125

00:06:25,880 --> 00:06:27,880

We'll also do flower beetles, because they're very tough.

126

00:06:27,880 --> 00:06:29,880

So it's an all-star insect lineup,

127

00:06:29,880 --> 00:06:31,880

including flower beetles and fruit flies.

128

00:06:31,880 --> 00:06:33,880

But first up,

129

00:06:33,880 --> 00:06:35,880

the guys get faced to antenna

130

00:06:35,880 --> 00:06:37,880

with the principal parasite for this parable.

131

00:06:38,320 --> 00:06:40,320

Okay, guys, here is a box.

132

00:06:40,320 --> 00:06:42,320

I am sure the delivery guy is very excited

133

00:06:42,320 --> 00:06:44,320

to not open up in his truck.

134

00:06:44,320 --> 00:06:46,320

These are cockroaches.

135

00:06:46,320 --> 00:06:48,320

Say, good-n-tug to the German cockroach.

136

00:06:48,320 --> 00:06:50,320

Cutie, cutie, cutie.

137

00:06:50,320 --> 00:06:52,320

They cause allergic reactions in people.

138

00:06:52,320 --> 00:06:54,320

Oh, there's so many in there.

139

00:06:54,320 --> 00:06:56,320

Got another runner.

140

00:06:56,320 --> 00:06:59,320

And have even been known to feed on human nighttime dribble.

141

00:06:59,320 --> 00:07:01,320

Dude, that is so dirty.

142

00:07:01,320 --> 00:07:03,320

But will the cockroaches be able to feed on humans?

143

00:07:03,320 --> 00:07:05,320

No, they won't.

144

00:07:05,760 --> 00:07:07,760

Damn, that is so dirty.

145

00:07:07,760 --> 00:07:09,760

But will the deadly radiation described in the myth

146

00:07:09,760 --> 00:07:11,760

get the better of them?

147

00:07:11,760 --> 00:07:13,760

Oh, this guy is like a sprinter.

148

00:07:13,760 --> 00:07:15,760

So with most of the roaches raring to go,

149

00:07:15,760 --> 00:07:17,760

what's next for this myth?

150

00:07:17,760 --> 00:07:19,760

I'm calling insects to come to me

151

00:07:19,760 --> 00:07:21,760

so that I can put them in these boxes

152

00:07:21,760 --> 00:07:23,760

and irradiate them.

153

00:07:23,760 --> 00:07:25,760

I know that's kind of cruel.

154

00:07:25,760 --> 00:07:27,760

They don't really know what's going to hit them.

155

00:07:27,760 --> 00:07:29,760

But, you know, science is fun, but it's not always nice.

156

00:07:35,760 --> 00:07:37,760

It's exciting.

157

00:07:37,760 --> 00:07:39,760

Because with insect death a possibility,

158

00:07:39,760 --> 00:07:41,760

this myth is pretty unusual.

159

00:07:41,760 --> 00:07:43,760

From savage sharks

160

00:07:43,760 --> 00:07:45,760

and angry arachnids

161

00:07:45,760 --> 00:07:47,760

to

162

00:07:47,760 --> 00:07:49,760

to gnarling guard dogs.

163

00:07:49,760 --> 00:07:51,760

Run, run, run!

164

00:07:51,760 --> 00:07:53,760

Where animals are involved,

165

00:07:53,760 --> 00:07:55,760

it's normally the mythbusters that come off second best.

166

00:07:55,760 --> 00:07:57,760

But not this time.

167

00:07:57,760 --> 00:07:59,760

These cockroaches may be on death row,

168

00:07:59,760 --> 00:08:01,760

but because they were roaches,

169

00:08:01,760 --> 00:08:03,760

they were not in the box.

170

00:08:04,200 --> 00:08:06,200

They were on death row,

171

00:08:06,200 --> 00:08:08,200

but because they were bred for use in a science lab,

172

00:08:08,200 --> 00:08:10,200

their days were always numbered.

173

00:08:10,200 --> 00:08:12,200

But if the myth is true,

174

00:08:12,200 --> 00:08:14,200

then no harm will come to them.

175

00:08:14,200 --> 00:08:16,200

In the cockroach survival experiment,

176

00:08:16,200 --> 00:08:18,200

I need to make some sort of compartment

177

00:08:18,200 --> 00:08:20,200

that's going to hold 50 cockroaches.

178

00:08:20,200 --> 00:08:22,200

I need them all to get equal amount of radiation,

179

00:08:22,200 --> 00:08:24,200

making a little cockroach motel of death.

180

00:08:24,200 --> 00:08:26,200

Or as I'd like to call it,

181

00:08:26,200 --> 00:08:28,200

the holiday end.

182

00:08:28,200 --> 00:08:30,200

And once the insect containment boxes

183

00:08:30,200 --> 00:08:32,200

are conjured up,

184

00:08:32,640 --> 00:08:34,640

the guys just need to get hold of some nuclear radiation.

185

00:08:34,640 --> 00:08:36,640

And that should be easy.

186

00:08:36,640 --> 00:08:38,640

Later,

187

00:08:38,640 --> 00:08:40,640

Adam and Jamie put

188

00:08:40,640 --> 00:08:42,640

plane on a conveyor belt

189

00:08:42,640 --> 00:08:44,640

to the ultimate test.

190

00:08:44,640 --> 00:08:46,640

Go, Jamie, go!

191

00:08:46,640 --> 00:08:48,640

But next,

192

00:08:48,640 --> 00:08:50,640

it's survival of the yuckiest

193

00:08:50,640 --> 00:08:52,640

as the team makes roaches and radiation.

194

00:08:53,080 --> 00:08:55,080

It's the road to nowhere.

195

00:08:55,080 --> 00:08:57,080

The lowly conveyor belt

196

00:08:57,080 --> 00:08:59,080

is mankind's labor-saving tool,

197

00:08:59,080 --> 00:09:01,080

manufacturing aid,

198

00:09:01,080 --> 00:09:03,080

and even automated dog walker.

199

00:09:03,080 --> 00:09:05,080

But it's also part

200

00:09:05,080 --> 00:09:07,080

of an incredibly controversial

201

00:09:07,080 --> 00:09:09,080

conundrum.

202

00:09:09,080 --> 00:09:11,080

The world's most advanced

203

00:09:11,080 --> 00:09:13,080

and most advanced dog walker,

204

00:09:13,080 --> 00:09:15,080

the Yuckie,

205

00:09:15,080 --> 00:09:17,080

is the most advanced dog walker.

206

00:09:17,080 --> 00:09:19,080

And it's the most advanced dog walker

207

00:09:19,080 --> 00:09:21,080

in the world.

208

00:09:21,520 --> 00:09:23,520

It's a controversial conundrum.

209

00:09:23,520 --> 00:09:25,520

If a conveyor belt was going

210

00:09:25,520 --> 00:09:27,520

to take off speed of an airplane

211

00:09:27,520 --> 00:09:29,520

in one direction,

212

00:09:29,520 --> 00:09:31,520

can it stop that airplane

213

00:09:31,520 --> 00:09:33,520

from taking off in the other direction?

214

00:09:33,520 --> 00:09:35,520

Or would the plane simply

215

00:09:35,520 --> 00:09:37,520

take to the skies?

216

00:09:37,520 --> 00:09:39,520

So far, Adam and Jamie

217

00:09:39,520 --> 00:09:41,520

have graduated from flight school.

218

00:09:41,520 --> 00:09:43,520

All they need now

219

00:09:43,520 --> 00:09:45,520

is a conveyor belt.

220

00:09:45,520 --> 00:09:47,520

And this not-so-run-of-the-mill

221

00:09:47,520 --> 00:09:49,520

human-treadmill

222

00:09:49,520 --> 00:09:52,400

and running.

223

00:09:52,400 --> 00:09:56,920

We know what speed the plane needs to take off, so we've set the treadmill to go that

224

00:09:56,920 --> 00:09:57,920

speed.

225

00:09:57,920 --> 00:10:00,640

We're going to put the plane on it, see what it takes off.

226

00:10:00,640 --> 00:10:06,120

And with the airplane's takeoff speed being 11.3 miles per hour, both the plane and the

227

00:10:06,120 --> 00:10:09,560

belt are set to that magic number.

228

00:10:09,560 --> 00:10:15,800

I've read literally thousands of pages of vitriolic commentary and argument on the web

229

00:10:15,800 --> 00:10:21,800

about airplanes on a conveyor belt, but nowhere did I find anyone who'd put an airplane on

230

00:10:21,800 --> 00:10:23,000

a conveyor belt.

231

00:10:23,000 --> 00:10:26,120

That's just what we're about to do in scale here.

232

00:10:26,120 --> 00:10:30,520

And hopefully we're about to answer some really important questions.

233

00:10:30,520 --> 00:10:36,400

It sounds simple, but as Adam soon finds out, it's not all plane sailing.

234

00:10:36,400 --> 00:10:38,120

I'm sensing a problem.

235

00:10:38,120 --> 00:10:39,120

Those wheels are so flimsy.

236

00:10:39,120 --> 00:10:42,720

They are so flimsy and they're just moving around.

237

00:10:42,720 --> 00:10:47,360

Adam's engineered a flight plan to steer the plane and carefully making sure he's not

238

00:10:47,360 --> 00:10:48,840

pushing it forward.

239

00:10:48,840 --> 00:10:50,440

It's all systems go.

240

00:10:50,440 --> 00:10:53,920

It's an airplane on a conveyor belt, dude.

241

00:10:53,920 --> 00:10:56,880

It's one of the great questions on the internet.

242

00:10:56,880 --> 00:11:00,720

Ain't that the truth, but it's not answered yet, Adam.

243

00:11:00,720 --> 00:11:03,560

I'll set it to fat burn.

244

00:11:03,560 --> 00:11:05,880

Fat burn, nice.

245

00:11:05,880 --> 00:11:11,520

So with the treadmill set to fat burn in one direction, Janie's plane burns rubber in the

246

00:11:11,520 --> 00:11:12,520

other direction.

247

00:11:12,520 --> 00:11:16,400

Go ahead and ramp it up.

248

00:11:16,400 --> 00:11:19,880

Luckily, they get their act together.

249

00:11:19,880 --> 00:11:22,560

But is that a result?

250

00:11:22,560 --> 00:11:27,200

And we thought it was going to do what?

251

00:11:27,200 --> 00:11:29,640

It went right off the end of the conveyor belt.

252

00:11:29,640 --> 00:11:30,640

No.

253

00:11:30,640 --> 00:11:31,640

Yes.

254

00:11:31,640 --> 00:11:32,640

Yes.

255

00:11:32,640 --> 00:11:38,520

With the conveyor belt going 11.3 miles per hour in reverse, Janie accelerated the plane

256

00:11:38,520 --> 00:11:40,480

up to match that speed.

257

00:11:40,480 --> 00:11:43,280

And get this, the plane moved forwards.

258

00:11:43,280 --> 00:11:52,040

However, it didn't have a chance to get airborne because the treadmill is too short.

259

00:11:52,040 --> 00:11:58,840

The guys are investigating an atomic bomb of a myth.

260

00:11:58,840 --> 00:12:05,720

Reputed to survive the deadly radiation from a nuclear explosion, apparently cockroaches

261

00:12:05,720 --> 00:12:07,340

will inherit the earth.

262

00:12:07,340 --> 00:12:09,840

But will they be alone?

263

00:12:09,840 --> 00:12:13,160

I've been combing the black market, I've been searching the internet and finding a nuclear

264

00:12:13,160 --> 00:12:15,960

bomb is not as easy as you might think.

265

00:12:15,960 --> 00:12:19,760

Fortunately, our researchers have managed to find a lab that's willing to work with us.

266

00:12:19,760 --> 00:12:23,800

Yeah, apparently they have a Cobalt-60 radiation source that they're willing to let us test

267

00:12:23,800 --> 00:12:24,800

with.

268

00:12:24,800 --> 00:12:25,800

Awesome.

269

00:12:25,800 --> 00:12:28,100

I can't believe we're actually going to do this myth.

270

00:12:28,100 --> 00:12:32,300

We'll believe it, Carrie, because it's all going to go down at the Pacific Northwest

271

00:12:32,300 --> 00:12:35,600

Laboratory.

272

00:12:35,600 --> 00:12:40,120

Inside the imposing structure, Tori meets radiation expert Michelle Johnson.

273

00:12:40,120 --> 00:12:44,720

All right, so Michelle, this is where we're going to be irradiating the insects, right?

274

00:12:44,720 --> 00:12:45,720

Right.

275

00:12:45,720 --> 00:12:51,640

We have a Cobalt-60 source in here and it produces a radiation level of about 55,000

276

00:12:51,640 --> 00:12:57,000

R per hour, which is enough to kill you in about 10 minutes.

277

00:12:57,100 --> 00:13:04,500

As Tori picks his jaw up off the floor, let's get this straight.

278

00:13:04,500 --> 00:13:10,020

They're not using a nuclear bomb to irradiate the insects, but a highly dangerous radioactive

279

00:13:10,020 --> 00:13:12,500

metal called Cobalt-60.

280

00:13:12,500 --> 00:13:17,300

They'll use this metal to irradiate their insects at three different exposure settings

281

00:13:17,300 --> 00:13:18,860

called RADS.

282

00:13:18,860 --> 00:13:21,620

RADS 1 will be a thousand RADS.

283

00:13:21,620 --> 00:13:24,140

Test 2, 10,000.

284

00:13:24,140 --> 00:13:27,500

And test 3, 100,000.

285

00:13:27,500 --> 00:13:33,040

And alarmingly, even the lowest dose is really bad news for a human.

286

00:13:33,040 --> 00:13:37,880

And with the bugs all set, it's go time for the 1000 RAD test.

287

00:13:37,880 --> 00:13:42,600

What happens is the radiation source will come up to the porthole here and then we'll

288

00:13:42,600 --> 00:13:46,320

have a beam of radiation.

289

00:13:46,320 --> 00:13:49,900

That will be exposing our insects.

290

00:13:49,900 --> 00:13:55,180

With the first bugs in place, a push of a button reveals the alarmingly lethal radiation

291

00:13:55,180 --> 00:13:58,180

source.

292

00:13:58,180 --> 00:14:02,780

Right now we're radiating our cockroaches, our fruit flies, and our flower beetles at

293

00:14:02,780 --> 00:14:03,780

a thousand RAD.

294

00:14:03,780 --> 00:14:08,460

Now that is the lethal dose for humans right on the other side of that wall.

295

00:14:08,460 --> 00:14:13,020

And to make it even scarier, we're told we can't go past this line.

296

00:14:13,020 --> 00:14:15,300

Safe, unsafe.

297

00:14:15,800 --> 00:14:22,760

It's undoubtedly one of the most dangerous experiments in the history of Mythbusters.

298

00:14:22,760 --> 00:14:28,760

For human beings, a mere line on the floor separates life and death.

299

00:14:28,760 --> 00:14:32,840

But after three minutes in the firing line, will the insects be incinerated?

300

00:14:32,840 --> 00:14:36,120

Fruit flies are going to be fruit fries.

301

00:14:36,120 --> 00:14:42,120

Later the Mythbusters confront the controversy of playing on a treadmill full scale.

302

00:14:42,120 --> 00:14:44,400

Oh, that was beautiful.

303

00:14:44,400 --> 00:14:48,780

But first, if roachers get nuked, will they rule the roost?

304

00:14:48,780 --> 00:14:50,780

Let's zap them.

305

00:15:00,720 --> 00:15:04,020

The Mythbusters are no strangers to controversy.

306

00:15:04,020 --> 00:15:06,420

They campaigned for free energy.

307

00:15:06,420 --> 00:15:10,620

It's breaking free of the bonds of the energy conglomerates.

308

00:15:10,620 --> 00:15:13,620

And took on the man in the great gas conspiracy.

309

00:15:13,840 --> 00:15:15,840

Okay, that's enough of that, Ted.

310

00:15:15,840 --> 00:15:20,840

But now they're tackling the most debated myth in Mythbusters history.

311

00:15:20,840 --> 00:15:23,340

It's one of the great questions on the internet.

312

00:15:23,340 --> 00:15:29,340

If an airplane was on a conveyor belt and both were going the same speed but in opposite directions,

313

00:15:29,340 --> 00:15:33,340

would the plane be held in place or would it take off?

314

00:15:33,340 --> 00:15:36,340

So far it's been a turbulent ride.

315

00:15:36,340 --> 00:15:40,340

The plane's gone forward on the conveyor belt, but it hasn't taken off.

316

00:15:40,340 --> 00:15:42,840

And that means the boys need a new plan.

317

00:15:43,060 --> 00:15:47,060

We need a longer treadmill, and I don't see how we can modify this to be long enough.

318

00:15:47,060 --> 00:15:49,060

Well, how about if she'd have butchered paper?

319

00:15:49,060 --> 00:15:51,060

Just a long roll of it and you're just yanking.

320

00:15:51,060 --> 00:15:53,060

That's great. That's terrific.

321

00:15:53,060 --> 00:15:57,060

All we need for that test is to figure out what the shortest distance this could become airborne in.

322

00:15:58,060 --> 00:16:02,060

Alright, this is airplane takeoff test one, Jamie, whenever you're ready.

323

00:16:05,560 --> 00:16:07,560

Dude, that took off at like 20 feet.

324

00:16:07,560 --> 00:16:11,560

With the takeoff distance sorted, what's next?

325

00:16:13,060 --> 00:16:18,060

I'm going to drag 20 feet of this butcher paper behind my device here with the plane facing in reverse, like this.

326

00:16:19,060 --> 00:16:22,060

I'm going to get up to about 12 miles an hour over the takeoff speed.

327

00:16:22,060 --> 00:16:26,060

Jamie's going to kick this plane into gear, and if it can take off before it leaves the paper,

328

00:16:26,060 --> 00:16:28,060

then I think this myth is not looking very good.

329

00:16:28,060 --> 00:16:33,060

Long conveyor belt test in three, two, one.

330

00:16:33,060 --> 00:16:35,060

Oops, stop.

331

00:16:35,060 --> 00:16:37,060

Ah, nope.

332

00:16:37,280 --> 00:16:42,280

Oh, it just goes to show what looks good on paper doesn't always work in practice.

333

00:16:44,280 --> 00:16:49,280

No, the plane just went off before I had even controlled it.

334

00:16:49,280 --> 00:16:51,280

Alley's not a happy camper.

335

00:16:52,280 --> 00:16:57,280

But maybe a little runway maintenance will help his piloting skills and settle this global dispute once and for all.

336

00:17:02,280 --> 00:17:04,280

Okay, I'm ready to start. You all ready?

337

00:17:04,280 --> 00:17:05,280

I'm ready.

338

00:17:05,280 --> 00:17:06,280

Okay, go.

339

00:17:07,280 --> 00:17:12,280

After so many false starts and so much controversy, is that a flying plane?

340

00:17:12,280 --> 00:17:17,280

That is a flying plane, and it was on the paper when it took off.

341

00:17:17,280 --> 00:17:18,280

Excellent.

342

00:17:18,280 --> 00:17:23,280

Confounding and confusing, the plane didn't stay where it was.

343

00:17:23,280 --> 00:17:28,280

It moved forward and took off before the end of the conveyor belt.

344

00:17:28,280 --> 00:17:35,280

Here's the thing. If the myth is that a plane on a conveyor belt can't take off, we just had a plane on a conveyor belt and it took off.

345

00:17:37,780 --> 00:17:42,780

And what's more, they have a theory as to why.

346

00:17:44,780 --> 00:17:48,780

Alright, I'm trying to use this car to demonstrate where I think people get mixed up.

347

00:17:48,780 --> 00:17:53,780

The forward speed of the car is exactly the same as the backward speed of the conveyor belt, thus the car remains stationary.

348

00:17:53,780 --> 00:17:58,780

And this is why people think that the plane's not taking off, because there it is, the stationary's not moving.

349

00:17:58,780 --> 00:18:01,780

Yeah, but cars and airplanes move by different means.

350

00:18:02,500 --> 00:18:07,500

If the air is sending power to its wheels, that's what makes it move forward or backward or keep up with the conveyor belt.

351

00:18:07,500 --> 00:18:14,500

Airplanes have free spinning wheels, and they move because there's a propeller pushing air, which makes the airplane go forward.

352

00:18:15,500 --> 00:18:26,500

Exactly. So, if I remove power to the wheels of this car, thus turning it into a plane, and then my hand pushing will represent the force of the propeller pushing against the air, and I feel almost no resistance on the conveyor belt.

353

00:18:27,500 --> 00:18:29,500

So the plane moves forward.

354

00:18:29,500 --> 00:18:30,500

And it takes off.

355

00:18:30,500 --> 00:18:31,500

Exactly.

356

00:18:31,780 --> 00:18:33,780

So let's get this straight.

357

00:18:33,780 --> 00:18:38,780

A car gets its thrust through its wheels, creating forward motion using the ground it's on.

358

00:18:39,780 --> 00:18:49,780

But a plane gets its thrust through its engines, which are independent of its wheels, and so is not affected by the ground, or in this case, the conveyor belt.

359

00:18:49,780 --> 00:18:52,780

When engines are on, forward motion will happen.

360

00:18:53,780 --> 00:18:54,780

That's the theory.

361

00:18:54,780 --> 00:19:03,780

But to cement their place in history, the Mythbusters are going full scale with a manned aircraft, and the mother of all conveyor belts.

362

00:19:03,780 --> 00:19:06,780

The question is, will they get airborne?

363

00:19:10,780 --> 00:19:14,780

Back at Roche HQ, the 1000 Rad Radiation Test is over.

364

00:19:16,780 --> 00:19:19,780

Free flies are still moving. Fire beetles still moving.

365

00:19:20,780 --> 00:19:21,780

Crack roaches still moving.

366

00:19:22,780 --> 00:19:27,780

Remarkably, all the bugs seem to be alive, well at least for now.

367

00:19:28,780 --> 00:19:39,780

Because radiation works on a cellular level, exposure may not take effect immediately, so each set of bugs is put into containers, which will then be monitored over a 30 day period.

368

00:19:41,780 --> 00:19:47,780

We just did our first test at 1000 Rad. The bugs look alright, so we're moving on to the second test, which is 10,000 Rad.

369

00:19:48,780 --> 00:19:53,780

So in test 2, the dial gets cranked up by a factor of 10.

370

00:19:58,780 --> 00:20:01,780

It's affecting the cameras, but luckily it isn't affecting Grant.

371

00:20:03,780 --> 00:20:16,780

I have to admit that it is a little freaky to go into the room, but I'm starting to understand that just because we subject the bugs to radiation, doesn't make them radioactive.

372

00:20:17,780 --> 00:20:20,780

They're still moving. Nice.

373

00:20:21,780 --> 00:20:29,780

Just like last time, they're all still alive, even after 10,000 Rad. But only time will tell how long these bugs will last.

374

00:20:32,780 --> 00:20:41,780

Now we're going to step it up. We're going to 100,000 Rad. That is 100 times the lethal dose for a human. That is melting faces at the end of Raiders of the Lost Ark scaring.

375

00:20:41,780 --> 00:20:42,780

Let's zap them.

376

00:20:43,780 --> 00:20:52,780

And while the last set of bugs are being zapped, Raiders of the Lost Ark style, Grant's found out the background to this myth.

377

00:20:57,780 --> 00:21:00,780

Hey, do you know what I found out about the science of radiation?

378

00:21:00,780 --> 00:21:01,780

No, what?

379

00:21:01,780 --> 00:21:18,780

Well, we know that radioactivity was discovered by Henri Becquerel in the late 1880s, but it wasn't until more recently that scientists found out that it's the sensitive tissues like those in our bone marrow or intestinal tract that make us more susceptible to poisoning by radiation than other species.

380

00:21:19,780 --> 00:21:26,780

The theory is that the more simple body structures of the insects should make them less susceptible to radiation than us.

381

00:21:27,780 --> 00:21:33,780

Well, that's the theory. But after the 100,000 Rad test, the news ain't good for the bugs.

382

00:21:34,780 --> 00:21:44,780

Oh my gosh. From the looks of it, there might be like 10% still alive. That's frightening.

383

00:21:44,780 --> 00:21:52,780

Nearly all of Test 3's cockroaches have died. But from the looks of the other bug boxes, this test ain't over yet.

384

00:21:53,780 --> 00:22:01,780

So we've got all of our bugs here that have been exposed to the various levels of radiation, 1,000, 10,000 and 100,000 Rad.

385

00:22:01,780 --> 00:22:09,780

Now we've got a fourth group and that is the control set. The only difference is that they haven't been exposed to any radiation.

386

00:22:09,780 --> 00:22:16,780

We'll be able to use that to compare to the bugs that have been irradiated and see how they do.

387

00:22:17,780 --> 00:22:24,780

So it's back to the show. But the question is, will the bugs survive or will they drop like flies?

388

00:22:27,780 --> 00:22:36,780

It's the sum of all fears. But would cockroaches survive the radiation of a nuclear explosion and inherit the Earth?

389

00:22:36,780 --> 00:22:45,780

In this classic modern myth, Kari Torian Grant have blasted three species of insect with three increasing levels of radiation.

390

00:22:45,780 --> 00:22:49,780

Will the cockroach be the ultimate survivor?

391

00:22:49,780 --> 00:22:53,780

Hopefully they haven't mutated into some crazy monsters.

392

00:22:53,780 --> 00:22:56,780

Back at the shop, what's the bug bulletin?

393

00:22:56,780 --> 00:23:05,780

Okay, so here's the plan. We have 12 boxes of insects. Four cockroaches, four flower beetles and four fruit flies.

394

00:23:05,780 --> 00:23:10,780

We'll be monitoring them over the next 30 days counting how many die.

395

00:23:10,780 --> 00:23:17,780

The job of insect coroner may sound grim, but for the mythbusters, it's important to keep upbeat.

396

00:23:21,780 --> 00:23:22,780

We've got a breach.

397

00:23:22,780 --> 00:23:28,780

And what's more, they're making sure the bugs on death row are being well looked after.

398

00:23:28,780 --> 00:23:34,780

They'll be given all the food and water they need and we'll check in on the 15-day and 30-day increments.

399

00:23:34,780 --> 00:23:38,780

And we'll see if the cockroach is in fact the ultimate survivor.

400

00:23:38,780 --> 00:23:44,780

So with two weeks to wait until the next dead count, the team needs something else to do.

401

00:23:44,780 --> 00:23:49,780

Coming up, will the mythbusters feel the wind beneath their wings?

402

00:23:49,780 --> 00:23:50,780

Oh crap.

403

00:23:50,780 --> 00:23:55,780

But first, the team scrutinize a soapy internet story.

404

00:23:55,780 --> 00:23:58,780

Oh my God! Crack! Crack! Get over here! Look at this!

405

00:24:08,780 --> 00:24:12,780

And this is perfect. A foamy fable straight from the fan site.

406

00:24:14,780 --> 00:24:16,780

One, two, three.

407

00:24:18,780 --> 00:24:20,780

What the hell are we doing this for?

408

00:24:20,780 --> 00:24:25,780

There is actually a myth associated with it. If you take a can of shaving cream and freeze it,

409

00:24:25,780 --> 00:24:30,780

if you take off the outside, put it in someone's car, it'll expand to fill the car.

410

00:24:31,780 --> 00:24:37,780

Shaving cream is a practical joke staple for any frat boy funster or perky prankster.

411

00:24:37,780 --> 00:24:45,780

But as the internet rumor suggests, could one can of frozen shaving cream really inflate to fill a car?

412

00:24:45,780 --> 00:24:49,780

The first step in this myth is to freeze the can of shaving cream.

413

00:24:51,780 --> 00:24:55,780

I'll leave it in there for a few hours and while that's freezing, I'm going to go get cleaned up.

414

00:24:57,780 --> 00:25:00,780

Alright, I have my shaving cream, it's frozen solid.

415

00:25:00,780 --> 00:25:03,780

Now all I need to do is cut off the can, hopefully it won't explode in my face.

416

00:25:03,780 --> 00:25:07,780

What I should be left with is a cylinder of frozen shaving cream.

417

00:25:07,780 --> 00:25:13,780

And I'll stick that into the car and hopefully as it starts to thaw, it'll expand and fill up the whole car.

418

00:25:13,780 --> 00:25:15,780

Quick, close the door!

419

00:25:16,780 --> 00:25:19,780

This caper promises a car bursting with bubbles.

420

00:25:19,780 --> 00:25:26,780

But, Tori's scoring this myth low on the prankometer. Lower even than the infamous biscuit bullet.

421

00:25:27,780 --> 00:25:29,780

This is probably the lamest prank I've ever seen.

422

00:25:29,780 --> 00:25:32,780

There's no way this can of shaving cream is going to fill the entire car.

423

00:25:33,780 --> 00:25:37,780

Obviously, Tori thinks this fansite toiletry tale stinks.

424

00:25:38,780 --> 00:25:40,780

But five hours later...

425

00:25:40,780 --> 00:25:43,780

Oh my god! Grant! Grant! Get over here! Look at this!

426

00:25:43,780 --> 00:25:45,780

What? What? What?

427

00:25:47,780 --> 00:25:48,780

Nothing.

428

00:25:48,780 --> 00:25:50,780

That is so un-amazing.

429

00:25:51,780 --> 00:25:54,780

Clearly they're unimpressed with the foam's lack of inflation.

430

00:25:55,780 --> 00:25:58,780

But these merry pranksters aren't done yet.

431

00:25:58,780 --> 00:26:00,780

I'm a lame prank.

432

00:26:00,780 --> 00:26:03,780

You know, we did buy 50 cans.

433

00:26:03,780 --> 00:26:05,780

Yeah!

434

00:26:06,780 --> 00:26:10,780

So it's take two. At this time, it's 50 cans into the freezer.

435

00:26:11,780 --> 00:26:13,780

And quick as a flash.

436

00:26:15,780 --> 00:26:17,780

Alright, we gotta move fast.

437

00:26:17,780 --> 00:26:19,780

These things are gonna start to frost it.

438

00:26:20,780 --> 00:26:26,780

It's a race against time as Grant and Tori grind open all 50 frozen cans.

439

00:26:27,780 --> 00:26:28,780

Okay.

440

00:26:29,780 --> 00:26:35,780

But once the car's loaded up, the hours pass in the blink of an eye.

441

00:26:35,780 --> 00:26:37,780

Oh!

442

00:26:37,780 --> 00:26:39,780

You know what? Nothing.

443

00:26:39,780 --> 00:26:43,780

Well, but you know what? That's expanded a lot more than I thought it would.

444

00:26:44,780 --> 00:26:47,780

This isn't a prank. It's a minor inconvenience.

445

00:26:48,780 --> 00:26:51,780

Fans suggested shaving foam. And it's a flop.

446

00:26:52,780 --> 00:26:56,780

But rest assured, the mythbusters have a last plan up their sleeve.

447

00:26:56,780 --> 00:26:59,780

The next step is we're gonna ramp it up.

448

00:26:59,780 --> 00:27:05,780

We are going to create a situation where foam is going to come out of the windows.

449

00:27:06,780 --> 00:27:08,780

Possibly explode the car.

450

00:27:26,780 --> 00:27:31,780

And in 2008, millions are clashing over the myth of plane on a conveyor belt.

451

00:27:33,780 --> 00:27:34,780

Excellent!

452

00:27:36,780 --> 00:27:39,780

That little airplane took off just like I thought it would.

453

00:27:39,780 --> 00:27:41,780

So myth buster, right?

454

00:27:41,780 --> 00:27:44,780

Not so fast, man. You know we can't leave it there.

455

00:27:44,780 --> 00:27:49,780

You know this debate would never be quelled until you and I did it full scale.

456

00:27:49,780 --> 00:27:51,780

And that's just what we have to do.

457

00:27:51,780 --> 00:27:52,780

Well, you know what that means.

458

00:27:52,780 --> 00:27:57,780

Yes, I do. It means a real plane and it means a really big conveyor belt.

459

00:27:59,780 --> 00:28:01,780

And hey presto, this should do it.

460

00:28:01,780 --> 00:28:08,780

A 2,000 foot length of tarpaulin, which they can drag behind a truck to create the biggest conveyor belt in history.

461

00:28:09,780 --> 00:28:13,780

And with that sorted, they cruise down to Castle Airport.

462

00:28:14,780 --> 00:28:16,780

I love it. That thing's great.

463

00:28:17,780 --> 00:28:23,780

Where they meet the other ingredient for this myth, kamikaze ultralight pilot, Mark Johnson.

464

00:28:23,780 --> 00:28:25,780

It's the Cadillac of ultralights.

465

00:28:25,780 --> 00:28:29,780

It's 400 pounds, the engine's 100, so the plane itself's only 300.

466

00:28:29,780 --> 00:28:34,780

And it'll take off straight up, 1200 feet a minute. It's quite amazing.

467

00:28:34,780 --> 00:28:38,780

It's amazing, but will it take off on the conveyor belt?

468

00:28:39,780 --> 00:28:44,780

It's bigger scale and a bigger challenge with Mark's life on the line.

469

00:28:44,780 --> 00:28:51,780

Just like in small scale, the mythbusters need distance and speed measurements to get this myth off the ground.

470

00:28:51,780 --> 00:28:54,780

All right, distance to take off. Good to go.

471

00:28:54,780 --> 00:29:00,780

Jamie gives clearance. Mark floors it. And in no time at all.

472

00:29:01,780 --> 00:29:05,780

Take off distance, 85 feet. That's fantastic for us.

473

00:29:07,780 --> 00:29:08,780

Fantastic.

474

00:29:08,780 --> 00:29:11,780

Next, the guys need the take off speed.

475

00:29:12,780 --> 00:29:16,780

We've got the cockpit camera that we put on the airspeed indicator in miles per hour.

476

00:29:16,780 --> 00:29:19,780

Let's see what its take off speed was.

477

00:29:19,780 --> 00:29:20,780

That was...

478

00:29:20,780 --> 00:29:22,780

Yeah, about 25 miles an hour.

479

00:29:22,780 --> 00:29:27,780

And with speed and distance covered, it's time to launch full scale.

480

00:29:27,780 --> 00:29:32,780

First up, Mark's ultralight will be moved onto the tarpaulin treadmill.

481

00:29:32,780 --> 00:29:35,780

Then Jamie will attach his pickup to the end of the tarp.

482

00:29:35,780 --> 00:29:42,780

He'll pull it at 25 miles per hour in the opposite direction to the ultralight, just as Mark tries

to take off.

483

00:29:43,780 --> 00:29:46,780

That's the plan. So where's the tarp?

484

00:29:46,780 --> 00:29:56,780

We've got 2,000 feet of 12 foot wide tarp, which we're going to drag behind Jamie's pickup truck, effectively making the world's biggest conveyor belt.

485

00:29:57,780 --> 00:30:02,780

It's a simple plan, which Adam, playing the role of the airplane, demonstrates.

486

00:30:03,780 --> 00:30:06,780

But there's trouble when he rips holes in the tarp.

487

00:30:06,780 --> 00:30:07,780

Sorry.

488

00:30:07,780 --> 00:30:09,780

And that's not the only problem.

489

00:30:10,780 --> 00:30:13,780

So it's not as simple as we thought. The wind's shifting down the runway.

490

00:30:13,780 --> 00:30:18,780

It's only about 10 or 15 degrees, but each time it shifts, it's throwing this whole thing in a tizzy.

491

00:30:19,780 --> 00:30:23,780

It seems traditional myth buster patients has gone with the wind.

492

00:30:24,780 --> 00:30:27,780

You're going to stop. I don't know where the f\*\*\* you're going.

493

00:30:28,780 --> 00:30:32,780

If this wind is heading up the runway, we can't do anything. It's f\*\*\*ing...

494

00:30:33,780 --> 00:30:36,780

Well, as you can see, the wind has picked up. It's causing us a big problem.

495

00:30:36,780 --> 00:30:39,780

So we're out of here. We're going to be back early in the morning.

496

00:30:40,780 --> 00:30:47,780

It's the most requested fan myth ever, so failure to launch is not an option for the myth busters.

497

00:30:47,780 --> 00:30:51,780

Tomorrow is their last chance to blow away this myth.

498

00:30:58,780 --> 00:31:02,780

To answer the question, will cockroaches inherit the earth after a nuclear blast?

499

00:31:03,780 --> 00:31:11,780

Cary, Tori and Grant have exposed cockroaches, fruit flies and flower beetles to terrifyingly high levels of radiation.

500

00:31:12,780 --> 00:31:13,780

Tricky little b\*\*\*.

501

00:31:14,780 --> 00:31:16,780

And at the halfway mark of the experiment...

502

00:31:17,780 --> 00:31:18,780

Oh, stinks!

503

00:31:20,780 --> 00:31:22,780

The death toll is mounting.

504

00:31:22,780 --> 00:31:29,780

But with two weeks to go, it's still too early to call which bug will be the ultimate survivor.

505

00:31:30,780 --> 00:31:31,780

What is he doing?

506

00:31:31,780 --> 00:31:34,780

Tori's trying to see if he can hold his breath longer than a cockroach.

507

00:31:34,780 --> 00:31:36,780

Why, do cockroaches hold their breath for a long time?

508

00:31:36,780 --> 00:31:37,780

Yeah, supposedly.

509

00:31:39,780 --> 00:31:40,780

Where's my gun?

510

00:31:40,780 --> 00:31:41,780

Eight seconds.

511

00:31:41,780 --> 00:31:47,780

Well, if you want to see how long cockroaches can hold their breath, log on to [discovery.com](http://discovery.com) slash mythbusters and check it out.

512

00:31:53,780 --> 00:31:59,780

I have the only remaining life form to have survived a hundred thousand rad dose of radiation.

513

00:32:09,780 --> 00:32:11,780

Practical jokes are great fun.

514

00:32:12,780 --> 00:32:13,780

As long as they work.

515

00:32:15,780 --> 00:32:21,780

But as we've seen, the foam fizzer from the fan site barely registered on the prankometer.

516

00:32:21,780 --> 00:32:24,780

This is probably the lamest prank I've ever seen.

517

00:32:24,780 --> 00:32:26,780

It's of microscopic proportions.

518

00:32:26,780 --> 00:32:34,780

So now the team is taking it to absolute max with 25 gallons of something called AB foam.

519

00:32:34,780 --> 00:32:36,780

AB foam comes as a liquid.

520

00:32:36,780 --> 00:32:37,780

It's two parts.

521

00:32:37,780 --> 00:32:42,780

You mix equal parts together and then you have about 30 seconds of mixing time before it starts expanding and foaming up.

522

00:32:42,780 --> 00:32:48,780

But once it sets, after about 20 minutes, it's a hard, rigid, dense foam.

523

00:32:49,780 --> 00:32:58,780

In fact, it's so quick to expand and so cohesive that when Adam and Jamie blew up a plane, they used AB foam to seal the deal.

524

00:32:59,780 --> 00:33:01,780

Attention, the plane is alive.

525

00:33:04,780 --> 00:33:09,780

But when AB foam is mixed, it gives off heat in an exothermic reaction.

526

00:33:09,780 --> 00:33:14,780

And with 25 gallons of the stuff, that's even got Tori worried.

527

00:33:14,780 --> 00:33:16,780

We're going to take some safety precautions.

528

00:33:16,780 --> 00:33:17,780

We're going to empty out the gas.

529

00:33:17,780 --> 00:33:18,780

We're going to empty out the oil.

530

00:33:18,780 --> 00:33:21,780

We have some fire extinguishers standing by.

531

00:33:21,780 --> 00:33:27,780

If it does catch on fire, it can burn itself out and no structures will be in danger.

532

00:33:31,780 --> 00:33:37,780

25 gallons of liquid is equivalent to around 3.5 cubic feet.

533

00:33:38,780 --> 00:33:46,780

But once mixed, will the chemical foam swell up enough to fill the 90 cubic feet of space inside the car?

534

00:33:46,780 --> 00:33:50,780

One thing's for sure, there's no time to consider details.

535

00:33:51,780 --> 00:33:55,780

Once you start mixing, there's no like waiting and oops I did it wrong.

536

00:33:55,780 --> 00:33:57,780

No, you have to go and you have to go immediately.

537

00:33:57,780 --> 00:34:02,780

Once this thing starts to go, you've got to get as many kits in there as possible.

538

00:34:02,780 --> 00:34:11,780

There are absolutely no second chances in this test because in a matter of seconds, this luxury sedan is stuffed full of foam.

539

00:34:11,780 --> 00:34:17,780

This is more than a prank. This is evil. This is a car that will never ever drive again.

540

00:34:17,780 --> 00:34:20,780

Just to show you how rigid this foam is.

541

00:34:26,780 --> 00:34:27,780

Look at that.

542

00:34:28,780 --> 00:34:30,780

Solid. Solid.

543

00:34:30,780 --> 00:34:32,780

That is a mean, mean thing to do.

544

00:34:33,780 --> 00:34:37,780

Yeah, we did it. We filled the car up with AB foam.

545

00:34:37,780 --> 00:34:41,780

The dreams come true. I've always wanted to see this and now I have.

546

00:34:41,780 --> 00:34:45,780

You know, the shaving cream wasn't that great of a joke.

547

00:34:45,780 --> 00:34:49,780

So we ramped it up and this is what we came up with.

548

00:34:49,780 --> 00:34:55,780

I'm totally satisfied. I know if I walked up to my car and it looked like that, I'd be pretty upset.

549

00:34:55,780 --> 00:34:58,780

It would ruin my day, not to mention my car.

550

00:34:58,780 --> 00:35:03,780

Oh, and anybody thinking of pranking the team, here's some tough talk for you.

551

00:35:05,780 --> 00:35:07,780

Don't mess with us. That's what you get.

552

00:35:18,780 --> 00:35:22,780

Carrie, Tori and Grant have been playing with deadly radiation.

553

00:35:22,780 --> 00:35:26,780

Captain, I recommend we set all phasers to stud.

554

00:35:28,780 --> 00:35:35,780

They've exposed cockroaches, fruit flies and flower beetles to three levels of this invisible killer.

555

00:35:35,780 --> 00:35:40,780

But which one will be crowned the ultimate survivor?

556

00:35:41,780 --> 00:35:45,780

That was a month ago and ever since they've been counting the dead.

557

00:35:45,780 --> 00:35:46,780

Ten.

558

00:35:46,780 --> 00:35:48,780

Oh, no hit on that one.

559

00:35:49,780 --> 00:35:51,780

It's been a morbid 30 days.

560

00:35:51,780 --> 00:35:56,780

But remember, these insects were always bred for death by science.

561

00:35:58,780 --> 00:36:03,780

Just like Tori, the insects have been hit hard, but there are survivors.

562

00:36:04,780 --> 00:36:07,780

You know, this is crazy. This is the 10,000 rad.

563

00:36:07,780 --> 00:36:13,780

This is 10 times the lethal dose for humans and look how many cockroaches are still kicking.

564

00:36:13,780 --> 00:36:16,780

And the flower beetles have gone one better.

565

00:36:16,780 --> 00:36:23,780

I have here in my hand the only remaining life form to have survived a hundred thousand rad dose of radiation.

566

00:36:23,780 --> 00:36:25,780

The flower beetle.

567

00:36:25,780 --> 00:36:29,780

So is this myth busted or confirmed?

568

00:36:29,780 --> 00:36:31,780

And done.

569

00:36:31,780 --> 00:36:37,780

Okay, so the idea was that cockroaches would be the only thing to survive a nuclear blast. What do we get?

570

00:36:37,780 --> 00:36:40,780

Well, remarkably, cockroaches are really good survivors.

571

00:36:40,780 --> 00:36:44,780

After 30 days, the ones exposed to 10,000 rad still had 30% still alive.

572

00:36:44,780 --> 00:36:49,780

And the ones exposed to a thousand rad had 50% still alive. It's pretty amazing.

573

00:36:49,780 --> 00:36:53,780

That's incredible. Considering if we were exposed to a thousand rad, we'd be dead.

574

00:36:53,780 --> 00:36:57,780

So it's confirmed. Cockroaches out-survived humans after a nuclear blast.

575

00:36:57,780 --> 00:37:01,780

True, but we tested three types of insects and the other two did much better than cockroaches.

576

00:37:01,780 --> 00:37:04,780

Yeah, the fruit flies did really well until they died of natural causes.

577

00:37:04,780 --> 00:37:06,780

And then the flower beetles, well, they were the strongest.

578

00:37:06,780 --> 00:37:11,780

After being exposed to a hundred thousand rad, which is a hundred times the amount that would kill us,

579

00:37:11,780 --> 00:37:13,780

they were still 10% alive.

580

00:37:13,780 --> 00:37:17,780

The cockroaches, there was none that survived after that kind of exposure.

581

00:37:17,780 --> 00:37:21,780

So the final result is that all the insects out-survived humans,

582

00:37:21,780 --> 00:37:26,780

but as far as inheriting the Earth, there are much better candidates than the cockroach.

583

00:37:26,780 --> 00:37:28,780

Which means it's busted.

584

00:37:28,780 --> 00:37:31,780

Busted, just like our chances of reproducing.

585

00:37:35,780 --> 00:37:41,780

Up next, they're cleared for takeoff, but will they settle the squabble surrounding the myth?

586

00:37:41,780 --> 00:37:46,780

All right, this is full-size airplane on a conveyor belt, for real this time!

587

00:37:52,780 --> 00:37:58,780

In 100 years of flight, man has tried to get off the ground in some inventive ways.

588

00:38:01,780 --> 00:38:06,780

But none have caused such heated public debate as this flight of fancy.

589

00:38:07,780 --> 00:38:13,780

If a manned airplane is on a conveyor belt and both are going at the airplane's takeoff speed,

590

00:38:13,780 --> 00:38:17,780

but in opposite directions, will the plane be held where it is?

591

00:38:17,780 --> 00:38:19,780

Or will it take off?

592

00:38:21,780 --> 00:38:24,780

Yesterday, big scale hit big problems.

593

00:38:24,780 --> 00:38:28,780

The crosswind blew away any chance of a test.

594

00:38:28,780 --> 00:38:32,780

If this wind is heading up the runway, we can't do anything.

595

00:38:35,780 --> 00:38:39,780

It's dawn on the tarmac, and that's why we're here, because there's no wind.

596

00:38:39,780 --> 00:38:42,780

We're told the first couple of hours of the morning.

597

00:38:42,780 --> 00:38:45,780

We are not going to be able to fly.

598

00:38:45,780 --> 00:38:48,780

We're going to be the first couple of hours of the morning.

599

00:38:48,780 --> 00:38:51,780

We are hauling ass because the tarp is perfect right now.

600

00:38:51,780 --> 00:38:54,780

It's like making a very big bed.

601

00:38:54,780 --> 00:39:00,780

With less than a guff of air movement, you could say the mythbusters have broken wind.

602

00:39:00,780 --> 00:39:02,780

This is looking great.

603

00:39:02,780 --> 00:39:05,780

But another discovery could seriously jeopardize this test.

604

00:39:05,780 --> 00:39:08,780

Yesterday, while Jamie was driving, just a little slow speed,

605

00:39:08,780 --> 00:39:11,780

I decided to run on the tarp because it thought it would be funny.

606

00:39:11,780 --> 00:39:15,780

But every time I foot hit the tarp, it tore a huge hole in it.

607

00:39:15,780 --> 00:39:18,780

That's what I'm picturing as the worst case scenario.

608

00:39:18,780 --> 00:39:22,780

But the moment that plane starts to roll and Jamie starts to drive in the opposite direction,

609

00:39:22,780 --> 00:39:25,780

the tarp just, whoosh, just rips all the hell.

610

00:39:25,780 --> 00:39:30,780

Even though he's facing a bizarre conveyor belt death, Mark seems unflappable.

611

00:39:30,780 --> 00:39:35,780

But with ten years of flying experience, what does he think of the myth?

612

00:39:35,780 --> 00:39:40,780

Do you think that this conveyor belt will be able to keep your plane from taking off?

613

00:39:40,780 --> 00:39:46,780

Yes, if I match my speed exactly the same speed forward as this going backwards,

614

00:39:46,780 --> 00:39:51,780

and there's no air over the wings, I should just sit there like a brick.

615

00:39:51,780 --> 00:39:52,780

Hang on.

616

00:39:52,780 --> 00:39:54,780

I should just sit there like a brick.

617

00:39:54,780 --> 00:39:57,780

So, the controversy continues.

618

00:39:57,780 --> 00:40:03,780

Pilot Mark believes the myth that the plane will be held in place by the belt.

619

00:40:03,780 --> 00:40:07,780

And if we do take off, I'm going to be a surprised individual.

620

00:40:07,780 --> 00:40:12,780

It's surprising, but small scale proved the plane got enough lift for take off.

621

00:40:12,780 --> 00:40:17,780

So there's only one way to settle the argument once and for all.

622

00:40:17,780 --> 00:40:18,780

You guys ready to do this thing?

623

00:40:18,780 --> 00:40:19,780

I'm ready.

624

00:40:19,780 --> 00:40:20,780

I'm ready.

625

00:40:20,780 --> 00:40:21,780

Let's do it.

626

00:40:21,780 --> 00:40:22,780

All right.

627

00:40:22,780 --> 00:40:23,780

It's time to go big scale.

628

00:40:23,780 --> 00:40:27,780

And with Jamie's pickup pulling a massive conveyor belt in one direction,

629

00:40:27,780 --> 00:40:35,780

will a manned aircraft going the same speed in the other direction have the lift it needs to get airborne?

630

00:40:35,780 --> 00:40:37,780

Mark does his final checks.

631

00:40:37,780 --> 00:40:40,780

Light sport, you're clear to take off.

632

00:40:40,780 --> 00:40:41,780

Copy that.

633

00:40:41,780 --> 00:40:43,780

Jamie's all set.

634

00:40:43,780 --> 00:40:45,780

The truck is in gear.

635

00:40:45,780 --> 00:40:46,780

I'm good to go.

636

00:40:46,780 --> 00:40:47,780

Over.

637

00:40:47,780 --> 00:40:48,780

All right.

638

00:40:48,780 --> 00:40:51,780

This is full size airplane on a conveyor belt for real this time.

639

00:40:51,780 --> 00:40:55,780

Thousands of people wait in anticipation.

640

00:40:55,780 --> 00:40:57,780

And Adam gives the thumbs up.

641

00:40:57,780 --> 00:40:59,780

Go Jamie, go.

642

00:40:59,780 --> 00:41:04,780

Mark and Jamie accelerate in opposite directions.

643

00:41:04,780 --> 00:41:13,780

And it's arguably the most incredible sight since the Wright Brothers got airborne.

644

00:41:13,780 --> 00:41:19,780

A very surprised Mark Johnson takes off in his plane from a conveyor belt.

645

00:41:19,780 --> 00:41:24,780

That worked.

646

00:41:24,780 --> 00:41:26,780

That was beautiful.

647

00:41:26,780 --> 00:41:28,780

Go Jamie, go.

648

00:41:28,780 --> 00:41:30,780

Beautiful take off.

649

00:41:30,780 --> 00:41:33,780

Even with the conveyor belt matching the plane's take off speed,

650

00:41:33,780 --> 00:41:41,780

the plane moves forward past the traffic cones and easily takes to the skies.

651

00:41:41,780 --> 00:41:42,780

Nice work.

652

00:41:42,780 --> 00:41:45,780

Once we started to roll, I gunned it.

653

00:41:45,780 --> 00:41:47,780

You know, I got up at a fairly good clip.

654

00:41:47,780 --> 00:41:51,780

As soon as they told you to go, I was totally expecting to watch the cloth just rip.

655

00:41:51,780 --> 00:41:56,780

And safely back on the ground, Mark is one hell of a stun pilot.

656

00:41:56,780 --> 00:41:58,780

That was beautiful.

657

00:41:58,780 --> 00:42:00,780

That worked like a charm.

658

00:42:00,780 --> 00:42:01,780

Good job.

659

00:42:01,780 --> 00:42:04,780

That's what we call busted on Mythbusters.

660

00:42:04,780 --> 00:42:05,780

It is superior help.

661

00:42:05,780 --> 00:42:06,780

Thank you so much.

662

00:42:06,780 --> 00:42:07,780

That's what I call amazing.

663

00:42:07,780 --> 00:42:08,780

Were you surprised?

664

00:42:08,780 --> 00:42:09,780

Yes.

665

00:42:09,780 --> 00:42:11,780

I was really surprised that it just took off normally.

666

00:42:11,780 --> 00:42:15,780

I thought that I would just sit here like a brick.

667

00:42:15,780 --> 00:42:18,780

It was beautiful being over there and watching the tart moving like this.

668

00:42:18,780 --> 00:42:20,780

And you just took off like it wasn't even there.

669

00:42:20,780 --> 00:42:21,780

You had no relationship to it.

670

00:42:21,780 --> 00:42:22,780

That's true.

671

00:42:22,780 --> 00:42:23,780

And I'm totally surprised.

672

00:42:23,780 --> 00:42:24,780

Awesome.

673

00:42:24,780 --> 00:42:25,780

That was so good.

674

00:42:25,780 --> 00:42:26,780

Safe flying.

675

00:42:26,780 --> 00:42:31,780

Maybe we can supersize this with a jet next time.

676

00:42:31,780 --> 00:42:34,780

This one is so controversial.

677

00:42:34,780 --> 00:42:39,780

I can't believe that the very pilot we hired to test it thought that his plane would remain stationary.

678

00:42:39,780 --> 00:42:46,780

Yeah, for some reason people just can't wrap their brains around the fact that the plane's engine is not sending power to the wheels.

679

00:42:46,780 --> 00:42:47,780

It sends it to the propeller.

680

00:42:47,780 --> 00:42:48,780

Yeah.

681

00:42:48,780 --> 00:42:50,780

Okay, let's get official about this.

682

00:42:50,780 --> 00:42:51,780

How do you want to call it?

683

00:42:51,780 --> 00:42:56,780

Well, we put the plane on a conveyor belt and the plane took off just fine.

684

00:42:56,780 --> 00:42:57,780

So...

685

00:42:57,780 --> 00:42:58,780

I'd say that's busted.

686

00:42:58,780 --> 00:42:59,780

Busted.

687

00:43:05,780 --> 00:43:07,780

That shaving foam experiment was really fun.

688

00:43:07,780 --> 00:43:09,780

Yeah, and it came from a viewer.

689

00:43:09,780 --> 00:43:14,780

Just shows that even frat boy pranks can be tested as viable myths.

690

00:43:14,780 --> 00:43:15,780

Yeah.

691

00:43:15,780 --> 00:43:20,780

And if you have any ideas for myths, log on to [discovery.com slash mythbusters](http://discovery.com/slash/mythbusters) and let us know what you got.

692

00:43:21,780 --> 00:43:22,780

Ah!