

1

00:00:00,000 --> 00:00:04,360

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

2

00:00:04,360 --> 00:00:06,520

Wear what you call experts.

3

00:00:08,520 --> 00:00:14,240

On this episode of Mythbusters, Adam and Janie make the magic happen.

4

00:00:14,240 --> 00:00:17,560

Ha ha ha! I think we graduated!

5

00:00:17,560 --> 00:00:21,480

We're testing some supercharged viral video trickery.

6

00:00:22,760 --> 00:00:24,160

You ready to run Christmas dinner?

7

00:00:24,160 --> 00:00:25,160

I can't wait.

8

00:00:25,160 --> 00:00:29,000

Cat on motorcycle make a tablecloth disappear.

9

00:00:30,760 --> 00:00:31,760

Here it comes!

10

00:00:31,760 --> 00:00:34,280

Meanwhile, Carrie, Grant and Tori...

11

00:00:34,280 --> 00:00:35,960

They're gonna fry my brains.

12

00:00:35,960 --> 00:00:38,960

...strain their brains for this pop culture myth.

13

00:00:38,960 --> 00:00:41,720

Did you know most people use 10% of their brains?

14

00:00:41,720 --> 00:00:43,840

...but is this fraction a fact?

15

00:00:43,840 --> 00:00:46,240

It's light enough like a Christmas tree there.

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00:00:46,240 --> 00:00:47,240

That's so cool.

17

00:00:47,240 --> 00:00:50,440

The team probe their lobes to find out.

18

00:00:50,440 --> 00:00:52,440

This is real science.

19

00:00:54,720 --> 00:00:56,720

Who are the Mythbusters?

20

00:00:56,720 --> 00:00:58,320

Adam Savage.

21

00:00:58,320 --> 00:00:59,320

Now I'm ready.

22

00:00:59,320 --> 00:01:01,040

And Jamie Heineman.

23

00:01:01,040 --> 00:01:02,040

FINE!

24

00:01:02,040 --> 00:01:06,800

Between them more than 30 years of special effects experience.

25

00:01:06,800 --> 00:01:07,800

Joining them...

26

00:01:07,800 --> 00:01:08,800

...Aah!

27

00:01:08,800 --> 00:01:09,800

...Carrie Byron.

28

00:01:09,800 --> 00:01:11,600

What is that?

29

00:01:11,600 --> 00:01:12,600

Tori Belleggi.

30

00:01:12,600 --> 00:01:14,600

Oh, he survived.

31

00:01:14,600 --> 00:01:16,320

And Grant Imahara.

32

00:01:16,320 --> 00:01:18,000

Start the car!

33

00:01:18,000 --> 00:01:19,520

They don't just tell the myths...

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00:01:19,520 --> 00:01:20,840

...Aah!

35

00:01:20,840 --> 00:01:22,840

...they put them to the test.

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00:01:29,320 --> 00:01:37,320

Check this out.

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00:01:37,320 --> 00:01:41,520

I hate to break it to you, but I've seen that before.

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00:01:41,520 --> 00:01:42,520

It's a magic trick.

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00:01:42,520 --> 00:01:43,520

It's not a myth.

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00:01:43,520 --> 00:01:44,520

This isn't.

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00:01:44,520 --> 00:01:47,400

But there's a video that's been making the rounds on the web that is a twist to this

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00:01:47,400 --> 00:01:49,880

trick that I think is right up our alley.

43

00:01:49,880 --> 00:01:51,240

And that is?

44

00:01:51,240 --> 00:01:56,920

In this clip, a table as long as a bus and set for a banquet has its tablecloth pulled

45

00:01:56,920 --> 00:02:01,280

out from under all its settings without disturbing any of them using only the power of a super

46

00:02:01,280 --> 00:02:03,080

souped up motorcycle.

47

00:02:03,080 --> 00:02:04,280

Ah, now you're talking.

48

00:02:04,280 --> 00:02:07,560

I thought you'd like it.

49

00:02:07,560 --> 00:02:14,280

In this viral video, rather than a quick flick of the wrist, it's a quick flick of the accelerator.

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00:02:14,280 --> 00:02:22,640

And abracadabra, the tablecloth disappears and a perfectly laid table remains.

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00:02:22,640 --> 00:02:30,080

But is this turbocharged trick true or just special effects sorcery?

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00:02:30,080 --> 00:02:31,080

So what's the plan?

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00:02:31,080 --> 00:02:35,360

Well, since this is in fact a trick that people do every day, I think we should spend some

54

00:02:35,360 --> 00:02:39,320

time unpacking the mechanics of exactly what makes it work.

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00:02:39,320 --> 00:02:41,720

Small scale test down on the floor of the shop?

56

00:02:41,720 --> 00:02:42,720

Exactly.

57

00:02:42,720 --> 00:02:46,120

We're going to scale this up to a fairly impossible dimension.

58

00:02:46,120 --> 00:02:51,600

And I suspect that a lot of factors, object heaviness, cloth type, table type, all of these

59

00:02:51,600 --> 00:02:54,640

things might affect our success on that scale.

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00:02:54,640 --> 00:02:59,600

Thus, in the small scale, we need to learn what factors are critical to making it work.

61

00:02:59,600 --> 00:03:03,440

And with the table made, Adam can focus on his hocus pocus.

62

00:03:03,440 --> 00:03:05,680

Dude, are you ready?

63

00:03:05,680 --> 00:03:07,840

I'm all ready.

64

00:03:07,840 --> 00:03:09,720

Well there's a vote of confidence.

65

00:03:09,720 --> 00:03:18,840

Tablecloth pull in three, two, one.

66

00:03:18,840 --> 00:03:20,480

That wasn't bad for a first try.

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00:03:20,480 --> 00:03:25,320

Okay, it's still pretty bad for a first try.

68

00:03:25,320 --> 00:03:30,240

Not bad, but clearly there are some tricks to this trick.

69

00:03:30,240 --> 00:03:34,200

So next, it's time for Adam to button those down.

70

00:03:34,200 --> 00:03:38,840

The table jumped all over the place.

71

00:03:38,840 --> 00:03:42,000

I think we can address that with a simple sandbag.

72

00:03:42,000 --> 00:03:45,360

Two, when I feel this, it's plywood.

73

00:03:45,360 --> 00:03:46,360

It's pretty rough.

74

00:03:46,360 --> 00:03:50,120

We're going to make it smoother before continuing, like this.

75

00:03:50,120 --> 00:03:53,280

Now we're ready.

76

00:03:53,280 --> 00:03:58,640

With a smooth, stable table covered with a fresh cloth and a single bottle, there's

77

00:03:58,640 --> 00:04:01,440

one final thing Adam needs.

78

00:04:01,440 --> 00:04:03,120

I want to know if this moves.

79

00:04:03,120 --> 00:04:05,800

I have an idea.

80

00:04:05,800 --> 00:04:11,120

To monitor how much the wine moves, he makes a point.

81

00:04:11,120 --> 00:04:12,120

You ready?

82

00:04:12,120 --> 00:04:13,120

I'm ready.

83

00:04:13,120 --> 00:04:14,120

Okay, here we go.

84

00:04:14,120 --> 00:04:15,120

In.

85

00:04:15,120 --> 00:04:16,120

Three, two, one.

86

00:04:16,120 --> 00:04:17,120

Same thing.

87

00:04:17,120 --> 00:04:21,640

Maybe it's the way I'm pulling.

88

00:04:21,640 --> 00:04:29,640

But that point isn't required until eventually Adam gets the grip.

89

00:04:29,640 --> 00:04:35,480

All right, now what did I do right?

90

00:04:35,480 --> 00:04:40,320

Well, Newton's first law of inertia means that objects at rest stay at rest.

91

00:04:40,320 --> 00:04:44,200

But when the cloth is pulled, friction also acts on the objects.

92

00:04:44,200 --> 00:04:49,480

However, if the inertia is greater than the friction, the tablecloth is whipped free.

93

00:04:49,480 --> 00:04:53,840

But that's not the only reason the trick has started to work.

94

00:04:53,840 --> 00:04:58,320

I think I've got something, which is the tablecloth has to end at the table.

95

00:04:58,320 --> 00:04:59,600

It can't be draping over.

96

00:04:59,600 --> 00:05:01,040

It's draping over.

97

00:05:01,040 --> 00:05:03,600

Too much noise is created and it wants to pull the bottle over.

98

00:05:03,600 --> 00:05:08,000

But when it's at the edge, it seems to leave the bottle standing.

99

00:05:08,000 --> 00:05:10,880

Now I want to play with some other fabrics.

100

00:05:10,880 --> 00:05:12,800

Five-eighths of an inch.

101

00:05:12,800 --> 00:05:16,840

Using the high-speed camera and his pointer, seven-sixteenths.

102

00:05:16,840 --> 00:05:21,040

Adam can assess just how much the bottle moves with a range of fabrics.

103

00:05:21,040 --> 00:05:22,040

This one's no good.

104

00:05:22,040 --> 00:05:24,600

I mean, took me wrong.

105

00:05:24,600 --> 00:05:25,600

It's lovely.

106

00:05:25,600 --> 00:05:29,000

It's no good for this trick.

107

00:05:29,000 --> 00:05:31,080

That right there, that's a quarter inch.

108

00:05:31,080 --> 00:05:32,880

That's the best one yet.

109

00:05:32,880 --> 00:05:37,440

I had assumed that a heavier satin fabric would actually be best for sliding underneath

110

00:05:37,440 --> 00:05:38,440

the objects on the table.

111

00:05:38,440 --> 00:05:42,240

In fact, the lighter weight ones are outperforming everybody.

112

00:05:42,240 --> 00:05:47,200

Moreover, they're outperforming them when the shiny side is down rather than up.

113

00:05:47,200 --> 00:05:49,520

Who would have thought?

114

00:05:49,520 --> 00:05:55,380

It turns out the lightweight satin has this category, sonar, making it the best-case scenario

115

00:05:55,380 --> 00:05:57,160

fabric for large scale.

116

00:05:57,160 --> 00:05:59,840

But there's one more parameter to test.

117

00:05:59,840 --> 00:06:06,560

I find myself wondering if weight is a factor and so I plan to remove some from this bottle.

118

00:06:06,560 --> 00:06:10,640

In theory, the more mass an object has, the greater its inertia.

119

00:06:10,640 --> 00:06:13,640

Don't worry, we only waste the cheapest wines.

120

00:06:13,640 --> 00:06:17,800

So reducing the weight of the bottle could work against Adam.

121

00:06:17,800 --> 00:06:22,600

Empty bottle and my favorite fabric, three, two, one.

122

00:06:22,600 --> 00:06:24,640

But it doesn't.

123

00:06:24,640 --> 00:06:34,600

Because there's also a corresponding drop in the friction of the bottle on the tablecloth.

124

00:06:34,720 --> 00:06:38,440

When you combine all the factors of the tablecloth tug.

125

00:06:38,440 --> 00:06:41,120

Three, two, one.

126

00:06:41,120 --> 00:06:42,120

Wow.

127

00:06:42,120 --> 00:06:43,120

Yeah.

128

00:06:43,120 --> 00:06:44,120

That works.

129

00:06:44,120 --> 00:06:45,120

I know.

130

00:06:45,120 --> 00:06:47,120

So what did we learn here?

131

00:06:47,120 --> 00:06:49,120

Well, we learned how to do the trick.

132

00:06:49,120 --> 00:06:51,120

I think we graduated.

133

00:06:51,120 --> 00:06:54,320

But we also learned some of the critical factors.

134

00:06:54,320 --> 00:06:59,520

One, most importantly, the tablecloth needs to be sheer, lightweight and have no stretch

135

00:06:59,520 --> 00:07:00,920

in either dimension.

136

00:07:00,920 --> 00:07:03,920

Two, the tablecloth's placement is critical.

137

00:07:03,920 --> 00:07:05,680

It can't go over the edge of the table.

138

00:07:05,680 --> 00:07:07,600

It needs to be right up to it.

139

00:07:07,600 --> 00:07:10,520

And three, the objects don't have to be very heavy.

140

00:07:10,520 --> 00:07:13,000

They actually can be quite light and it still could work.

141

00:07:13,000 --> 00:07:18,320

And that tells me that this might actually work.

142

00:07:18,320 --> 00:07:20,640

I think Adam has this stunt down.

143

00:07:20,640 --> 00:07:25,040

But it's one thing to do this by hand with a small table with just a couple things on

144

00:07:25,040 --> 00:07:26,040

it.

145

00:07:26,040 --> 00:07:28,200

It's another thing to do this with a motorcycle.

146

00:07:28,200 --> 00:07:33,520

And yet another thing to do this with a motorcycle and a really big table.

147

00:07:33,520 --> 00:07:41,000

You've got our work cut out for us.

148

00:07:41,000 --> 00:07:43,720

Next up, the mythbusters have a myth on the brain.

149

00:07:43,720 --> 00:07:48,680

Okay, well I hope you guys have your brains in gear.

150

00:07:48,680 --> 00:07:49,680

Always do.

151

00:07:49,680 --> 00:07:50,680

Good.

152

00:07:50,680 --> 00:07:51,920

Because for this next myth you're going to need them.

153

00:07:51,920 --> 00:07:55,360

We are testing a myth that is so prevalent that it's just taken for granted that it's

154

00:07:55,360 --> 00:07:56,360

fact.

155

00:07:56,360 --> 00:07:58,740

Humans only use 10% of their brain.

156

00:07:58,740 --> 00:08:00,000

You hear that everywhere.

157

00:08:00,000 --> 00:08:01,800

It's like ingrained in our society.

158

00:08:01,800 --> 00:08:02,800

Definitely.

159

00:08:02,800 --> 00:08:05,720

It doesn't necessarily make it true.

160

00:08:05,720 --> 00:08:09,680

This myth is so pop culture that it even made it to the Simpsons.

161

00:08:09,680 --> 00:08:10,680

Joke if you will.

162

00:08:10,680 --> 00:08:13,440

But did you know most people use 10% of their brains?

163

00:08:13,440 --> 00:08:15,240

I am now one of them.

164

00:08:15,240 --> 00:08:21,840

But are we really only using a fraction of our brains?

165

00:08:21,840 --> 00:08:25,240

I think we need to come up with the biggest, most challenging brain test.

166

00:08:25,240 --> 00:08:27,360

One that will test every single area of the brain.

167

00:08:27,360 --> 00:08:30,640

Well let's utilize some sort of technology that can monitor brain activity and then maybe

168

00:08:30,640 --> 00:08:34,000

come up with like a quiz that can stimulate that activity.

169

00:08:34,000 --> 00:08:35,000

Sounds good.

170

00:08:35,000 --> 00:08:36,200

But you know I think we need some more info.

171

00:08:36,200 --> 00:08:39,960

So if you guys want to figure out how we can map the brain for a quiz, I'll find out more

172

00:08:39,960 --> 00:08:42,800

about the brain itself, its parts and how they work.

173

00:08:42,800 --> 00:08:44,800

Cool.

174

00:08:44,800 --> 00:08:48,280

So before they start quizzing, they need a brain expert.

175

00:08:48,280 --> 00:08:50,520

And Granta's found just the man.

176

00:08:50,520 --> 00:08:51,520

Dr. Manley.

177

00:08:51,520 --> 00:08:56,720

So if we were to go about testing, what percentage of your brain you use, what sort of tests

178

00:08:56,720 --> 00:08:57,720

could you recommend?

179

00:08:57,920 --> 00:09:02,120

There's a number of tests that one can do to look at brain activity or functional connectivity.

180

00:09:02,120 --> 00:09:06,120

One of the earliest ways that we determined to do this is with what's called an EEG or

181

00:09:06,120 --> 00:09:07,920

an electroencephalogram.

182

00:09:07,920 --> 00:09:11,560

And this is where we measure the surface electrical activity on the brain.

183

00:09:11,560 --> 00:09:16,440

And when you do an EEG, you can see that all parts of the brain have some sort of activity.

184

00:09:16,440 --> 00:09:21,080

I know the brain handles a lot of functions around the body, but what are the various

185

00:09:21,080 --> 00:09:23,360

parts and what specifically do they do?

186

00:09:23,360 --> 00:09:26,520

The brain is probably the most complicated organ in the human body.

187

00:09:26,520 --> 00:09:30,600

And as you can see here, the brain has many different parts and structures, which we break

188

00:09:30,600 --> 00:09:35,320

down typically into the frontal lobes, which are involved in executive functions such as

189

00:09:35,320 --> 00:09:37,240

planning and judgment.

190

00:09:37,240 --> 00:09:41,680

We have the temporal lobes here that are primarily involved in language here on the left side.

191

00:09:41,680 --> 00:09:44,800

And towards the medial part of it are involved in memory.

192

00:09:44,800 --> 00:09:49,040

The parietal lobes here help to integrate a lot of the sensory information.

193

00:09:49,040 --> 00:09:53,160

The occipital lobe, which is in the back, is how we process all of our visual information

194

00:09:53,160 --> 00:09:55,160

and things of that nature.

195

00:09:55,160 --> 00:09:58,120

And that's important to remember for testing this myth.

196

00:09:58,120 --> 00:10:02,720

With different areas of the brain responsible for very different functions, they'll need

197

00:10:02,720 --> 00:10:08,880

a variety of tests to trigger every single part of Grant's brain, so the EEG can track

198

00:10:08,880 --> 00:10:11,280

its activity.

199

00:10:11,280 --> 00:10:17,760

Armed with this info, Grant heads to the studio where the brain games can begin.

200

00:10:17,760 --> 00:10:22,840

To test the myth that we only use 10% of our brain, we have this amazing Brain Busters

201

00:10:22,840 --> 00:10:24,000

game show set.

202

00:10:24,000 --> 00:10:27,880

Now, Grant's going to be hooked up to an EEG and monitored by our specialist Cynthia

203

00:10:27,880 --> 00:10:28,880

Curson.

204

00:10:28,880 --> 00:10:31,360

Will this enhance my innate telepathic abilities?

205

00:10:31,360 --> 00:10:32,360

No.

206

00:10:32,360 --> 00:10:37,000

I get to play the host today and present him with all of his challenges.

207

00:10:37,000 --> 00:10:42,680

So now, the first round of Brain Busters.

208

00:10:42,680 --> 00:10:45,120

Memory mania.

209

00:10:45,120 --> 00:10:48,240

This tricky test will target his temporal lobe.

210

00:10:48,880 --> 00:10:54,560

Grant, we're going to present you with 10 images of a person and an object.

211

00:10:54,560 --> 00:11:00,000

Then, we will repeat the images of the people and you have to name the object that's associated

212

00:11:00,000 --> 00:11:01,840

with that person.

213

00:11:01,840 --> 00:11:02,840

Are you ready?

214

00:11:02,840 --> 00:11:03,840

I'm ready.

215

00:11:03,840 --> 00:11:08,040

Adam Savage goes with...

216

00:11:08,040 --> 00:11:09,240

Orange.

217

00:11:09,240 --> 00:11:10,240

One right.

218

00:11:10,240 --> 00:11:12,440

By recalling who goes with what?

219

00:11:12,440 --> 00:11:13,440

Gun.

220

00:11:13,440 --> 00:11:14,440

Two right.

221

00:11:14,440 --> 00:11:15,440

Lion.

222

00:11:15,440 --> 00:11:16,440

That's three right.

223

00:11:16,440 --> 00:11:18,480

Grant's temporal lobe is triggered.

224

00:11:18,480 --> 00:11:19,480

Three.

225

00:11:19,480 --> 00:11:20,480

Four right.

226

00:11:20,480 --> 00:11:23,280

And the corresponding brain activity is recorded on the EEG.

227

00:11:23,280 --> 00:11:24,280

Cloud.

228

00:11:24,280 --> 00:11:25,280

Six right.

229

00:11:25,280 --> 00:11:26,280

Wheel.

230

00:11:26,280 --> 00:11:27,280

Seven right.

231

00:11:27,280 --> 00:11:34,240

With one test down and one perfect score, round number two is crazy calculation, which

232

00:11:34,240 --> 00:11:38,400

should be the ultimate challenge for Grant's parietal lobe.

233

00:11:38,400 --> 00:11:40,080

Are you ready?

234

00:11:40,080 --> 00:11:41,080

I'm ready.

235

00:11:41,080 --> 00:11:42,080

Begin.

236

00:11:42,080 --> 00:11:43,080

12.

237

00:11:43,080 --> 00:11:44,080

13.

238

00:11:44,840 --> 00:11:49,720

To add extra difficulty, the numbers will spin and fade, while an audio track spits

239

00:11:49,720 --> 00:11:52,480

out others to distract Grant.

240

00:11:52,480 --> 00:11:53,480

20.

241

00:11:53,480 --> 00:11:54,480

10.

242

00:11:54,480 --> 00:11:55,600

You are correct.

243

00:11:55,600 --> 00:11:57,360

The answer is 10.

244

00:11:57,360 --> 00:11:58,360

Next question.

245

00:11:58,360 --> 00:11:59,360

12.

246

00:11:59,360 --> 00:12:00,360

2.

247

00:12:00,360 --> 00:12:01,360

You are correct.

248

00:12:01,360 --> 00:12:04,040

Then, the unthinkable happens.

249

00:12:04,040 --> 00:12:05,800

Grant gets a math question.

250

00:12:05,800 --> 00:12:06,800

Wrong.

251

00:12:06,800 --> 00:12:07,800

6.

252

00:12:07,800 --> 00:12:11,800

The answer is 7.

253

00:12:11,800 --> 00:12:13,800

You fail.

254

00:12:14,520 --> 00:12:15,520

6.

255

00:12:15,520 --> 00:12:18,960

But one wrong answer doesn't deter Grant.

256

00:12:18,960 --> 00:12:19,960

5.

257

00:12:19,960 --> 00:12:20,960

Correct.

258

00:12:20,960 --> 00:12:23,760

And he nails the rest of the round.

259

00:12:23,760 --> 00:12:24,760

2.

260

00:12:24,760 --> 00:12:25,760

12.

261

00:12:25,760 --> 00:12:26,760

6.

262

00:12:26,760 --> 00:12:27,760

You are correct.

263

00:12:27,760 --> 00:12:31,760

You get 9 out of 10 in advance to the next round.

264

00:12:31,760 --> 00:12:37,560

Grant's brain is certainly getting a workout, but is it a strain on more than 10% of his

265

00:12:37,560 --> 00:12:38,560

brain?

266

00:12:38,560 --> 00:12:42,360

Stay tuned for the final round of Brain Busters.

267

00:12:42,920 --> 00:12:45,000

My goodness.

268

00:12:45,000 --> 00:12:49,360

And later, we're going to try the world's biggest tablecloth bowl.

269

00:12:49,360 --> 00:12:50,680

What?

270

00:12:50,680 --> 00:12:59,720

The Mythbusters are updating the traditional tablecloth tug because of this viral video.

271

00:12:59,720 --> 00:13:07,120

Now, in the video, it looks like the location they're filming into some kind of large,

272

00:13:07,120 --> 00:13:09,440

long military warehouse type building.

273

00:13:09,440 --> 00:13:21,000

Luckily, in San Francisco, we've got a few of those.

274

00:13:21,000 --> 00:13:24,000

So let the turbo-charge trickery begin.

275

00:13:24,000 --> 00:13:25,920

Let me tell you about the bike we're going to use.

276

00:13:25,920 --> 00:13:27,720

This is my personal sport bike.

277

00:13:27,720 --> 00:13:32,000

It's an 1125R DSB made by Eric Field Racing.

278

00:13:32,000 --> 00:13:34,160

It weighs 390 pounds.

279

00:13:34,160 --> 00:13:37,480

It puts 150 horsepower to the rear wheel.

280

00:13:37,520 --> 00:13:43,200

It does 0 to 60 in the 6 seconds and a quarter mile in 9.8 seconds.

281

00:13:43,200 --> 00:13:47,480

It tops out about 180 miles an hour.

282

00:13:47,480 --> 00:13:52,600

If we can't pull this off, it won't be because the bike's not fast enough.

283

00:13:52,600 --> 00:13:56,840

That's the super-charged bike, and now they need a super-sized table.

284

00:13:56,840 --> 00:13:58,440

Where do you get one of those?

285

00:13:58,440 --> 00:14:00,440

Well, I'm about to build it right here.

286

00:14:00,440 --> 00:14:03,800

When I'm done, we're going to cover it with a tablecloth and 24-place settings, which

287

00:14:03,800 --> 00:14:08,440

should allow the mismaners approved, two foot from guest to guest.

288

00:14:08,440 --> 00:14:12,600

Even though our guests are non-existent, we like to hold to mismaners.

289

00:14:12,600 --> 00:14:18,520

And with Adam's 24-foot table almost finished, the final step is the table decoration.

290

00:14:18,520 --> 00:14:23,160

First with a cloth of lightweight satin, and on top of that, well...

291

00:14:23,160 --> 00:14:24,520

This is one place setting.

292

00:14:24,520 --> 00:14:28,440

We need 23 more, which means we're going to need some help.

293

00:14:28,440 --> 00:14:31,520

That's what they're here for.

294

00:14:31,560 --> 00:14:37,000

Adam's elves make quick work of the table laying, copying the video as closely as possible.

295

00:14:37,000 --> 00:14:42,160

And with the motorcycle hooked up, time for some predictions.

296

00:14:42,160 --> 00:14:43,920

I'm up two minds about this thing.

297

00:14:43,920 --> 00:14:46,160

Part of me really wants to see it succeed.

298

00:14:46,160 --> 00:14:51,600

The other part is looking forward to the horror show of everything hitting the ground, especially

299

00:14:51,600 --> 00:14:54,240

on high speed.

300

00:14:54,240 --> 00:14:56,200

I can't tell which I want more.

301

00:14:56,200 --> 00:14:58,840

We set this whole thing up exactly like it was in the video.

302

00:14:58,840 --> 00:15:05,480

So if the video wasn't faked, when I take off, only the table cloth is coming with me.

303

00:15:05,480 --> 00:15:09,080

Personally, nah, it's not going to happen.

304

00:15:09,080 --> 00:15:14,040

Well with the table dressed for dinner, and Jamie's need for speed, there's only one

305

00:15:14,040 --> 00:15:16,040

way to find out.

306

00:15:21,320 --> 00:15:25,520

Now for the final part of the game show made for your mind.

307

00:15:25,520 --> 00:15:27,520

Brain busters.

308

00:15:27,520 --> 00:15:29,640

Grant's brain is in the hot seat.

309

00:15:29,640 --> 00:15:30,640

Six.

310

00:15:30,640 --> 00:15:33,640

To find out if he's using more than 10%.

311

00:15:33,640 --> 00:15:37,640

And we're back for more brain buster challenge.

312

00:15:37,640 --> 00:15:40,640

In this challenge, we will be stimulating the front to low.

313

00:15:40,640 --> 00:15:45,120

Now this part of the brain is used in planning, decision making, risk taking.

314

00:15:45,120 --> 00:15:50,400

So in this next test, Grant will be forced to make a decision in the face of risk.

315

00:15:50,400 --> 00:15:55,400

Grant, right in your face is a 12 inch balloon.

316

00:15:55,400 --> 00:15:59,000

You will control its inflation by the button at your fingertips.

317

00:15:59,000 --> 00:16:01,400

This is a risk and reward task.

318

00:16:01,400 --> 00:16:02,400

Are you ready?

319

00:16:02,400 --> 00:16:03,400

I'm ready.

320

00:16:03,400 --> 00:16:04,400

Start to inflate.

321

00:16:04,400 --> 00:16:07,400

The longer Grant inflates the balloon, the more points.

322

00:16:07,400 --> 00:16:11,400

However, if the balloon bursts, he'll get zilch.

323

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

Okay.

324

00:16:12,400 --> 00:16:13,400

4.4.

325

00:16:13,400 --> 00:16:14,400

4.4.

326

00:16:14,400 --> 00:16:18,400

Flight all the way.

327

00:16:18,400 --> 00:16:21,400

My goodness.

328

00:16:21,400 --> 00:16:22,400

Okay.

329

00:16:22,400 --> 00:16:23,400

9.3.

330

00:16:23,400 --> 00:16:24,400

Wow.

331

00:16:24,400 --> 00:16:28,400

That was a crazy big balloon.

332

00:16:28,400 --> 00:16:34,400

With his frontal lobe probed, the final challenge is flash frame.

333

00:16:34,400 --> 00:16:38,400

So the next round, we are going to stimulate the occipital lobe.

334

00:16:38,400 --> 00:16:41,400

That is the lower back part of the brain.

335

00:16:41,400 --> 00:16:44,400

This is the one that helps you process visual information.

336

00:16:44,400 --> 00:16:47,400

Let's see how Grant does this round.

337

00:16:47,400 --> 00:16:49,400

This test may look easy.

338

00:16:49,400 --> 00:16:50,400

Amic.

339

00:16:50,400 --> 00:16:55,400

But Grant's occipital lobe must work hard to detect the differences.

340

00:16:55,400 --> 00:16:57,400

Green house.

341

00:16:57,400 --> 00:16:58,400

Asparagus.

342

00:16:58,400 --> 00:17:00,400

Main on the zebra.

343

00:17:00,400 --> 00:17:04,400

You got 4 out of 5 correct.

344

00:17:04,400 --> 00:17:08,400

And for those of you playing at home, here's what Grant missed.

345

00:17:08,400 --> 00:17:11,400

The clouds actually appear on the horizon.

346

00:17:11,400 --> 00:17:12,400

Got it.

347

00:17:12,400 --> 00:17:17,400

With that, this episode of Brain Busters is over.

348

00:17:18,400 --> 00:17:21,400

So we have tested all 4 lobes of the brain.

349

00:17:21,400 --> 00:17:29,400

But now what we need to do is look at the EEG, crunch the data and find out exactly how well his brain is firing.

350

00:17:32,400 --> 00:17:33,400

So let's recap.

351

00:17:33,400 --> 00:17:40,400

We determined in small scale that it is in fact possible to remove a tablecloth under items sitting on a table without any trickery.

352

00:17:40,400 --> 00:17:42,400

It's just technique.

353

00:17:42,400 --> 00:17:47,400

The question is, is it possible to do it when your table has 24 place settings on it?

354

00:17:47,400 --> 00:17:49,400

That's what we're about to determine.

355

00:17:50,400 --> 00:17:53,400

Yep, and here's a reminder of how it's supposed to look.

356

00:17:54,400 --> 00:17:58,400

But now, to find out if the mythbusters can pull this off.

357

00:17:58,400 --> 00:17:59,400

It's all set up.

358

00:17:59,400 --> 00:18:00,400

You ready to ruin Christmas dinner?

359

00:18:00,400 --> 00:18:01,400

I can't wait.

360

00:18:01,400 --> 00:18:03,400

Uncle Jamie always does that.

361

00:18:03,400 --> 00:18:04,400

Get started.

362

00:18:12,400 --> 00:18:15,400

Monster tablecloth pull, just like the video.

363

00:18:15,400 --> 00:18:16,400

Go!

364

00:18:28,400 --> 00:18:31,400

Well some stuff stayed on the table.

365

00:18:31,400 --> 00:18:33,400

Abacadabra that, eh?

366

00:18:34,400 --> 00:18:42,400

Despite Jamie gunning the accelerator on the superbike, it wasn't enough to overcome the friction of 24 table settings.

367

00:18:46,400 --> 00:18:47,400

Oops!

368

00:18:49,400 --> 00:18:51,400

This is why we can't have nice things.

369

00:18:51,400 --> 00:18:52,400

I guess so.

370

00:18:52,400 --> 00:18:53,400

What a horror show.

371

00:18:54,400 --> 00:18:55,400

I lost some of them on the table.

372

00:18:55,400 --> 00:18:57,400

That's exactly what I said.

373

00:18:57,400 --> 00:18:58,400

The glasses have full.

374

00:18:58,400 --> 00:19:01,400

This trick worked exactly like it did in the small skim.

375

00:19:01,400 --> 00:19:10,400

At least for a couple of settings, the problem was the other 22 pretty much got destroyed.

376

00:19:10,400 --> 00:19:17,400

The thing is that these first two settings only had a couple of feet of cloth to deal with.

377

00:19:17,400 --> 00:19:22,400

Everything from here down had much more cloth that had to clear underneath it to do the job.

378

00:19:23,400 --> 00:19:28,400

And that meant that it all started to move and a lot of it moved right under the floor.

379

00:19:29,400 --> 00:19:37,400

It's starting to look like the spectacular tablecloth strip of the video clip could be a lot more complicated than it seems.

380

00:19:37,400 --> 00:19:39,400

Clearly we've got to do that again.

381

00:19:39,400 --> 00:19:41,400

We've got to clean up first.

382

00:19:41,400 --> 00:19:43,400

Yeah, well, he who made the mess gets to clean it up.

383

00:19:43,400 --> 00:19:45,400

See you in a couple of hours.

384

00:19:46,400 --> 00:19:53,400

Next, can the Mythbusters turn the tables or will they miss this trick?

385

00:20:01,400 --> 00:20:04,400

The Mythbusters have only one thing on their mind.

386

00:20:06,400 --> 00:20:10,400

Do humans use only 10% of their brains?

387

00:20:11,400 --> 00:20:16,400

After a tense wait, Grant's brain power results are in.

388

00:20:16,400 --> 00:20:20,400

So we can't wait to find out how did Grant do through the challenges?

389

00:20:20,400 --> 00:20:23,400

Well, I was happy to see that Grant did very well on his test.

390

00:20:23,400 --> 00:20:30,400

He compares pretty closely to normal and all of the parts of the brain that we thought would be illuminated during the different tasks, most for the most part, were.

391

00:20:30,400 --> 00:20:37,400

In fact, for every test, Grant's brain activity is lit up on the EEG just where you'd expect.

392

00:20:37,400 --> 00:20:40,400

We have activity right here in the temporal lobes.

393

00:20:40,400 --> 00:20:45,400

There was activity in the left parietal area while he was doing this math task.

394

00:20:45,400 --> 00:20:50,400

You can see here that we did pick up some activity in the occipital lobes and in the deeper structures.

395

00:20:50,400 --> 00:20:54,400

Grant's brain is working, but how much of it is engaged?

396

00:20:54,400 --> 00:20:56,400

So Cynthia, what's the bottom line?

397

00:20:56,400 --> 00:21:01,400

Based on these tests, can you assign a percentage to the amount of my brain that I'm using?

398

00:21:01,400 --> 00:21:06,400

Based on these results, we can see that the right parts of your brain were being activated during the certain tasks.

399

00:21:06,400 --> 00:21:12,400

But we can't really make a determination about the percentage of your brain that you were actually utilizing.

400

00:21:12,400 --> 00:21:20,400

The results of the EEG tests showed us that we actually constructed these tests to excite the right parts of the brain.

401

00:21:20,400 --> 00:21:23,400

In fact, they were excited in the way that we expected.

402

00:21:23,400 --> 00:21:31,400

Unfortunately, they were inconclusive in actually giving us a percentage that we could assign.

403

00:21:31,400 --> 00:21:39,400

The EEG focuses on the surface activity of Grant's brain, so it can't provide a conclusive all-over percentage.

404

00:21:39,400 --> 00:21:43,400

And inconclusive just doesn't cut it for the mythbusters.

405

00:21:43,400 --> 00:21:45,400

So we need another brain testing device.

406

00:21:45,400 --> 00:21:48,400

I think I have just the thing. We should go to the MEG.

407

00:21:48,400 --> 00:21:51,400

Apparently it can give us the kind of brain mapping we're looking for.

408

00:21:51,400 --> 00:21:54,400

Oh boy, I see more quizzing in our future.

409

00:21:54,400 --> 00:22:01,400

Well, actually Tori, more quizzing in your future as the team heads to UCSF Biomedical Imaging Lab,

410

00:22:01,400 --> 00:22:05,400

where they'll use an MEG to read Tori's mind.

411

00:22:05,400 --> 00:22:08,400

I don't know if I'm ready for this.

412

00:22:08,400 --> 00:22:12,400

Now the magnetoencephalograph is much more comprehensive than the EEG.

413

00:22:12,400 --> 00:22:15,400

Any electrical current is going to produce a magnetic field.

414

00:22:15,400 --> 00:22:23,400

The MEG uses extremely sensitive, superconducting sensors to measure the field that the brain's electrical current generates.

415

00:22:23,400 --> 00:22:28,400

It's a sensitive machine that can detect even the tiniest brain waves.

416

00:22:28,400 --> 00:22:31,400

And in the capable hands of the UCSF Brainiacs...

417

00:22:31,400 --> 00:22:33,400

You guys aren't going to erase my memories, are you?

418

00:22:33,400 --> 00:22:34,400

Don't worry.

419

00:22:34,400 --> 00:22:37,400

Tori is carefully hooked up for testing.

420

00:22:37,400 --> 00:22:39,400

Help me! Help me get out of here!

421

00:22:39,400 --> 00:22:43,400

So we're going to put this microphone up by your mouth so we can record what you're saying.

422

00:22:43,400 --> 00:22:44,400

You're going to leave me in here?

423

00:22:44,400 --> 00:22:45,400

Bye!

424

00:22:45,400 --> 00:22:46,400

Bye!

425

00:22:46,400 --> 00:22:49,400

Should we start it defrosht and work our way up?

426

00:22:50,400 --> 00:22:53,400

And now comes the hard part.

427

00:22:53,400 --> 00:22:57,400

A series of four tests to put Tori's brain to work.

428

00:22:57,400 --> 00:23:01,400

And find out if he's using more than the mythical 10%.

429

00:23:01,400 --> 00:23:02,400

All right, please start holding still.

430

00:23:02,400 --> 00:23:06,400

Like the EEG, we're going to start by firing up the temporal lobe.

431

00:23:06,400 --> 00:23:10,400

Now this is the one associated with memory and auditory stimulation.

432

00:23:10,400 --> 00:23:13,400

Okay, Layton, so how does this test work?

433

00:23:13,400 --> 00:23:15,400

So I've trained Tori on these word pairs.

434

00:23:15,400 --> 00:23:18,400

What he's going to do is he's going to hear one of the words and he's going to speak back

435

00:23:18,400 --> 00:23:21,400

the word that he's been trained on that's associated with the first word.

436

00:23:21,400 --> 00:23:23,400

Basket.

437

00:23:23,400 --> 00:23:24,400

Tori.

438

00:23:24,400 --> 00:23:25,400

Book.

439

00:23:25,400 --> 00:23:26,400

Adam.

440

00:23:26,400 --> 00:23:27,400

Coffee.

441

00:23:27,400 --> 00:23:28,400

Grant.

442

00:23:28,400 --> 00:23:34,400

Tori completes test one with flying colors and then it's on to the occipital lobe test

443

00:23:34,400 --> 00:23:35,400

with some familiar faces.

444

00:23:35,400 --> 00:23:38,400

I feel like I'm in a Kubrick film right now.

445

00:23:38,400 --> 00:23:40,400

Okay, Tori, here's what you're going to do.

446

00:23:40,400 --> 00:23:43,400

You're going to be looking at the screen and there are going to be faces appearing on the screen.

447

00:23:43,400 --> 00:23:44,400

Okay.

448

00:23:44,400 --> 00:23:47,400

Faces are either going to be ones that are familiar to you, like Carrie there.

449

00:23:47,400 --> 00:23:50,400

If you see a familiar one, you press the button with your right hand.

450

00:23:50,400 --> 00:23:51,400

Okay.

451

00:23:51,400 --> 00:23:54,400

If it's an unfamiliar face, one you've never seen before, like that person right there,

452

00:23:54,400 --> 00:23:56,400

you're going to press the left button.

453

00:23:56,400 --> 00:23:57,400

Okay.

454

00:23:57,400 --> 00:23:58,400

And that's it.

455

00:23:58,400 --> 00:23:59,400

Hey, who's that guy?

456

00:23:59,400 --> 00:24:04,400

Now the occipital test, it wasn't that hard, but it was designed to stimulate the part of

457

00:24:04,400 --> 00:24:08,400

my brain that visually recognizes things that I already know.

458

00:24:08,400 --> 00:24:10,400

Yeah, I just saw him push a button there.

459

00:24:10,400 --> 00:24:12,400

That's cool.

460

00:24:12,400 --> 00:24:17,400

Test number three is a simple math task to stimulate Tori's parietal lobe.

461

00:24:17,400 --> 00:24:19,400

All right, so what's this test all about?

462

00:24:19,400 --> 00:24:22,400

There's going to be a pair of numbers flashing on the screen, and the numbers can be either

463

00:24:22,400 --> 00:24:23,400

the same or different.

464

00:24:23,400 --> 00:24:26,400

And if the numbers are the same, he's going to press the left button.

465

00:24:26,400 --> 00:24:29,400

If they're different, he's going to press the right button.

466

00:24:29,400 --> 00:24:33,400

As the numbers flash, Tori does his best to press the right buttons, but it seems the

467

00:24:33,400 --> 00:24:37,400

tension is getting to him inside the MEG.

468

00:24:37,400 --> 00:24:39,400

Oh, try not to grade your teeth, please.

469

00:24:39,400 --> 00:24:41,400

All right.

470

00:24:41,400 --> 00:24:46,400

For the frontal lobe quiz, the team uses a test which seems like a simple enough combination

471

00:24:46,400 --> 00:24:48,400

of text and color.

472

00:24:48,400 --> 00:24:52,400

What happens is a word appears on the screen, and the word is a color, either yellow or blue.

473

00:24:52,400 --> 00:24:57,400

And the color of the word itself can be either the same color as the word or a different

474

00:24:57,400 --> 00:24:58,400

color.

475

00:24:58,400 --> 00:25:02,400

And when the two are incongruent, it creates a cognitive conflict, and that really drives

476

00:25:02,400 --> 00:25:03,400

activity in the frontal lobe.

477

00:25:03,400 --> 00:25:04,400

I like that one.

478

00:25:04,400 --> 00:25:05,400

That's cool.

479

00:25:05,400 --> 00:25:08,400

It's cool, but deceptively difficult.

480

00:25:08,400 --> 00:25:13,400

And with all the tests complete, Tori's head is completely checked.

481

00:25:13,400 --> 00:25:15,400

Hey, good job, man.

482

00:25:15,400 --> 00:25:17,400

Who are you, people?

483

00:25:17,400 --> 00:25:18,400

What year are they?

484

00:25:18,400 --> 00:25:21,400

All right, so tell me, am I using more than 10% of my brain?

485

00:25:21,400 --> 00:25:24,400

We'll know in a couple of days where I have to crank on the data.

486

00:25:24,400 --> 00:25:29,400

But preliminary results show that you're missing part of that frontal lobe where it tells you

487

00:25:29,400 --> 00:25:31,400

not to jump over red wagons with bicycles.

488

00:25:31,400 --> 00:25:34,400

Can we wipe that memory from my brain?

489

00:25:38,400 --> 00:25:45,400

In this viral video, the motorcycle takes off and takes the tablecloth with it.

490

00:25:45,400 --> 00:25:54,400

But after one tragic magic trick, it's looking more like a mission improbable.

491

00:25:54,400 --> 00:25:56,400

Well, that was just the horror show that I was looking for.

492

00:25:56,400 --> 00:26:01,400

And honestly, I'm not sure if this is going to work at all, but if it is, if there's any

493

00:26:01,400 --> 00:26:05,400

chance of it working, I see that there's two major problems that we've got to solve.

494

00:26:05,400 --> 00:26:07,400

One is there's a lot of weight on that tablecloth.

495

00:26:07,400 --> 00:26:11,400

I mean, one of the reasons I think the small, light, thin tablecloth works so well on the

496

00:26:11,400 --> 00:26:14,400

small scale is because it got out of the way.

497

00:26:14,400 --> 00:26:17,400

When you've got heavy weight on it, it's harder for it to get out of the way.

498

00:26:17,400 --> 00:26:22,400

Second is that tablecloth has to start moving faster from the get-go.

499

00:26:22,400 --> 00:26:24,400

It needs more of a big jerk.

500

00:26:24,400 --> 00:26:25,400

I'm not talking about Jamie.

501

00:26:25,400 --> 00:26:30,400

I'm talking about some slack in the rope so he gets up to speed and then, boink, pulls

502

00:26:30,400 --> 00:26:32,400

it out at speed.

503

00:26:32,400 --> 00:26:34,400

That's what we got to do.

504

00:26:34,400 --> 00:26:35,400

That's the plan.

505

00:26:35,400 --> 00:26:41,400

So first, Adam gets rid of that excess weight and just like any diet, cutting out booze

506

00:26:41,400 --> 00:26:42,400

is a good start.

507

00:26:42,400 --> 00:26:44,400

Yeah, that's cheap.

508

00:26:44,400 --> 00:26:49,400

Then with the lighter table settings back in place, the next step is to give this trick

509

00:26:49,400 --> 00:26:52,400

enough rope.

510

00:26:52,400 --> 00:26:53,400

Here we are.

511

00:26:53,400 --> 00:26:54,400

200 feet.

512

00:26:54,400 --> 00:26:58,400

200 feet of nylon line coiled so that it cannot get tangled.

513

00:26:58,400 --> 00:27:03,400

What will happen is, I will say, okay, pull the tablecloth out from under the table,

514

00:27:03,400 --> 00:27:07,400

out from under the table with 200 feet of line, go.

515

00:27:07,400 --> 00:27:10,400

Jamie's going to take off on his bike.

516

00:27:10,400 --> 00:27:15,400

This rope is going to spool out all 200 feet of it until he reaches the end.

517

00:27:15,400 --> 00:27:20,400

He's going to tug on this with about 50 to 60 miles per hour with the force, whatever

518

00:27:20,400 --> 00:27:21,400

that is.

519

00:27:21,400 --> 00:27:24,400

Not going to say, I don't think it's going to help.

520

00:27:24,400 --> 00:27:31,400

And while Adam is skeptical of the full table strip, Jamie has a case of worst case scenarioitis.

521

00:27:31,400 --> 00:27:34,400

This time around, the rope is going to pull taut.

522

00:27:34,400 --> 00:27:38,400

The bike's going to stop and I'm going to keep going straight into the wall.

523

00:27:38,400 --> 00:27:43,400

Well, time to find out who will survive this tablecloth tug of war.

524

00:27:43,400 --> 00:27:46,400

The table settings or the Heinemann?

525

00:27:46,400 --> 00:27:47,400

Go!

526

00:27:48,400 --> 00:27:53,400

As Jamie throttles the throttle, the line unspools and...

527

00:28:02,400 --> 00:28:05,400

That was so much closer than I thought it would be.

528

00:28:07,400 --> 00:28:10,400

Once again, the magic doesn't happen.

529

00:28:10,400 --> 00:28:14,400

But this time around, there was a lot less destruction.

530

00:28:18,400 --> 00:28:22,400

Clearly, we still need to do some work, but less than I thought.

531

00:28:24,400 --> 00:28:27,400

You can see the difference between this run and the last run.

532

00:28:27,400 --> 00:28:31,400

Most of the dishes are still on the table and not only that, they're not broken.

533

00:28:31,400 --> 00:28:35,400

What that tells me is that we're on the right track, but of course, we can do better.

534

00:28:39,400 --> 00:28:40,400

Look at that!

535

00:28:40,400 --> 00:28:44,400

It's a little sloppy, but it's a lot better than it was the last time.

536

00:28:44,400 --> 00:28:48,400

I'd say 90% of what we had stayed on the table.

537

00:28:48,400 --> 00:28:51,400

I mean, it all got tipped over, but it stayed on the table.

538

00:28:51,400 --> 00:28:53,400

That's a lot closer than I thought we'd be.

539

00:28:53,400 --> 00:28:54,400

Well, you know what that means.

540

00:28:54,400 --> 00:28:55,400

What?

541

00:28:55,400 --> 00:28:56,400

I just need to go faster.

542

00:28:56,400 --> 00:29:00,400

I'm not sure if speed is the only fix, but definitely speed will help.

543

00:29:00,400 --> 00:29:02,400

How fast do you think we want to go?

544

00:29:02,400 --> 00:29:04,400

100 miles an hour.

545

00:29:05,400 --> 00:29:08,400

You can need like a quarter mile to get up to that speed.

546

00:29:08,400 --> 00:29:09,400

Let's go find a quarter mile.

547

00:29:09,400 --> 00:29:10,400

Okay.

548

00:29:14,400 --> 00:29:25,400

Did you know most people use 10% of their brains?

549

00:29:25,400 --> 00:29:28,400

According to the Simpsons, this is fact.

550

00:29:28,400 --> 00:29:31,400

But the Mythbusters are putting that to the test.

551

00:29:31,400 --> 00:29:32,400

Well, this has been terrific.

552

00:29:32,400 --> 00:29:34,400

Let's do it again sometime.

553

00:29:34,400 --> 00:29:38,400

And Tori's MEG results are in.

554

00:29:38,400 --> 00:29:41,400

We're back at UCSF to get the results for Tori's MEG.

555

00:29:41,400 --> 00:29:43,400

This is going to tell us if our myth is confirmed.

556

00:29:43,400 --> 00:29:45,400

It's a really big moment for us.

557

00:29:45,400 --> 00:29:49,400

Yep, so it's over to the neurologist to reveal the final percentages.

558

00:29:49,400 --> 00:29:52,400

So we've got the results from the MEG.

559

00:29:52,400 --> 00:29:53,400

How's the myth looking?

560

00:29:53,400 --> 00:29:54,400

Very interesting.

561

00:29:54,400 --> 00:29:56,400

I think that there's an element of truth to this myth.

562

00:29:56,400 --> 00:30:00,400

If you look at a 100 millisecond time scale and you're doing one thing.

563

00:30:00,400 --> 00:30:01,400

Basket.

564

00:30:01,400 --> 00:30:02,400

Tori.

565

00:30:02,400 --> 00:30:04,400

We see about 10% of the brain active.

566

00:30:04,400 --> 00:30:06,400

But that's just one tenth of a second.

567

00:30:06,400 --> 00:30:09,400

What's the percentage of the brain activity during the entire challenge?

568

00:30:09,400 --> 00:30:12,400

We found that the total overall brain activation was about 35%.

569

00:30:12,400 --> 00:30:13,400

35%.

570

00:30:13,400 --> 00:30:15,400

So the myth is busted?

571

00:30:15,400 --> 00:30:16,400

Totally busted.

572

00:30:16,400 --> 00:30:21,400

So the essence of the myth I really believe is that you're only using 10% all the time.

573

00:30:21,400 --> 00:30:23,400

So for that you're pretty much saying it's busted.

574

00:30:23,400 --> 00:30:26,400

But what's interesting is just that one tenth of a second.

575

00:30:26,400 --> 00:30:29,400

There's a little bit of plausibility there.

576

00:30:29,400 --> 00:30:30,400

That's really cool.

577

00:30:30,400 --> 00:30:35,400

Even individually, Tori's lobes were still firing at more than 10%.

578

00:30:35,400 --> 00:30:37,400

So the myth is busted.

579

00:30:37,400 --> 00:30:41,400

But that's given our brainbusters a brainwave.

580

00:30:41,400 --> 00:30:43,400

And they can't leave it there.

581

00:30:43,400 --> 00:30:45,400

Mythbusters.

582

00:30:45,400 --> 00:30:50,400

So after all of our tests we have proven that we do use more than 10% of our brain.

583

00:30:50,400 --> 00:30:55,400

But now it's time to go deeper to find out exactly how much or how little of our brain we use.

584

00:30:55,400 --> 00:31:01,400

So we're here at UCSF to get an fMRI, a functional magnetic resonance image.

585

00:31:01,400 --> 00:31:03,400

This should be interesting.

586

00:31:03,400 --> 00:31:06,400

Once again, Lab Rat Tori is ready for testing.

587

00:31:06,400 --> 00:31:11,400

But instead of quizzes, this time they're doing things slightly differently.

588

00:31:11,400 --> 00:31:12,400

Alright.

589

00:31:12,400 --> 00:31:13,400

Engage.

590

00:31:15,400 --> 00:31:16,400

What?

591

00:31:16,400 --> 00:31:17,400

You're such a nerd.

592

00:31:19,400 --> 00:31:20,400

Newsflash.

593

00:31:20,400 --> 00:31:26,400

So the first test that Tori's going to take in the fMRI is going to be the bare minimum of activity.

594

00:31:26,400 --> 00:31:29,400

He's going to be at rest with his eyes closed.

595

00:31:29,400 --> 00:31:34,400

Okay Tori, what I need you to do is try to stay still and stay awake for the next eight minutes.

596

00:31:34,400 --> 00:31:35,400

Here we go.

597

00:31:35,400 --> 00:31:41,400

And that way we can see when you're doing absolutely nothing, how much of your brain you're actually using.

598

00:31:44,400 --> 00:31:45,400

That's insane.

599

00:31:45,400 --> 00:31:48,400

So that's what he looks like as a zombie.

600

00:31:50,400 --> 00:31:54,400

Even at rest it seems that Tori's brain is still very active.

601

00:31:54,400 --> 00:31:55,400

That's so cool.

602

00:31:55,400 --> 00:32:00,400

And eventually after eight minutes it's time for test two.

603

00:32:00,400 --> 00:32:05,400

We're going to try to have Tori fire up every lobe of the brain and the cerebellum all at once.

604

00:32:05,400 --> 00:32:08,400

Now to do that we're going to have him tell a story out loud.

605

00:32:08,400 --> 00:32:16,400

The story's going to involve trauma, recollection, order of events, all sorts of things that we can see all of the brain firing at once.

606

00:32:16,400 --> 00:32:20,400

Okay Tori, we're going to do the storytelling part of the experiment.

607

00:32:20,400 --> 00:32:21,400

We're going to begin.

608

00:32:22,400 --> 00:32:24,400

So one day you're out.

609

00:32:25,400 --> 00:32:31,400

Interestingly Tori's traumatic story involves an unfortunate bike accident.

610

00:32:33,400 --> 00:32:35,400

Gosh, pretty scary.

611

00:32:35,400 --> 00:32:38,400

He's lighting up like a Christmas tree there.

612

00:32:38,400 --> 00:32:39,400

What's going on?

613

00:32:39,400 --> 00:32:42,400

Well as he's telling the story there's activity in a lot of brain regions.

614

00:32:42,400 --> 00:32:47,400

So you can see these parts of the frontal lobe in either hemisphere active as he's telling the story.

615

00:32:47,400 --> 00:32:50,400

Now he's taking a break and you can see the activity go down.

616

00:32:50,400 --> 00:32:56,400

And when he hears himself tell the story you can see activity in auditory cortex and temporal lobe light up.

617

00:32:56,400 --> 00:32:57,400

That's great.

618

00:32:59,400 --> 00:33:03,400

And with Tori's story over he's ejected from the test tube.

619

00:33:03,400 --> 00:33:10,400

The interesting thing about our test today is that at rest your brain is using so much more than I actually expected.

620

00:33:10,400 --> 00:33:12,400

I feel like a lap rat.

621

00:33:12,400 --> 00:33:19,400

I mean I knew that when you were going to tell a traumatic story or you're doing something

interesting that you're going to have a lot of things firing.

622

00:33:19,400 --> 00:33:25,400

When you're just sitting there doing nothing you're already looking like you're using more than 10%.

623

00:33:25,400 --> 00:33:26,400

Next.

624

00:33:26,400 --> 00:33:27,400

Tablecloth pole.

625

00:33:27,400 --> 00:33:29,400

600 feet of rope.

626

00:33:29,400 --> 00:33:31,400

100 miles an hour.

627

00:33:31,400 --> 00:33:32,400

Jamie go.

628

00:33:40,400 --> 00:33:45,400

When magic works it makes you believe the impossible is possible.

629

00:33:46,400 --> 00:33:52,400

But so far this tablecloth take off looks like it could be just smoke and mirrors.

630

00:33:54,400 --> 00:34:01,400

So the mythbusters have come to Alameda to find out if they can pull this one off at 100 miles per hour.

631

00:34:01,400 --> 00:34:03,400

Show off.

632

00:34:07,400 --> 00:34:09,400

Tablecloth pole 101.

633

00:34:09,400 --> 00:34:14,400

We tried it in scale in the shop and learned that you need a thin tablecloth with no hem and a good sharp pole.

634

00:34:14,400 --> 00:34:20,400

So then we went into a warehouse and we tried replicating exactly what we saw in the video and this happened.

635

00:34:23,400 --> 00:34:30,400

Then we thought what if we pulled the tablecloth much faster so we added 200 foot of rope between the motorcycle and the tablecloth.

636

00:34:30,400 --> 00:34:34,400

Jamie got up to about 50 miles an hour and this happened.

637

00:34:35,400 --> 00:34:40,400

But we wanted to know what it would take to do it for reals.

638

00:34:40,400 --> 00:34:42,400

So the table is set.

639

00:34:42,400 --> 00:34:48,400

Jamie is warming up the motorcycle and in a few minutes we're going to try the world's biggest tablecloth pole.

640

00:34:50,400 --> 00:34:57,400

We've considered that one of the biggest stresses on the tablecloth for the success of this effect is the overall weight of everything on this table.

641

00:34:57,400 --> 00:35:00,400

And thus we've reduced it by at least half.

642

00:35:00,400 --> 00:35:06,400

We've replaced all the cast aluminum flower pots and champagne buckets with stainless steel ones with smoother bottoms.

643

00:35:06,400 --> 00:35:10,400

We've replaced all the ceramic plate wear with plastic plate wear.

644

00:35:10,400 --> 00:35:14,400

We're hoping that that lighter weight will actually make this much more possible.

645

00:35:14,400 --> 00:35:18,400

Remember this trick is a battle between inertia and friction.

646

00:35:18,400 --> 00:35:23,400

So reducing the weight of the table settings means the friction should decrease.

647

00:35:23,400 --> 00:35:25,400

That's the idea.

648

00:35:25,400 --> 00:35:31,400

But Jamie for one is still skeptical that this will work even at 100 miles per hour.

649

00:35:33,400 --> 00:35:40,400

When I take off on this bike, 600 feet of line is going to pay out and it's going to yank the tablecloth off the table at 100 miles an hour.

650

00:35:40,400 --> 00:35:43,400

Hopefully all the dishes will remain in place and intact.

651

00:35:43,400 --> 00:35:46,400

But what really is going to happen is hard to say.

652

00:35:46,400 --> 00:35:48,400

100 miles an hour is awfully quick.

653

00:35:48,400 --> 00:35:53,400

But if the dishes just move a little bit and they stay upright,

654

00:35:54,400 --> 00:35:56,400

we're going to.

655

00:35:56,400 --> 00:35:58,400

I still don't think it's going to work.

656

00:35:58,400 --> 00:36:00,400

Even with all this, I don't think it's going to work.

657

00:36:00,400 --> 00:36:02,400

But again, I'm usually wrong.

658

00:36:02,400 --> 00:36:04,400

So you should probably bet the opposite.

659

00:36:04,400 --> 00:36:08,400

Well, with the preparations complete, it's the moment of truth.

660

00:36:08,400 --> 00:36:09,400

You ready to do this?

661

00:36:09,400 --> 00:36:10,400

Yep.

662

00:36:10,400 --> 00:36:11,400

Let's do it.

663

00:36:14,400 --> 00:36:15,400

All right.

664

00:36:15,400 --> 00:36:16,400

Here we go.

665

00:36:16,400 --> 00:36:18,400

Possibly the world's biggest tablecloth.

666

00:36:18,400 --> 00:36:19,400

Pull.

667

00:36:19,400 --> 00:36:22,400

In three, two, one, go.

668

00:36:23,400 --> 00:36:24,400

Oh.

669

00:36:29,400 --> 00:36:30,400

Oh.

670

00:36:34,400 --> 00:36:35,400

Oh.

671

00:36:37,400 --> 00:36:40,400

Ha ha ha ha ha ha ha ha ha ha ha ha ha ha ha ha.

672

00:36:46,400 --> 00:36:48,400

It really was the best attempt so far.

673

00:36:50,400 --> 00:36:52,400

And still we have destruction.

674

00:36:53,400 --> 00:36:54,400

But hey, I was right.

675

00:36:54,400 --> 00:36:59,400

It's the closest they've come to success with half the table intact.

676

00:36:59,400 --> 00:37:00,400

Oh.

677

00:37:02,400 --> 00:37:06,400

But the high speed reveals that there was a hitch.

678

00:37:06,400 --> 00:37:12,400

We can tell by looking at the high speed that a rip occurred on the front corner of the table

679

00:37:12,400 --> 00:37:16,400

because the tablecloth is being pulled down slightly

680

00:37:16,400 --> 00:37:21,400

and the sharp square corner eventually made a little bit of a start of a rip

681

00:37:21,400 --> 00:37:22,400

and then it was all over.

682

00:37:22,400 --> 00:37:23,400

We can fix that.

683

00:37:24,400 --> 00:37:26,400

It's a simple fix.

684

00:37:26,400 --> 00:37:30,400

And while Jamie takes the edge off, Adam whips up another tablecloth.

685

00:37:31,400 --> 00:37:35,400

And once the repairs are finished, the table is set for take two.

686

00:37:38,400 --> 00:37:39,400

Tablecloth pull.

687

00:37:39,400 --> 00:37:41,400

600 feet of line.

688

00:37:41,400 --> 00:37:43,400

100 miles an hour.

689

00:37:43,400 --> 00:37:44,400

Jamie, go.

690

00:37:53,400 --> 00:37:54,400

Whoa, whoa.

691

00:38:08,400 --> 00:38:12,400

Well that is certainly as good as it gets, but it's still rolling.

692

00:38:14,400 --> 00:38:15,400

They faked it.

693

00:38:15,400 --> 00:38:17,400

Totally faked it.

694

00:38:18,400 --> 00:38:20,400

They almost pulled that one off.

695

00:38:20,400 --> 00:38:27,400

But even a perfect run at 100 miles per hour still wasn't enough to leave the table intact.

696

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

Hey, that's not bad.

697

00:38:38,400 --> 00:38:39,400

Not bad at all.

698

00:38:39,400 --> 00:38:42,400

Everything's slid, especially on the front half.

699

00:38:42,400 --> 00:38:43,400

We lost a few place settings.

700

00:38:43,400 --> 00:38:45,400

Most everything is still standing.

701

00:38:45,400 --> 00:38:46,400

But honestly, you know what I'm thinking?

702

00:38:46,400 --> 00:38:47,400

What?

703

00:38:47,400 --> 00:38:48,400

They faked it.

704

00:38:48,400 --> 00:38:49,400

Yeah, they faked it.

705

00:38:49,400 --> 00:38:50,400

It's busted.

706

00:38:50,400 --> 00:38:52,400

Yeah, totally busted.

707

00:38:58,400 --> 00:38:59,400

That run wasn't half bad.

708

00:38:59,400 --> 00:39:04,400

In fact, it was pretty darn good, but it wasn't what we saw in the clip.

709

00:39:04,400 --> 00:39:06,400

So that's what we've got to do next.

710

00:39:06,400 --> 00:39:07,400

We're going to have to fake it.

711

00:39:07,400 --> 00:39:08,400

Coming up.

712

00:39:09,400 --> 00:39:10,400

Boy, I hope this works.

713

00:39:10,400 --> 00:39:11,400

It'll work.

714

00:39:16,400 --> 00:39:18,400

They're going to fry my brain.

715

00:39:19,400 --> 00:39:24,400

The Mythbusters have been picking Tori's brain to find out just what it can do.

716

00:39:24,400 --> 00:39:26,400

And now the results are in.

717

00:39:26,400 --> 00:39:34,400

So, Layton, from the results that you were looking at, overall total percentage, how much was Tori using at resting point?

718

00:39:34,400 --> 00:39:42,400

So when we're looking at the brain at rest, if we look at three major networks in the brain, the visual network, the auditory network, the sensory motor network,

719

00:39:42,400 --> 00:39:49,400

and put those three networks together, even at rest when he's not doing anything at all, that accounts for about 15% of total brain activity.

720

00:39:49,400 --> 00:39:56,400

The scans for Tori at rest clearly show that even though his body is inactive, his brain certainly isn't.

721

00:39:56,400 --> 00:40:01,400

All right, so this is the test where I'm trying to recall a story and try to use as many lobes as possible.

722

00:40:01,400 --> 00:40:02,400

What did I come up with?

723

00:40:02,400 --> 00:40:07,400

When you're telling the story, we see activity in the frontal lobe, in the temporal lobe, in the visual lobe,

724

00:40:07,400 --> 00:40:11,400

and also in the limbic lobe as you're experiencing the emotional content of the story.

725

00:40:11,400 --> 00:40:16,400

And there, across the brain, we see about 30% of the total brain volume active.

726

00:40:16,400 --> 00:40:21,400

That's the most brain power for any individual test across all the different scans.

727

00:40:21,400 --> 00:40:28,400

With all of Tori's lobes engaged, his brain maxed out at a huge 30%.

728

00:40:28,400 --> 00:40:42,400

It's obvious that even at 100 miles per hour, this trick can't be done without devious deception.

729

00:40:42,400 --> 00:40:48,400

So it's back to where it all began, Fort Mason, for some tablecloth trickery.

730

00:40:48,400 --> 00:40:53,400

What's different about this setup than its predecessor? Actually, quite a lot.

731

00:40:53,400 --> 00:40:58,400

I started out by treating the entire tablecloth with a dry lubricant made for sailboat sails,

732

00:40:58,400 --> 00:41:01,400

and that should actually reduce its coefficient of friction.

733

00:41:01,400 --> 00:41:09,400

But most importantly, I then laid down on top of the tablecloth a sheet of plastic, 24 feet long,

734

00:41:09,400 --> 00:41:14,400

and mounted at the non-motorcycle end of the table, and then we set the table as normal.

735

00:41:14,400 --> 00:41:21,400

What this means is that between all the place settings on the tablecloth is a thin membrane on which everything sits.

736

00:41:21,400 --> 00:41:28,400

So the tablecloth should, in theory, slip out easy as you please without disturbing anything on the table.

737

00:41:28,400 --> 00:41:30,400

That's how I think they did it.

738

00:41:34,400 --> 00:41:35,400

Boy, I hope this works.

739

00:41:35,400 --> 00:41:36,400

That will work.

740

00:41:38,400 --> 00:41:41,400

That's it. Let's try it.

741

00:41:41,400 --> 00:41:43,400

Ha ha ha ha ha.

742

00:41:46,400 --> 00:41:50,400

This is tablecloth pull, the sheet.

743

00:41:50,400 --> 00:41:53,400

Three, two, one, go!

744

00:41:53,400 --> 00:41:59,400

This is it. Will they finally be able to pull a fast one and make the tablecloth disappear?

745

00:42:02,400 --> 00:42:04,400

Ha ha ha ha ha ha.

746

00:42:07,400 --> 00:42:08,400

And that's how it's done.

747

00:42:12,400 --> 00:42:14,400

Ha ha ha ha ha.

748

00:42:24,400 --> 00:42:26,400

Congratulations, we did it.

749

00:42:26,400 --> 00:42:27,400

It looks fantastic.

750

00:42:27,400 --> 00:42:29,400

Yeah, we disturbed one fork and that was it.

751

00:42:29,400 --> 00:42:31,400

I'll settle for that.

752

00:42:31,400 --> 00:42:32,400

So will I.

753

00:42:33,400 --> 00:42:38,400

Just like the Hollywood saying, you have to fake it till you make it.

754

00:42:38,400 --> 00:42:40,400

And that's Mission Accomplished.

755

00:42:42,400 --> 00:42:46,400

Well, we replicated the results. Where does that leave the story? The myth?

756

00:42:46,400 --> 00:42:49,400

There's no way they could have done this without faking it. It's busted.

757

00:42:49,400 --> 00:42:51,400

I totally agree. It's busted. Let's get out of here.