

1

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

You know, Adam, I was thinking we should do another Star Wars episode.

2

00:00:38,000 --> 00:00:44,000

Seriously, I mean, it's a fictional universe. I'm just not sure how much material there is to test.

3

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

I find your lack of faith upsetting. I mean, disturbing.

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

Okay, well, are you gonna be in here all day because we could get started doing some other stuff?

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

Nah, you go ahead. I like it in here. It's private.

6

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

Music

7

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

Nice bucket.

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

Thank you.

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00:01:25,000 --> 00:01:30,000

Dude, we've got an entirely new episode of Myths just from Star Wars again.

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00:01:30,000 --> 00:01:35,000

That's that movie where they have those sword things that light up or something, right?

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00:01:35,000 --> 00:01:39,000

Lightsabers. They're called lightsabers. And yes, that is the movie.

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00:01:39,000 --> 00:01:41,000

And we have a whole myth about lightsabers in this episode.

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00:01:41,000 --> 00:01:42,000

Do we get to make one?

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00:01:42,000 --> 00:01:46,000

No, we're not. We're gonna test whether being on higher ground gives you a tactical advantage with a lightsaber.

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00:01:46,000 --> 00:01:49,000

It's over, Anakin! I have the high ground!

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00:01:49,000 --> 00:01:54,000

But I'm getting ahead of myself. First, we are testing a myth about these laser blasters.

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00:01:54,000 --> 00:01:55,000

And those are...

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

Well, these are the weapons of the stormtroopers in the films.

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00:01:58,000 --> 00:01:59,000

Stop that ship!

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

Last up!

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

And no matter how often they shoot at the good guys, the good guys always seem to be able to dodge out of the way of them.

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00:02:06,000 --> 00:02:09,000

So it sounds to me like I'm gonna have to use the force.

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00:02:09,000 --> 00:02:12,000

Well, yes, but please, this time only for good.

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00:02:12,000 --> 00:02:14,000

If I must.

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00:02:15,000 --> 00:02:19,000

It's a well-known Star Wars trope.

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00:02:19,000 --> 00:02:23,000

Somehow the heroes always manage to dodge the bullet.

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00:02:25,000 --> 00:02:29,000

But is it actually possible to dive out of the way in time?

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00:02:31,000 --> 00:02:37,000

To find out, Adam and Jamie are going to simulate their own blaster battle and try it out for themselves.

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00:02:38,000 --> 00:02:45,000

And while Jamie begins building the gun, Adam investigates the velocity of the ammunition in question.

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

Let's talk laser blasters.

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00:02:47,000 --> 00:02:50,000

Oh, wait, Star Wars. Let's talk laser blasters.

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00:02:52,000 --> 00:02:58,000

See, every man in the Star Wars universe shoots at each other with things we collectively refer to

as laser blasters,

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00:02:58,000 --> 00:03:01,000

even though the characters only call them blasters.

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

But we think of them as lasers.

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

The question is, are they?

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00:03:05,000 --> 00:03:09,000

Well, let's find out. I've got here a handheld laser pointer. It shoots a green laser.

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00:03:09,000 --> 00:03:11,000

Let's figure out how fast this thing goes.

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00:03:11,000 --> 00:03:15,000

Three, two, one. There we go.

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

All right.

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

Yup, 186,000 miles per second.

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00:03:19,000 --> 00:03:23,000

I'm kidding. I'm not measuring light with this. This is actually a force gauge.

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00:03:23,000 --> 00:03:25,000

Get it? Force gauge?

43

00:03:25,000 --> 00:03:28,000

The fact is we all know how fast light moves.

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00:03:28,000 --> 00:03:34,000

So I'm going to venture to say that the bolts from the blasters on Star Wars move a lot slower than the speed of light.

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00:03:34,000 --> 00:03:36,000

How much slower?

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00:03:36,000 --> 00:03:44,000

I'm going to find out by watching Star Wars, measuring them with calipers and using some math to figure out how fast they might move in the real world.

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00:03:44,000 --> 00:03:47,000

I always ate it just once.

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00:03:47,000 --> 00:03:54,000

Once I get enough measurements, I'm going to average the amount that should give me a consistent laser blast speed.

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00:03:54,000 --> 00:03:57,000

By extrapolating from a visual reference,

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00:03:57,000 --> 00:04:00,000

Harrison is six feet tall,

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

and timing how long it takes the blaster bolt to cover a known distance,

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00:04:06,000 --> 00:04:10,000

Adam can calculate its velocity.

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00:04:10,000 --> 00:04:13,000

And before you can say, LeBouria's arithmetic...

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00:04:13,000 --> 00:04:15,000

Seven frames.

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00:04:15,000 --> 00:04:19,000

Adam has calculated an average from across all six movies.

56

00:04:19,000 --> 00:04:25,000

I've got a speed of between 130 and 135 miles per hour at a distance of about 40 feet.

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00:04:25,000 --> 00:04:28,000

So that's what Jamie's gun will replicate.

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00:04:28,000 --> 00:04:31,000

130 miles an hour at 40 feet.

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00:04:31,000 --> 00:04:34,000

We're going to be replicating the performance of the blasters we see in the movie,

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00:04:34,000 --> 00:04:40,000

and to do that we're going to be using this pneumatic launcher by plumbing compressed air into the back of it.

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00:04:40,000 --> 00:04:46,000

Every time you pull on the trigger down here, it fires around, and then these pistons push forward,

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00:04:46,000 --> 00:04:50,000

and advance another round-end position ready to fire.

63

00:04:50,000 --> 00:04:52,000

Ow!

64

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

That's what I'm talking about.

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00:04:54,000 --> 00:04:59,000

Now, we can put anything that we want inside these tubes.

66

00:04:59,000 --> 00:05:07,000

So I'm going to be experimenting to find out what we can fit in there that accurately replicates the performance of what we see in the movie,

67

00:05:07,000 --> 00:05:10,000

and hopefully doesn't hurt us at the same time.

68

00:05:10,000 --> 00:05:14,000

In theory, by altering the air pressure powering his gun...

69

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

It looks like that's about 350 psi.

70

00:05:17,000 --> 00:05:22,000

Jamie will be able to match the movie specs with his non-lethal ammo.

71

00:05:22,000 --> 00:05:26,000

Firing in three, two, one.

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00:05:26,000 --> 00:05:29,000

But in practice, there's a speed problem...

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00:05:29,000 --> 00:05:32,000

This only said there's 26 months of brown, alright?

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00:05:32,000 --> 00:05:34,000

Measuring problem...

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

Didn't quite get a reading.

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00:05:35,000 --> 00:05:36,000

One.

77

00:05:36,000 --> 00:05:39,000

And accuracy problem.

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00:05:39,000 --> 00:05:42,000

And they're going off to the side.

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00:05:42,000 --> 00:05:44,000

Who's here? We have all the problems.

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00:05:44,000 --> 00:05:49,000

Our first laser blasts don't fly straight, and we can't get a reading on how fast they're going,

81

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

so there's still some problem solving to do.

82

00:05:52,000 --> 00:05:55,000

We may end up going with a totally different solution. We don't know at this point.

83

00:05:55,000 --> 00:05:58,000

So while the team locates the drawing board...

84

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

Darth Heidemann and Jedi Savage go head to head in a lightsaber duel to tackle the myth of higher ground.

85

00:06:16,000 --> 00:06:18,000

So tell me about this higher ground thing.

86

00:06:18,000 --> 00:06:24,000

Well, it takes place at the end of the third Star Wars movie. Obi-Wan and Anakin are having an epic battle with lightsabers.

87

00:06:24,000 --> 00:06:29,000

And at the battle's climax, Obi-Wan is standing on a hill slightly above Anakin, and he says to him...

88

00:06:29,000 --> 00:06:33,000

It's over, Anakin! I have the high ground!

89

00:06:33,000 --> 00:06:38,000

Well, from a military perspective, it makes sense, but as far as one-on-one, I'm not so sure.

90

00:06:38,000 --> 00:06:40,000

What happens in the movie?

91

00:06:40,000 --> 00:06:44,000

Right after he says that Obi-Wan proceeds to chop off a bunch of Anakin's limbs.

92

00:06:44,000 --> 00:06:48,000

So the myth is that if you have higher ground, it's guaranteed you'll win.

93

00:06:48,000 --> 00:06:51,000

Exactly. Ready to do some sword fighting?

94

00:06:51,000 --> 00:06:53,000

Sure.

95

00:06:53,000 --> 00:06:58,000

Anakin vs Obi-Wan, a pivotal moment in the Star Wars canon.

96

00:06:58,000 --> 00:07:02,000

An epic battle that results in the birth of Darth Vader.

97

00:07:02,000 --> 00:07:06,000

But is topography really the deciding factor?

98

00:07:06,000 --> 00:07:13,000

Now, Jamie and I are going to be battling with swords, but it begs the question, how do you determine who wins?

99

00:07:13,000 --> 00:07:17,000

Well, we think with lightsabers, it's pretty straightforward. First touch wins, really.

100

00:07:17,000 --> 00:07:22,000

Because anything you touch with a lightsaber, you're pretty much taken home as a keepsake.

101

00:07:22,000 --> 00:07:28,000

And I believe I have an idea for determining definitively who wins each of our sword battles.

102

00:07:28,000 --> 00:07:32,000

To test the dueling advantage of higher ground...

103

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

Fascinating.

104

00:07:33,000 --> 00:07:38,000

Adams connecting the dots on a complicated, conductive plan.

105

00:07:38,000 --> 00:07:40,000

Mindbender.

106

00:07:40,000 --> 00:07:44,000

Once revealed, it will clearly show who wins each battle.

107

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

Thanks to bright lights lit up by a lightsaber.

108

00:07:48,000 --> 00:07:50,000

Blue and yellow it is.

109

00:07:51,000 --> 00:07:54,000

And clever clothing that can carry a current.

110

00:07:54,000 --> 00:08:01,000

This, believe it or not, is actually metal. It moves like fabric. It is an incredibly fine copper mesh.

111

00:08:01,000 --> 00:08:05,000

It's super conductive, and that's why I'm using it.

112

00:08:05,000 --> 00:08:07,000

I'm going to make some clothing out of this stuff.

113

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

Nice, one size fits all conductive pants.

114

00:08:10,000 --> 00:08:13,000

With the copper conductive clothing complete.

115

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

Oh yeah.

116

00:08:16,000 --> 00:08:19,000

It's time for the...

117

00:08:19,000 --> 00:08:21,000

Lightsabers.

118

00:08:21,000 --> 00:08:22,000

What about them?

119

00:08:22,000 --> 00:08:27,000

Well, there's probably some people wondering about now whether we're going to spend part of this episode making our own real lightsabers.

120

00:08:27,000 --> 00:08:30,000

Well, I've got news for them. We're not.

121

00:08:30,000 --> 00:08:31,000

No.

122

00:08:31,000 --> 00:08:32,000

For a whole host of reasons.

123

00:08:32,000 --> 00:08:34,000

Yes, not least of which, photons.

124

00:08:34,000 --> 00:08:38,000

Light is made up of photons, but photons move in a single direction.

125

00:08:38,000 --> 00:08:42,000

You can't program one to stop three feet from its source.

126

00:08:42,000 --> 00:08:46,000

And even if you gather a bunch in a small place like we do with lasers,

127

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

the beams of a lightsaber would likely pass right through each other.

128

00:08:51,000 --> 00:08:57,000

Well, and then there's the power required, because while there are lasers that cut through stone and metal,

129

00:08:57,000 --> 00:08:59,000

they require a massive power input.

130

00:08:59,000 --> 00:09:03,000

You'd have to have something like a small nuclear reactor attached to it.

131

00:09:03,000 --> 00:09:07,000

Meaning to test this age-old military adage.

132

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

I'm making a lightsaber.

133

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

Adams faking them.

134

00:09:14,000 --> 00:09:18,000

So a lightsaber is massless, right? The blade has no mass. It's just light.

135

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

Yeah, look at that.

136

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

Ah, muy auténtico.

137

00:09:25,000 --> 00:09:28,000

So we need our blade to be incredibly light, which is good,

138

00:09:28,000 --> 00:09:31,000

because we want to be able to smack on each other without hurting each other.

139

00:09:33,000 --> 00:09:37,000

And the blade in this case will be played by a...

140

00:09:37,000 --> 00:09:42,000

beautiful, super light, crazy light carbon fiber tube.

141

00:09:42,000 --> 00:09:45,000

Oh, that's cool. It feels...

142

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

like there's almost nothing there.

143

00:09:48,000 --> 00:09:52,000

The final stage is a layer of foam pipe insulation,

144

00:09:54,000 --> 00:09:58,000

over which goes a sheath of conductive copper mesh.

145

00:09:59,000 --> 00:10:02,000

This is reminding me of something.

146

00:10:06,000 --> 00:10:09,000

Time to put the padding on the saber.

147

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

Oh, good, good, good. That's exactly what I wanted.

148

00:10:14,000 --> 00:10:17,000

Adams finally ready to reveal his plan.

149

00:10:17,000 --> 00:10:19,000

There's your Jedi weapon.

150

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

What I've got here is some conductive suits with conductive swords,

151

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

so that as Jaime and I sword fight...

152

00:10:27,000 --> 00:10:29,000

it's not bad. Give me a whack.

153

00:10:29,000 --> 00:10:31,000

Okay, not on the face.

154

00:10:31,000 --> 00:10:33,000

We can determine precisely who gets hit first,

155

00:10:33,000 --> 00:10:37,000

and that is when my sword touches Jaime, his belt lights up.

156

00:10:37,000 --> 00:10:40,000

Hey, look at that! It totally works!

157

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

When he touches me, my belt lights up.

158

00:10:42,000 --> 00:10:44,000

Hey, there we go.

159

00:10:45,000 --> 00:10:48,000

And we should be able to view exactly who wins.

160

00:10:48,000 --> 00:10:50,000

Time for Jaime and I to sword fight.

161

00:10:55,000 --> 00:10:57,000

And the fighting is going to start here,

162

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

but I think maybe it ought to be a little more sci-fi.

163

00:11:05,000 --> 00:11:07,000

Jaime and I are going to begin with a control

164

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

that is fighting each other on flat ground.

165

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

Looks good to me.

166

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

It's going to put a pair of Xs on this platform where we start.

167

00:11:15,000 --> 00:11:18,000

And when a bell sounds, can you give me a bell sound's editors?

168

00:11:18,000 --> 00:11:20,000

No.

169

00:11:20,000 --> 00:11:22,000

No.

170

00:11:22,000 --> 00:11:25,000

That's it. When we hear the bell, we start fighting.

171

00:11:25,000 --> 00:11:28,000

Whoever touches first wins, and you know because the other guys lit up,

172

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

reset, go back to zero, and try again.

173

00:11:31,000 --> 00:11:34,000

Oh, I'm putting on a straight jacket.

174

00:11:34,000 --> 00:11:36,000

There we go.

175

00:11:39,000 --> 00:11:41,000

Dude, this is hot.

176

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

In a best of 25 bouts on an even surface,

177

00:11:45,000 --> 00:11:49,000

our copper-clad Jedi will establish a comparative control.

178

00:11:50,000 --> 00:11:52,000

You look great.

179

00:11:52,000 --> 00:11:55,000

Then they'll repeat the test on higher ground

180

00:11:55,000 --> 00:11:57,000

and compare the difference in scores.

181

00:11:59,000 --> 00:12:01,000

We're battling with light sabers.

182

00:12:01,000 --> 00:12:04,000

We've ended up working with quite a variety of weapons on this show,

183

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

and with things like guns and knives, we've even become somewhat proficient.

184

00:12:11,000 --> 00:12:14,000

But when it comes to things like swords,

185

00:12:14,000 --> 00:12:18,000

not so much. Adam and I are pretty much a blank slate.

186

00:12:18,000 --> 00:12:20,000

With the rig ready...

187

00:12:20,000 --> 00:12:22,000

When I touch you, you light up.

188

00:12:22,000 --> 00:12:25,000

Our tabular razors are ready to roll.

189

00:12:25,000 --> 00:12:27,000

Excellent.

190

00:12:27,000 --> 00:12:29,000

I think we're ready to do some sword fighting.

191

00:12:29,000 --> 00:12:32,000

Okay, count us into a ding.

192

00:12:45,000 --> 00:12:47,000

It's over, Anakin.

193

00:12:47,000 --> 00:12:49,000

We've got the high ground.

194

00:12:49,000 --> 00:12:52,000

To test the combat cliché that height equals might...

195

00:12:52,000 --> 00:12:54,000

Ding.

196

00:12:54,000 --> 00:12:56,000

...Adams concocted a set of copper suits

197

00:12:56,000 --> 00:12:59,000

and non-lethal lightsabers to do battle with.

198

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

Okay, not on the face.

199

00:13:02,000 --> 00:13:06,000

And first up, a flat ground best of 25 control.

200

00:13:12,000 --> 00:13:14,000

Ah!

201

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

That's one.

202

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

To establish their relative abilities on the scoreboard...

203

00:13:24,000 --> 00:13:27,000

I think you got me on that one.

204

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

This is kind of fun.

205

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

They'll adjust the height of the playing field...

206

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

Ha! Got you knee.

207

00:13:34,000 --> 00:13:40,000

...and find out if higher ground really is the ultimate advantage in a deadly duel.

208

00:13:46,000 --> 00:13:49,000

This is genuinely entertaining.

209

00:13:49,000 --> 00:13:53,000

Adam, did I ever tell you I was on the fencing club in college?

210

00:13:53,000 --> 00:13:56,000

What, 34 years ago?

211

00:13:56,000 --> 00:13:59,000

And it was only because there was a hot chick that I was dating

212

00:13:59,000 --> 00:14:01,000

and she wanted to do it, so I was doing it with her.

213

00:14:01,000 --> 00:14:04,000

That's a reason I learned a lot of things in my life.

214

00:14:04,000 --> 00:14:06,000

That's true.

215

00:14:06,000 --> 00:14:08,000

On guard.

216

00:14:08,000 --> 00:14:10,000

Alright.

217

00:14:10,000 --> 00:14:13,000

Yep, with no perspective mates to impress.

218

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

Technique, strategy and composure are conspicuous by their absence.

219

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

Right in the heart.

220

00:14:24,000 --> 00:14:29,000

Our neo-fight fighters are simply frantically flailing their way through each bout.

221

00:14:29,000 --> 00:14:35,000

Actually trying to come up with a strategy for blocking a hit

222

00:14:35,000 --> 00:14:40,000

and then going in and making a hit is incredibly difficult.

223

00:14:44,000 --> 00:14:46,000

Gotcha.

224

00:14:46,000 --> 00:14:51,000

There's a lot going on including a guy with a blade trying to kill you

225

00:14:51,000 --> 00:14:53,000

while you're trying to think.

226

00:14:53,000 --> 00:14:56,000

As the match comes to its increasingly desperate...

227

00:14:59,000 --> 00:15:01,000

I'm going right for the direct approach.

228

00:15:01,000 --> 00:15:04,000

...and competitive conclusion...

229

00:15:04,000 --> 00:15:07,000

Oh, really? Really?

230

00:15:07,000 --> 00:15:09,000

That's how it is.

231

00:15:09,000 --> 00:15:12,000

The score indicates that with no topographical advantage

232

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

this was the perfect baseline.

233

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

Jamie and I have completed 25 trials on even ground.

234

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

What?

235

00:15:22,000 --> 00:15:25,000

That's a good shin hit right there.

236

00:15:25,000 --> 00:15:28,000

And experimentally the results are kind of awesome.

237

00:15:28,000 --> 00:15:30,000

We are totally evenly matched.

238

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

I had 13 wins to Jamie's 12.

239

00:15:33,000 --> 00:15:37,000

That means it's time now to go to higher ground.

240

00:15:37,000 --> 00:15:41,000

We're going to do another 25 trials.

241

00:15:41,000 --> 00:15:43,000

It's hits. I'm higher ground.

242

00:15:43,000 --> 00:15:45,000

Okay.

243

00:15:45,000 --> 00:15:48,000

Now that one of us is going to be fighting from higher ground...

244

00:15:48,000 --> 00:15:50,000

There we go.

245

00:15:50,000 --> 00:15:53,000

I would note that in the movie Obi-Wan tells Anakin that...

246

00:15:53,000 --> 00:15:56,000

It's over Anakin! I have the high ground!

247

00:15:56,000 --> 00:15:59,000

Now that means that when Adam and I start to fight

248

00:15:59,000 --> 00:16:03,000

we're not talking about like one winning by a few points or the other.

249

00:16:03,000 --> 00:16:05,000

That seems great.

250

00:16:05,000 --> 00:16:10,000

But if this is true the person on higher ground has to totally dominate that battle.

251

00:16:20,000 --> 00:16:22,000

I got you.

252

00:16:22,000 --> 00:16:24,000

This is very interesting.

253

00:16:24,000 --> 00:16:29,000

When we were on level ground Jamie and I were very toe to toe in terms of attack and defense.

254

00:16:29,000 --> 00:16:32,000

It's over Jamie. I've got the higher ground.

255

00:16:32,000 --> 00:16:37,000

Now that I'm on the higher ground I'm definitely noticing Jamie is much more on the defensive

256

00:16:37,000 --> 00:16:40,000

and I am able to take the lead in attack.

257

00:16:40,000 --> 00:16:42,000

I got you.

258

00:16:42,000 --> 00:16:47,000

I'm not sure if this is shifting the balance in my favor because it's still early.

259

00:16:47,000 --> 00:16:51,000

But it definitely feels like I am much more on the offensive.

260

00:16:51,000 --> 00:16:57,000

With Adam on higher ground at first it was a little intimidating because he's over top of you.

261

00:16:57,000 --> 00:17:03,000

It sort of seems like he's dominant, like he has a higher reach and more power swinging down.

262

00:17:05,000 --> 00:17:07,000

He got me in the face, does that count?

263

00:17:07,000 --> 00:17:09,000

I was aiming for your chest. Sorry about that.

264

00:17:09,000 --> 00:17:16,000

But the longer I played with him I found that seeming disadvantage was actually an opportunity.

265

00:17:16,000 --> 00:17:19,000

Oh, you got me in the foot. I don't know how to counter that.

266

00:17:19,000 --> 00:17:28,000

Namely that if I cleared his blade with a powerful sideways swipe and then swung in towards his ankles which are now exposed.

267

00:17:31,000 --> 00:17:33,000

I see your strategy.

268

00:17:34,000 --> 00:17:39,000

You can't win. I've got the lower ground. They call me ankle biter.

269

00:17:40,000 --> 00:17:44,000

And that worked almost every time I was able to get the timing right.

270

00:17:45,000 --> 00:17:47,000

Oh, I hit myself in the groin.

271

00:17:47,000 --> 00:17:49,000

Oh, no. Sorry.

272

00:17:49,000 --> 00:17:51,000

I'm going to need a minute.

273

00:17:53,000 --> 00:17:56,000

I think I did it with the butt of my lightsaber.

274

00:17:59,000 --> 00:18:02,000

Let's take a minute for Mr. Heidemann to walk it off.

275

00:18:02,000 --> 00:18:04,000

I know you guys are loving this.

276

00:18:04,000 --> 00:18:06,000

And this great TV.

277

00:18:06,000 --> 00:18:08,000

You want a drink? You want a scotch or bourbon?

278

00:18:08,000 --> 00:18:10,000

No, no. I'm good to go.

279

00:18:10,000 --> 00:18:11,000

Okay.

280

00:18:17,000 --> 00:18:23,000

I really thought being above Jamie would just give me this towering plank and I was just going to win every one.

281

00:18:23,000 --> 00:18:28,000

But he has access to my ankles which he used incredibly effectively.

282

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

Once I get close, my legs are just done for.

283

00:18:33,000 --> 00:18:39,000

From my perspective, I don't think I can call the high ground an ultimate advantage at this point.

284

00:18:39,000 --> 00:18:42,000

Yep. Despite finishing with a scoreboard advantage,

285

00:18:43,000 --> 00:18:47,000

Adam feels the numbers don't tell the whole story.

286

00:18:47,000 --> 00:18:50,000

There's two things wrong with the data we thus far gathered.

287

00:18:50,000 --> 00:18:54,000

One is we're looking for a definitive advantage, not a soft advantage.

288

00:18:54,000 --> 00:18:57,000

Two, and most importantly, we're not sword fighters.

289

00:18:57,000 --> 00:19:00,000

We don't know the first thing about fighting with swords like this.

290

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

We need the assistance and perhaps even some training from an expert.

291

00:19:05,000 --> 00:19:08,000

Yeah, that's what we need, an expert.

292

00:19:09,000 --> 00:19:12,000

And while the guys wait on a Jedi delivery,

293

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

it's back to the workshop where the Heinemann has dumped his foam failure.

294

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

And they're going off to the side.

295

00:19:23,000 --> 00:19:30,000

To test the myth that the Star Wars laser blaster dodge is feasible physics or a filmic fiction,

296

00:19:30,000 --> 00:19:36,000

Jamie has to match the movie's velocity with more accurate aerodynamic ammo.

297

00:19:37,000 --> 00:19:42,000

Straight ping pong ball, not very accurate, it's going about 60 miles an hour, which isn't good.

298

00:19:42,000 --> 00:19:45,000

But we have ping pong balls made out of foam,

299

00:19:45,000 --> 00:19:51,000

and when I put a skewer on them, 150 miles an hour and dead straight.

300

00:19:51,000 --> 00:19:52,000

That's cool.

301

00:19:52,000 --> 00:19:55,000

One, bullseye.

302

00:19:55,000 --> 00:20:01,000

After converting his arrow inspired prototype into a more polished version,

303

00:20:01,000 --> 00:20:03,000

Let's see what that does.

304

00:20:03,000 --> 00:20:06,000

And adjusting the air pressure powering the gun.

305

00:20:06,000 --> 00:20:11,000

Okay, 80 psi in three, two, one.

306

00:20:13,000 --> 00:20:16,000

Jamie nails the blaster benchmark he's after.

307

00:20:16,000 --> 00:20:23,000

We've done a number of runs now and we're getting very consistent speeds of 130 miles an hour out of our gun.

308

00:20:26,000 --> 00:20:29,000

So we're right where we need to be.

309

00:20:33,000 --> 00:20:44,000

Music

310

00:20:44,000 --> 00:20:48,000

Welcome to the Myth Busters version of the Star Wars universe.

311

00:20:48,000 --> 00:20:55,000

We're investigating the myth that the good guys always seem to be able to just dive out of the way of the blasters used throughout the Star Wars universe.

312

00:20:55,000 --> 00:21:00,000

Now we have built ourselves our own little version of a rebel ship with a 40 foot hallway.

313

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

We're going to set up our blaster at the other end that shoots air bullets at the correct speed,

314

00:21:04,000 --> 00:21:11,000

and Jamie and I are each going to take turns standing here and attempting to get out of the way of those blaster bolts.

315

00:21:11,000 --> 00:21:18,000

With their rebel ship ship shape, alright, first up they're making sure they stay on target.

316

00:21:18,000 --> 00:21:23,000

We're going to shoot him first to make sure that the darts are hitting the right spot.

317

00:21:23,000 --> 00:21:29,000

You know, we're asking our target stormtroopers to do precisely what stormtroopers do in all the movies, which is get shot.

318

00:21:29,000 --> 00:21:33,000

Music

319

00:21:33,000 --> 00:21:36,000

Three, two, one.

320

00:21:36,000 --> 00:21:39,000

Okay, firing now.

321

00:21:39,000 --> 00:21:40,000

That's weird.

322

00:21:40,000 --> 00:21:42,000

Two, one.

323

00:21:42,000 --> 00:21:44,000

Oops, that one went off to the side.

324

00:21:44,000 --> 00:21:45,000

Yeah.

325

00:21:45,000 --> 00:21:46,000

One.

326

00:21:46,000 --> 00:21:50,000

Off to both sides, high and low, the gun is firing at the correct speed.

327

00:21:50,000 --> 00:21:52,000

Pressure, take the pressure.

328

00:21:52,000 --> 00:21:53,000

Yep.

329

00:21:53,000 --> 00:21:54,000

Pressure's good?

330

00:21:54,000 --> 00:21:55,000

Yep.

331

00:21:55,000 --> 00:21:56,000

Firing.

332

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

Now that's just crazy.

333

00:21:58,000 --> 00:22:04,000

But at some point in the mass production of the ammunition, they've become unpredictable.

334

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

They're kind of like, like this.

335

00:22:07,000 --> 00:22:14,000

The arrow-like fletching has somehow lost the aerodynamic qualities of Jamie's handmade prototypes.

336

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

That means I'm headed back to the shop to come up with something else.

337

00:22:19,000 --> 00:22:24,000

Back at base, Jamie decides to start over.

338

00:22:24,000 --> 00:22:28,000

And this time, he's borrowing a design element from bullet ballistics.

339

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

Three, two, one.

340

00:22:32,000 --> 00:22:34,000

I think that's going to work.

341

00:22:34,000 --> 00:22:36,000

And it's diabolically simple.

342

00:22:36,000 --> 00:22:41,000

A couple of ice cream spoons that are putting the crisscross that I've cut into the balls.

343

00:22:41,000 --> 00:22:45,000

And because I've scissored them, this is going to be like rifling.

344

00:22:45,000 --> 00:22:49,000

It's going to spin it and hopefully make it more true.

345

00:22:49,000 --> 00:22:53,000

And with that, Jamie whips up a bucket load.

346

00:22:53,000 --> 00:22:57,000

Before heading back aboard, where Adam gets an eye-watering demo.

347

00:22:57,000 --> 00:23:00,000

Three, two, one.

348

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

Ow!

349

00:23:04,000 --> 00:23:06,000

We are back in business.

350

00:23:06,000 --> 00:23:08,000

These darts are working beautifully.

351

00:23:08,000 --> 00:23:13,000

The only concern I have is that they keep hitting our stormtrooper where it counts.

352

00:23:13,000 --> 00:23:14,000

You first.

353

00:23:14,000 --> 00:23:15,000

Okay.

354

00:23:15,000 --> 00:23:16,000

This is it.

355

00:23:16,000 --> 00:23:21,000

The Heinemann steps up to the plate to put his body in the firing line for science.

356

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

All right, Mr. Heinemann, are you ready?

357

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

I'm ready.

358

00:23:24,000 --> 00:23:26,000

I'm not going to count it down, right?

359

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

Yeah.

360

00:23:27,000 --> 00:23:28,000

Okay.

361

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

So at some point in the next 10 seconds, we're going to fire.

362

00:23:30,000 --> 00:23:36,000

As far as reaction time goes, we know that a sprinter on the blocks ready to do a race

363

00:23:36,000 --> 00:23:41,000

can react within 160 milliseconds of the starting pistol firing.

364

00:23:41,000 --> 00:23:45,000

Jamie's got 220 to get out of the way of this bullet personally.

365

00:23:45,000 --> 00:23:47,000

I don't think he's going to be able to do it.

366

00:23:51,000 --> 00:23:56,000

A hit.

367

00:23:56,000 --> 00:23:59,000

A palpable hit.

368

00:23:59,000 --> 00:24:05,000

Jamie barely moved, but it's the best of three, and maybe now he's got his eye in.

369

00:24:05,000 --> 00:24:07,000

Mr. Heinemann, you feeling fast?

370

00:24:07,000 --> 00:24:09,000

I'm set.

371

00:24:13,000 --> 00:24:14,000

Got me.

372

00:24:14,000 --> 00:24:15,000

Got you.

373

00:24:15,000 --> 00:24:24,000

As far as I can tell, I'm just starting to move about the time I get hit, and that means

374

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

that the flight time of the projectile and my reaction time are pretty close to the same.

375

00:24:30,000 --> 00:24:31,000

All right.

376

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

At some point in the next...

377

00:24:33,000 --> 00:24:37,000

Right in the center of your solar plexus there.

378

00:24:37,000 --> 00:24:40,000

That's a three-peat.

379

00:24:40,000 --> 00:24:47,000

Moving at the average speed from all six movies, the blaster seems unavoidable.

380

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

Jamie's unable to react and take evasive action in time.

381

00:24:52,000 --> 00:24:53,000

All right, sir.

382

00:24:53,000 --> 00:24:57,000

Which means it's Adam's turn.

383

00:24:57,000 --> 00:24:58,000

Ow!

384

00:24:58,000 --> 00:25:03,000

Right in the shoulder.

385

00:25:03,000 --> 00:25:08,000

The adrenaline dump is intense.

386

00:25:09,000 --> 00:25:13,000

And once he gets an identical...

387

00:25:13,000 --> 00:25:14,000

Ow!

388

00:25:14,000 --> 00:25:17,000

And conclusive result...

389

00:25:17,000 --> 00:25:22,000

That was no contest.

390

00:25:22,000 --> 00:25:24,000

Three for three.

391

00:25:24,000 --> 00:25:27,000

This myth is on the ropes.

392

00:25:27,000 --> 00:25:35,000

Well, there's just no getting out of the way of those things, but I'm thinking there might be a

wrinkle we want to add to this that makes it more realistic.

393

00:25:35,000 --> 00:25:39,000

But before they test a more realistic quick draw,

394

00:25:39,000 --> 00:25:48,000

our junior Jedi will test the martial myth of a higher ground advantage by learning from a lightsaber master.

395

00:26:05,000 --> 00:26:18,000

The training is what we are going to get today.

396

00:26:18,000 --> 00:26:20,000

And not just general sword fighting training.

397

00:26:20,000 --> 00:26:21,000

Oh, no, no, no.

398

00:26:21,000 --> 00:26:22,000

Lightsaber training.

399

00:26:22,000 --> 00:26:30,000

See, the stunt coordinator for the Star Wars films, Nick Gallard, has invented a true martial form for dueling with lightsabers.

400

00:26:30,000 --> 00:26:38,000

And what we've got here is one of his protégés, Colby Boothman, a world-class level fencer, an expert in Jedi sword style.

401

00:26:38,000 --> 00:26:40,000

I can come at you a million different ways.

402

00:26:40,000 --> 00:26:45,000

He's going to show us some of the ropes of dueling with lightsabers.

403

00:26:45,000 --> 00:26:48,000

Colby begins at the beginning.

404

00:26:48,000 --> 00:26:51,000

He covers the basics of balance and stance.

405

00:26:51,000 --> 00:26:54,000

So that's like a very strong kendo pose.

406

00:26:54,000 --> 00:26:59,000

Handling and footwork.

407

00:26:59,000 --> 00:27:04,000

If Adam and Jamie are to genuinely test the combat advantage of higher ground,

408

00:27:04,000 --> 00:27:06,000

Hold on, let me analyze that.

409

00:27:06,000 --> 00:27:10,000

They need to know a lot more about how to handle their weapons.

410

00:27:10,000 --> 00:27:12,000

Just like that.

411

00:27:12,000 --> 00:27:17,000

Well, we haven't been training very long, but what is already crystal clear is that up till now,

412

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

Jamie and I have basically been like a couple of gorillas with baseball bats just kind of whaling away at each other.

413

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

I don't know if I make the hooting sounds. Is that very Jedi?

414

00:27:30,000 --> 00:27:35,000

Hopefully by the time we're done with this, oh, I almost got him in the head.

415

00:27:35,000 --> 00:27:36,000

You did get me in that.

416

00:27:36,000 --> 00:27:42,000

Our sword fighting will do a little more justice to the beauty of the lightsaber as an actual weapon.

417

00:27:42,000 --> 00:27:49,000

In a testament to the teacher's ability, rather than the students, several hours later,

418

00:27:49,000 --> 00:27:53,000

our journeyman Jedi begin to make real progress.

419

00:27:53,000 --> 00:28:00,000

Very cool getting the lightsaber 101 from Colby, and we're learning that it is sort of like a dance.

420

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

Hey!

421

00:28:03,000 --> 00:28:04,000

There we go.

422

00:28:04,000 --> 00:28:08,000

But if there's a word that typifies dancing, it's cooperation.

423

00:28:11,000 --> 00:28:12,000

Oops, sorry.

424

00:28:12,000 --> 00:28:16,000

And in fact, a sword fight is sort of the opposite of that.

425

00:28:16,000 --> 00:28:20,000

You're looking for the opening. You're trying to close down those openings.

426

00:28:20,000 --> 00:28:24,000

We're just starting to learn how to win the battle against the other.

427

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

There's a lot to learn in a very short period of time.

428

00:28:29,000 --> 00:28:36,000

With the basics down, it's time to translate those techniques to an uneven playing field.

429

00:28:36,000 --> 00:28:37,000

There we go.

430

00:28:42,000 --> 00:28:45,000

A lot of times it's not so much putting as much power as you can.

431

00:28:45,000 --> 00:28:48,000

It's trying to hit the openings that you see.

432

00:28:48,000 --> 00:28:56,000

Where after an hour of intense one-on-one sparring, from both vantage points,

433

00:28:59,000 --> 00:29:02,000

our fledgling fencers are exhausted.

434

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

Hold on a second.

435

00:29:07,000 --> 00:29:08,000

That's a shing!

436

00:29:08,000 --> 00:29:15,000

But prepared for the ultimate fiery finale on the soon-to-be volcanic planet of Mustafar.

437

00:29:15,000 --> 00:29:22,000

Now the scene we're going to be creating here is the hellish interior of a volcano with molten magma, smoke, and fire.

438

00:29:22,000 --> 00:29:28,000

This may look like a giant tie-dyed t-shirt, but actually this is our volcanic sky.

439

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

That's looking pretty good.

440

00:29:30,000 --> 00:29:40,000

Yep, to match conditions of the iconic silver screen scene, the team is going to recreate not just the topography, but the volcanic atmosphere.

441

00:29:41,000 --> 00:29:42,000

Nice.

442

00:29:43,000 --> 00:29:45,000

This thing is our lava flow.

443

00:29:45,000 --> 00:29:50,000

It's made out of clear plastic so that we can get lights underneath it to make it glow like lava does.

444

00:29:50,000 --> 00:29:55,000

One edge is higher than the other, so when we pour the lava in, it'll flow this way.

445

00:29:55,000 --> 00:30:00,000

And our lava itself is going to be guar gum.

446

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

It's a powder like this stuff.

447

00:30:02,000 --> 00:30:08,000

And when you add it to water along with a little food coloring, voila, you've got this goopy lava stuff.

448

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

It's perfect.

449

00:30:12,000 --> 00:30:19,000

With the suitably dramatic backdrop ready to rock, Jamie gets to work accurately faking the footing.

450

00:30:19,000 --> 00:30:21,000

This ramp is what we're going to be fighting on.

451

00:30:21,000 --> 00:30:29,000

I actually took footage of the movie in the fight scene, and I held the protractor on the screen and measured it.

452

00:30:29,000 --> 00:30:37,000

That's what this angle right here is, and we've also put an uneven black terrain, which pretty faithfully replicates that scene.

453

00:30:37,000 --> 00:30:46,000

And while the finishing touches are applied to their fake inferno, there's an unresolved reaction time test to tackle.

454

00:30:46,000 --> 00:30:51,000

Thus far, Jamie and I have been completely unsuccessful in dodging the bullets from our blast door.

455

00:30:51,000 --> 00:30:59,000

And we've constructed, I think, a pretty nice experiment. We've removed a lot of variables.

456

00:30:59,000 --> 00:31:01,000

I'm not going to count it down, right?

457

00:31:01,000 --> 00:31:02,000

Yeah.

458

00:31:02,000 --> 00:31:06,000

But now I'm thinking we might have removed one too many. What?

459

00:31:06,000 --> 00:31:13,000

I know science is all about removing variables to look at the essence of a thing, but what we've got here is almost like a sniper arrangement.

460

00:31:13,000 --> 00:31:19,000

But at 40 feet, I can see the stormtrooper holding the blaster. I can see him see me, and he goes,

461

00:31:19,000 --> 00:31:20,000

Crap!

462

00:31:20,000 --> 00:31:25,000

That action of the lifting of the gun, that might make all the difference.

463

00:31:25,000 --> 00:31:33,000

So to replicate that scenario, these stands are holding this weapon in a standard carry position, so that when I identify a potential target,

464

00:31:33,000 --> 00:31:37,000

all I have to do is raise the gun and fire.

465

00:31:38,000 --> 00:31:43,000

Let's do it. All right, Heidemann, I'm feeling good about this one. Hold on, this is a sec.

466

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

There we go. Properly, properly covered. All right, sir, I'm ready when you are.

467

00:31:49,000 --> 00:31:50,000

Okay.

468

00:31:56,000 --> 00:31:57,000

Ow!

469

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

Ow!

470

00:32:02,000 --> 00:32:03,000

Right in the knee.

471

00:32:06,000 --> 00:32:09,000

The gun raise takes an additional 400 milliseconds.

472

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

Despite that, Adam's first attempt would have left him limping.

473

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

That was still getting out of the way of that one.

474

00:32:18,000 --> 00:32:19,000

Set?

475

00:32:19,000 --> 00:32:20,000

Yep.

476

00:32:23,000 --> 00:32:24,000

That was a good one.

477

00:32:26,000 --> 00:32:34,000

Unlike the first series of tests, Adam is able to move before the bolt reaches him, but he still can't avoid the hit.

478

00:32:34,000 --> 00:32:36,000

All right, sir, I'm ready when you are.

479

00:32:40,000 --> 00:32:41,000

Ow!

480

00:32:41,000 --> 00:32:42,000

Uh-oh.

481

00:32:43,000 --> 00:32:44,000

F***!

482

00:32:47,000 --> 00:32:49,000

I just had to curse, because that hurt really, really badly.

483

00:32:49,000 --> 00:32:56,000

I'm done testing. I failed three times. That really hurt.

484

00:33:00,000 --> 00:33:01,000

I'm going to walk it off.

485

00:33:04,000 --> 00:33:10,000

Well, never let it be said that Jamie and I don't put our bodies on the line to test the stuff that we're doing.

486

00:33:12,000 --> 00:33:17,000

I started out this story thinking that the blaster bolts look darned slow, almost comically slow.

487

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

But turns out, even when I can see our trooper lifting his rifle into position, it's fast enough to get me every single time.

488

00:33:26,000 --> 00:33:29,000

There is no dodging these blaster bolts.

489

00:33:29,000 --> 00:33:30,000

Ow!

490

00:33:31,000 --> 00:33:32,000

Or is there?

491

00:33:32,000 --> 00:33:39,000

Now, as it happens in a prior episode, we clocked our reaction times, and mine was somewhat faster than Adam's.

492

00:33:39,000 --> 00:33:44,000

So, before we call this one, I'm going to have a go and see whether we get any different results.

493

00:33:44,000 --> 00:33:45,000

You ready, Heinemann?

494

00:33:45,000 --> 00:33:46,000

I'm ready.

495

00:33:48,000 --> 00:33:51,000

Can the Hoosier do what no normal human can?

496

00:33:55,000 --> 00:33:56,000

One for one.

497

00:33:56,000 --> 00:34:04,000

Jamie's fast, but there's simply not enough time to sight the incoming projectile, react.

498

00:34:04,000 --> 00:34:06,000

That's two for two.

499

00:34:06,000 --> 00:34:09,000

And then move all of your body parts out of the way.

500

00:34:14,000 --> 00:34:15,000

I've felt it on my c-

501

00:34:18,000 --> 00:34:20,000

Well, I think that's pretty definitive.

502

00:34:20,000 --> 00:34:28,000

You just can't dodge out of the way of these blaster bolts, and that's why, in any gunfight, I recommend you shoot first.

503

00:34:30,000 --> 00:34:35,000

So, what have we learned today about humans' ability to dodge blaster bolts?

504

00:34:35,000 --> 00:34:36,000

Not going to happen.

505

00:34:36,000 --> 00:34:38,000

I was totally surprised by that. Let's get out of here.

506

00:34:40,000 --> 00:34:41,000

Dude, it's set.

507

00:34:41,000 --> 00:34:42,000

Oh, right.

508

00:34:48,000 --> 00:34:49,000

Uh-uh.

509

00:34:52,000 --> 00:34:55,000

That's one myth done and blasted.

510

00:34:55,000 --> 00:35:00,000

And coming up, Adam and Jamie suit up for the ultimate lightsaber showdown.

511

00:35:02,000 --> 00:35:04,000

Wait, what are we doing back here on the Rebel Base?

512

00:35:04,000 --> 00:35:06,000

I thought we had put this myth to bed.

513

00:35:06,000 --> 00:35:07,000

Uh-oh.

514

00:35:07,000 --> 00:35:12,000

And we had f***ing except Jedi have their own technique.

515

00:35:12,000 --> 00:35:20,000

They pull out their lightsaber and they actually deflect the blaster bolts coming towards them with the lightsaber.

516

00:35:20,000 --> 00:35:21,000

Is that possible?

517

00:35:21,000 --> 00:35:22,000

That's what we want to test.

518

00:35:22,000 --> 00:35:25,000

All we need is a Jedi.

519

00:35:26,000 --> 00:35:27,000

Colby, are you ready?

520

00:35:27,000 --> 00:35:28,000

Ready.

521

00:35:30,000 --> 00:35:31,000

Whoa!

522

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

Holy crap, he actually blocked it.

523

00:35:33,000 --> 00:35:37,000

Yep, our Earthbound Jedi made contact.

524

00:35:38,000 --> 00:35:42,000

But with the next three sailing past his defenses,

525

00:35:44,000 --> 00:35:46,000

maybe it was a one-off lucky hit.

526

00:35:47,000 --> 00:35:48,000

Did he get that one?

527

00:35:48,000 --> 00:35:49,000

Yeah.

528

00:35:49,000 --> 00:35:50,000

Nice!

529

00:35:50,000 --> 00:35:54,000

I know we're talking about a fictional character in a fictional universe,

530

00:35:54,000 --> 00:36:01,000

but our Jedi was actually able to deflect some of our laser blasts with his lightsaber, i.e. Bebou thing.

531

00:36:08,000 --> 00:36:14,000

Welcome to the planet Mustafar.

532

00:36:14,000 --> 00:36:21,000

Jamie and I wanted to know if higher ground is in fact a crushing advantage when it comes to battling with lightsabers.

533

00:36:21,000 --> 00:36:27,000

So we brought in one of the actual fight coordinators from the Star Wars films to give us a little lightsaber 101,

534

00:36:27,000 --> 00:36:33,000

and now we've replicated the exact pitch of terrain that Obi-Wan and Anakin have their final battle on.

535

00:36:33,000 --> 00:36:39,000

Also, for your viewing pleasure, we've replicated some of the aesthetics of the planet itself we couldn't resist.

536

00:36:43,000 --> 00:36:45,000

Am I allowed to make mount sound effects?

537

00:36:45,000 --> 00:36:47,000

Okay, go ahead and turn the power on.

538

00:36:47,000 --> 00:36:49,000

So how's this gonna work?

539

00:36:49,000 --> 00:36:54,000

Well, we're gonna do 25 rounds with Adam on the high ground, and then 25 rounds with me on the high ground.

540

00:36:54,000 --> 00:36:55,000

There you go, sir.

541

00:36:55,000 --> 00:36:59,000

To protect the lower person's head, we're using this kendo helmet,

542

00:36:59,000 --> 00:37:05,000

and it's wired along with the rest of the suit, so we'll be able to see if we actually get a score on that.

543

00:37:05,000 --> 00:37:07,000

I'm gonna do a systems check on your helmet.

544

00:37:07,000 --> 00:37:08,000

Yeah.

545

00:37:08,000 --> 00:37:09,000

Hey, reset.

546

00:37:09,000 --> 00:37:10,000

The rules are simple.

547

00:37:10,000 --> 00:37:11,000

Yep.

548

00:37:11,000 --> 00:37:16,000

When you get hit by a sword stroke and your lights light up, that's a point for your opponent.

549

00:37:16,000 --> 00:37:18,000

Totally feels more realistic with this terrain, doesn't it?

550

00:37:18,000 --> 00:37:20,000

Yeah, it came out quite nice.

551

00:37:20,000 --> 00:37:23,000

At the end, we'll tally up the score and see what we got.

552

00:37:23,000 --> 00:37:24,000

You ready, Heidemann?

553

00:37:24,000 --> 00:37:25,000

You betcha.

554

00:37:25,000 --> 00:37:28,000

Are you a Sith or a Jedi?

555

00:37:28,000 --> 00:37:30,000

I would be a Sith.

556

00:37:30,000 --> 00:37:33,000

That's what I would have said, but I didn't want to insult you.

557

00:37:33,000 --> 00:37:35,000

All right, let's go, Sith.

558

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

Ha ha ha ha.

559

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

Ah, gotcha.

560

00:37:38,000 --> 00:37:51,000

Our recently graduated Jedi once again do battle for science.

561

00:37:51,000 --> 00:37:52,000

Nice.

562

00:37:52,000 --> 00:37:53,000

Gotcha.

563

00:37:53,000 --> 00:37:54,000

This is intense.

564

00:37:54,000 --> 00:37:55,000

Reset.

565

00:37:55,000 --> 00:38:01,000

It's pretty clear that just one day of training won't make us sword experts, but it gave us

566

00:38:01,000 --> 00:38:05,000

some insight into ways to move the lightsaber.

567

00:38:05,000 --> 00:38:08,000

And it also does what all training does.

568

00:38:08,000 --> 00:38:11,000

It slows the process down a little bit.

569

00:38:11,000 --> 00:38:12,000

Reset.

570

00:38:12,000 --> 00:38:16,000

I feel like it's much less effective than the other ones.

571

00:38:16,000 --> 00:38:17,000

Reset.

572

00:38:17,000 --> 00:38:23,000

I feel like it's much less of a free-for-all in this test than it was when we started.

573

00:38:23,000 --> 00:38:24,000

Gotcha.

574

00:38:24,000 --> 00:38:26,000

They are certainly more skilled.

575

00:38:26,000 --> 00:38:27,000

Reset.

576

00:38:27,000 --> 00:38:30,000

More clinical in their execution.

577

00:38:30,000 --> 00:38:32,000

Oh, dead.

578

00:38:32,000 --> 00:38:33,000

Reset.

579

00:38:33,000 --> 00:38:40,000

But as the contest continues, it's clear J. Mead supposedly at a deadly disadvantage

580

00:38:40,000 --> 00:38:41,000

Dead.

581

00:38:41,000 --> 00:38:43,000

Is holding his own.

582

00:38:43,000 --> 00:38:48,000

You and I are quite evenly matched, sir.

583

00:38:48,000 --> 00:38:55,000

At this point, I feel like I'm making quite a number of scores.

584

00:38:55,000 --> 00:39:02,000

And to me, that says that this is not a definitive thing that higher ground always wins.

585

00:39:02,000 --> 00:39:03,000

Yep.

586

00:39:03,000 --> 00:39:07,000

And with that, I'm going to go ahead and get the final test.

587

00:39:07,000 --> 00:39:09,000

I think that higher ground always wins.

588

00:39:09,000 --> 00:39:10,000

Yep.

589

00:39:10,000 --> 00:39:14,000

And with Jamie exacting the revenge of the Sith.

590

00:39:14,000 --> 00:39:20,000

Oh, you didn't quite nail me in the goolies, but there was a good shot.

591

00:39:20,000 --> 00:39:21,000

Careful with that.

592

00:39:21,000 --> 00:39:22,000

Well, yeah.

593

00:39:22,000 --> 00:39:31,000

Mark I of the competition reaches its exhausts conclusion.

594

00:39:31,000 --> 00:39:37,000

So that's it for the 25 rounds of Jamie from the lower ground position.

595

00:39:37,000 --> 00:39:38,000

Now it's my turn.

596

00:39:38,000 --> 00:39:42,000

We're not going to look at the scores just yet because it's not about which one of us does better.

597

00:39:42,000 --> 00:39:47,000

It's about whether higher ground does significantly better than lower ground.

598

00:39:47,000 --> 00:39:48,000

Yep.

599

00:39:48,000 --> 00:39:50,000

All right, Mr. Heidemann, you ready?

600

00:39:50,000 --> 00:39:51,000

I'm ready.

601

00:39:51,000 --> 00:39:52,000

Okay.

602

00:39:52,000 --> 00:39:57,000

But my intuition right now says higher ground is not a crushing advantage.

603

00:39:57,000 --> 00:40:04,000

However, when Jamie takes the high ground, he immediately racks up several quick fire

604

00:40:04,000 --> 00:40:05,000

wins.

605

00:40:05,000 --> 00:40:09,000

And Adams obviously off balance.

606

00:40:09,000 --> 00:40:10,000

Where you set?

607

00:40:10,000 --> 00:40:11,000

Oh, f***.

608

00:40:11,000 --> 00:40:12,000

Okay.

609

00:40:12,000 --> 00:40:21,000

But as Adam adjusts, I've got your foot there and finds his footing.

610

00:40:21,000 --> 00:40:23,000

You got me.

611

00:40:23,000 --> 00:40:27,000

It once again appears to be a relatively even contest.

612

00:40:27,000 --> 00:40:34,000

Despite the uneven playing field, each position seemingly offers as many scoring possibilities,

613

00:40:34,000 --> 00:40:39,000

equal pros and cons.

614

00:40:39,000 --> 00:40:44,000

And with all 50 fights done and dusted, the conclusion is clear.

615

00:40:44,000 --> 00:40:47,000

Yeah, they both have their different sort of approaches.

616

00:40:47,000 --> 00:40:52,000

In the higher ground, you feel a slight bit of superiority because you're high up, but

617

00:40:52,000 --> 00:40:55,000

you're quickly dispelled by dying repeatedly.

618

00:40:55,000 --> 00:40:57,000

So what do the numbers say?

619

00:40:57,000 --> 00:41:02,000

Well, the numbers tell an interesting story, though it's not the story that the movie tells.

620

00:41:02,000 --> 00:41:09,000

Out of 50 trials, low ground won 26 times and high ground won 24 times.

621

00:41:09,000 --> 00:41:13,000

Well, that's about as close to dead even as you can get without being dead even.

622

00:41:13,000 --> 00:41:14,000

Indeed.

623

00:41:14,000 --> 00:41:16,000

And that tells me that this myth is dead busted.

624

00:41:16,000 --> 00:41:18,000

Let's go back to our home planet.

625

00:41:18,000 --> 00:41:19,000

Okay.

626

00:41:19,000 --> 00:41:22,000

Where's Jamie's home planet?