

The Pop Ups. Stay seated. Three, two, one, ignition. Get ready for an adventure of magnificent proportion.

The Pop Ups. (Singing.) I don't know what you've been told, but we're in a golden age - so many discoveries that are jumping off the page. Wow in the world. Wow in the world. Wow in the world. Wow in the world. Wow in the world. Wow in the world. Wow in the world. Wow in the world. Wow in the world.

The Pop Ups. With Guy and Mindy. We're on our way, Houston.

Reggie. Coo coo.

Mindy. Wow! I can see the whole world from up here on the roof of my gingerbread mansion, Reg!

Reggie. Coo.

Mindy. I mean, just look! There's Guy Raz's micro house...and Thomas Fingerling's knuckle hut over there...

Reggie. Coo coo.

Mindy. And what?

Reggie. Coo!

Mindy. Oh that over there is just Dennis' industrial-sized dumpster filled to the brim with single-use plastic take-out containers that he's planning to throw away.

Reggie. Coo.

Dennis. Ok, dumpster, this will be our little secret.

(Soundbite of dumpster lid opening.)

Dennis. Don't tell anyone about all this plastic waste I'm making.

(Soundbite of plastic piling into dumpster.)

Dennis. Especially Guy Raz...or Mindy...or Reggie...or the children of the world...there we go.

(Soundbite of plastic piling into dumpster.)

Dennis. And that takes care of that.

(Soundbite of Dennis dusting off his hands.)

Reggie. Coo.

Mindy. I know...so wasteful.

Reggie. Coo.

Mindy. Well anyhow, I've got a solution that might put a stop to that problem...but first, I need to get into this costume.

(Soundbite of fabric rustling.)

Reggie. Coo.

Mindy. Okay, Reg...I've got the head...

(Soundbite of costume thump.)

Mindy. The eyes...

(Soundbite of costume thump.)

Mindy. And the abdomen. Now, I just need the legs. One leg...

(Soundbite of costume rustle.)

Reggie. Coo.

Mindy. Two legs...

(Soundbite of costume rustle and whoosh)

Mindy. Eight legs...

Reggie. Coo.

(Soundbite of costume rustles.)

Mindy. And one more leg because I just like to be a little extra!

(Soundbite of costume rustles.)

Reggie. Coo!

Mindy. Hey, Reg. How do I look?

Reggie. Coo!

Guy. Whoa Reggie? Mindy? Is that you up there?!

Mindy. Guy Razzy!

Guy. Why are you on the roof of your gingerbread mansion dressed up like a nine-legged spider? Why don't you come down here so you can explain what's going on?

Mindy. Oh happy to, Guy Raz! but I've got some work to do on my way down.

Guy. What??

Mindy. Reggie...

Reggie. Coo?

Mindy. ...the spinnerets!

Reggie. Coo, coo, coo, coo, coo.

(Soundbite of rustling.)

Mindy. Just attach them to my abdomen here

Reggie. Coo, coo.

Mindy. Thank you!

Reggie. Coo.

Dennis. Hey SpiderMindy! What did Reggie put on you? It looks like six belly buttons!

Guy. I don't think those are belly buttons, Dennis

Dennis. Oh...well what are they?

Guy. Those appear to be her spinnerets. They're what spiders use to spin silk threads and-

Mindy. Gimme a countdown, Reg!

Reggie. Coo, coo, coo. Coo....Coo....Coooooo!

Mindy. Run run run...weeeeeeee!

(Soundbite of rope reeling.)

Guy. What in the-!? Wow!

Mindy. Oof!

(Soundbite of landing.)

Dennis. Guy! Did you see that?! Mindy just jumped off of her roof and landed on my roof!

Guy. Mindy!

Dennis. And she pooped out a clear plastic rope and made a bridge between our houses!

Guy. A bridge?

Mindy. Hey Guy Raz, Dennis, watch this!

Dennis. Ok!

(Soundbite of rope reeling.)

Mindy. Yah!

(Soundbite of rope reeling.)

Mindy. Yah!

Dennis. Go SpiderMindy, go!!

Guy. What is she doing?! Is she leaping between her house and yours, Dennis?

(Soundbite of rope reeling.)

Dennis. Yeah, and she's pooping out more of that strange plastic rope.

Guy. Uhh....

Dennis. It looks like she's making a net? No, no wait! SpiderMindy is building a spider web!

(Soundbite of rope reeling.)

Mindy. Hardcore parcour! Wahooooo! Oh!

Guy. What in the wow?

Dennis. Ooh! SpiderMindy! Do the little webby spiral in the middle!

Mindy. Gotcha, Dennis! Spiraling spiraling spiraling spiraling spiraling spiraling...

(Soundbite of rope reeling.)

Dennis. Oh, yeah, that's nice.

Reggie. Coo.

Guy. Mindy! Mindy, can you please come down from that web and explain to all of us what it is you're doing?

Mindy. Alright. Wahoo!

(Soundbite of rope reeling.)

Guy. (Gasp.)

Dennis. Oh heavens!

Mindy. Woah!

(Soundbite of rope reeling.)

Guy. Mindy!

Mindy. Woah!

(Soundbite of rope reeling.)

Dennis. Oh that's not good.

(Soundbite of loud crash.)

Mindy. I'm okay!

Dennis. Yikes.

Guy. My microhouse! My beautiful sustainable microhouse!

Mindy. Whew! You got a real mess in there to clean up, Guy Raz!

Guy. (Groans.)

Grandma G-Force. Hey, what's all the racket out here? I can't hardly hear myself think about nothin!

Thomas Fingerling. What in the world wide web! Would ya look at that...a web!

Reggie. Cool!

Thomas Fingerling. That's some expert craftsmanship right there too...looks to be made outta some kinda soy protein isolate!

Guy. Soy protein isolate! Aha! Yes! Now this is all starting to make sense!

Mindy. Yay! So does that mean you're cool with me crashing through the window of your microhouse, Guy Raz?

Guy. No! It definitely does not mean that.

Mindy. Man!

Guy. But what it does mean, is that I now understand what you were doing building that human sized spider web, Mindy!

Mindy. You do?!

Guy. Yes! Yes! You were doing it...for science! You see, spider silk is one of the strongest and most durable materials on earth...

All. Ooh!

Grandma G-Force. Well, well!

Guy. And if we could supersize a spiderweb to human size, it would be five times stronger than steel!

Grandma G-Force. Oh, snap!

Mindy. Guy Raz is right everyone! A human sized spider web would be strong enough to trap a....you know what? Why tell you when I could just show you?

Thomas Fingerling / Grandma G-Force / Dennis. Huh / what?

Dennis. Oh, what's she gonna do now?

Mindy. Ok, Dennis.

Dennis. Uh huh.

Mindy. Dennis...

Dennis. Yeah, what?

Mindy. Here are the keys to my ice cream truck

(Soundbite of keys jingling.)

Dennis. Uh-huh.

Mindy. I need you to pull it around the front here, okay?

Dennis. Aye, aye, captain—I mean, SpiderMindy—I mean, Captain SpiderMindy!

(Soundbite of running footsteps.)

Mindy. And Thomas Fingerling...Go get the cannon!

Thomas Fingerling. Oh, gotcha, alright.

Guy. Mindy, does all of this spiderweb stuff have anything to do with that recent study that came out of the University of Cambridge in the United Kingdom?

Mindy. Oh, you mean the one published in the scientific journal, Nature Communications?

Guy. Yeah that's the one!

Mindy. You know that study?

Guy. Well, yeah...I was just reading about how these researchers used plant proteins to replicate or copy the silk that spiders create to spin their webs!

Mindy. Yes, plant proteins! Specifically one called soy protein isolate! Which is really just a fancy way of saying the protein taken out of soybeans. In fact, you'd find these in things like veggie burgers and fake meat.

Reggie. Coo.

Guy. And from what I read in this study, it sounds like they researched how the molecules in spider silks are structured or arranged, so they could do the same with these plant proteins!

Mindy. Exactly! Kind of like recreating a puzzle, using different materials that could act the same way.

Guy. Yes! So once this team of researchers unlocked the secret to how spider silks are formed...

Mindy. ...kind of like getting a sneak peek at the picture on the puzzle box...

Guy. Yeah! Once they did that, they had all the information they needed to essentially create spider silks of their own!

Mindy. Yes! But...they did not create spider silks for spider webs. Instead, they created something that looked a little different. Something called a polymer film...

Reggie. Coo.

Mindy. ...which looks like a thin sheet of plastic, but it's not!

Guy. Nope! It's one hundred percent genuine vegan or plant-based spider silk!

Mindy. Uh huh! But, instead of looking like a spider web, it looks more like the plastic wrap that you use to wrap up your leftovers.

Reggie. Coo, coo

(Soundbite of ice cream truck.)

Dennis. Honk-honk! I'm back!

Mindy. Oh hey, Dennis! You're just in time!

Grandma G-Force. In time for what?

(Soundbite of cannon rolling.)

Thomas Fingerling. Hey, Mandy, we got the cannon you asked for!

Guy. Uhh.

Reggie. Coo.

Mindy. Oh thanks, Thomas Fingerling. You can leave it right there in front of my giant spider web.

Thomas Fingerling. Okie doke!

(Soundbite of grunting.)

Guy. So wait a minute. Is that what you've done here, Mindy? Did you create this spiderweb out of your own plant based vegan spider silk?

Mindy. Hand crafted by yours truly in my very own laboratory of bad ideas!

Guy. Wow! That's incredible!

Reggie. Coo!

Mindy. Oh and that's not even the most incredible part!

Guy. It's not?

Mindy. No! remember how we were saying how strong spiderwebs are?

Guy. Yeah, and how if we were to supersize them to human size...kinda like you did here, it would be five times stronger than steel!

Mindy. Yep!

Reggie. Coo.

Mindy. Now is the time to test it out and see for ourselves!

Guy. Uh...does this have anything to do with Dennis behind the wheel of your ice cream truck, and Gramma G-Force climbing into that cannon?

Mindy. It has everything to do with that, Guy Raz. Dennis!

Dennis. Yep?

Mindy. I want you to back that truck up, and when I say three, I want you to rev up the engine and gun it into my spider web, okay?

Dennis. You got it, SpiderMindy!

(Soundbite of engine revving.)

Guy. Are you sure this is a good idea, Mindy?

Mindy. Yes, of course I'm not sure this is a good idea, Guy Raz! But anything for science, right?

Guy. There are exceptions to that rule!

(Soundbite of truck rumbling.)

Mindy. Okay Dennis...get ready to slam on the gas!

Dennis. Ready!

Mindy. In three....two...one!

(Soundbite of beep and tires squealing.)

Dennis. Agh! Save me save me save me!

(Soundbite of crash.)

Dennis. Oof!

Mindy / Guy. Ooh.

Dennis. Ow.

Reggie. Coo.

Mindy. Haha! success! I knew it would work!

Guy. You did?

Mindy. No, I had no idea. This was a really risky experiment.

Guy. (Sighs.)

Mindy. But look! It paid off! And now my own human-made spider web is holding both Dennis and my ice cream truck! Look how strong it is!

Dennis. Ok, I did it! I'm stuck now!

Reggie. Coo.

Guy. You know, this is actually pretty incredible, Mindy! If scientists are able to create a material that's as strong and as durable as a spider silk, they could essentially use this same process to create materials that work the same way plastic does.

Dennis. Did someone say plastic? 'Cause I don't use plastic. I've never even heard of plastic before!

Reggie. Coo.

Dennis. It-it-it-it sounds really bad for the environment to me!

Reggie. Coo.

Guy Raz. (Groans.)

Mindy. Yes, but they can make a plastic-like material that doesn't harm the earth the same way real plastic does! Especially the plastics that we use once and then just throw away.

Dennis. What?! Single-use plastic?! Oh who would do such a thing!?! Not me, that's for sure!

Guy. (Sighs.) I mean, just imagine! With a discovery like this, we could be on our way to getting rid of those single-use plastics all together!

Mindy. Yeah...I mean this plant-based vegan spider silk is compostable, meaning that it can break down in a way that's helpful to the planet instead of hurtful...

Dennis. Yay SpiderMindy!

Mindy. Ugh, Dennis!

Guy. And it can be an environmentally good alternative to all of the plastic we humans use and waste every single day!

Dennis. And it also makes a great spiderweb for holding your ice cream truck...and your friend, Dennis!

Guy. Are we ever going to get him down from there?

Mindy. Huh. I don't know.

Thomas Fingerling. Well, maybe we could shoot him down with this here cannon!

(Soundbite of slapping cannon side.)

Mindy. Scientists do have to test their experiments more than once to make sure that their findings are consistent.

Grandma G-Force. Yeah, boy, science!

Reggie. Cool!

Thomas Fingerling. Fire in the hole!

(Soundbite of cannon blast.)

Grandma G-Force. Wee! Ooh! Oof!

(Soundbite of crash.)

All. (Gasp.)

Dennis. Oh, hey there Granny G! Welcome to my web.

Grandma G-Force. Fingerling! You get me outta this thing! I'm stuck!

Thomas Fingerling. Alright, alright, hold yer horses. Lemme just climb up here and then I'll just-uh oh.

Guy. Uh...

Thomas Fingerling. Welp, now I'm stuck. Someone wanna gimme a hand?

Mindy. Coming!

Guy. Who knew that spider silk could inspire something strong enough to hold all of our friends and one ice cream truck?

Reggie. Cool.

Mindy. Uh...Guy Raz?

Guy. Oh no.

Mindy. I think I might be stuck

Guy. (Groans.)

Mindy. You think you could, uh, come and rescue us?

(Soundbite of footsteps.)

Dennis. Save me, Guy!

Guy. Alright. Here I come. Climb...climb...oh no. Oh no!

Mindy. (Gasp.)

Dennis. Oh, Guy...

Guy. I think I must be....stuck!

Thomas Fingerling. Ah, ya think?

Grandma G-Force. Aw, hushpuppies...

Dennis. Don't worry everyone, I know what to do!

Thomas Fingerling. What?

Dennis. Just stay here forever! Together! Woven in an intricate tapestry of friendship and soy protein isolate!

Grandma G-Force. Oh, snap!

All. Reggie!

Thomas Fingerling. Save me, pigeon!

Reggie. Coo.