

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.

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

(Soundbite of children screaming.)

Guy Raz. What in the...

(Soundbite of music.)

Guy. Mindy?

Mindy Thomas. Hey, Guy Raz. Check out my sweet, new ride.

Guy. Mindy, where did you get an ice cream truck?

Mindy. Oh, hang on sec, Guy Raz. I'll be right there.

Guy. Her truck is called a Midsummer Night's Cream?

Mindy. You just got served. Soft-served.

Guy. Mindy, when did you get in the business of selling ice cream?

Mindy. I don't know. About an hour ago. You see, Guy Raz, was a wise, old owl once told me that the secret to life is to find what you love doing the most and to get paid for it. So with that, I had to throw starting a podcast out the window and do the thing I love second-most - ice cream.

Guy. OK. First of all, that wise, old owl was me. And second of all, it looks like you've got your profits dripping all over your face.

Mindy. Well, as a responsible business boss lady, I had to test out my product before opening it up to the public.

Guy. Well, let me clean that off for you. Here, I've got a handkerchief in my pocket.

Mindy. No. No, not the spitty handkerchief.

Guy. Now let me see your face. Right. OK. Almost. All right. OK. All right. Almost there. There. All cleaned up.

Mindy. That was disgusting, Guy Raz.

Guy. That's the problem with ice cream, Mindy.

Mindy. You found a problem with ice cream?

Guy. Well, as delicious as ice cream can be, these warm temperatures can melt it faster than we can eat it.

Mindy. Ah, yes. The old creamy, creamy, melty, melty conundrum.

Guy. The what?

Mindy. But boy howdy, do I have some good news for you, Guy Raz - because there's some new science that says that that's all about to change.

Guy. What?

Mindy. And soon, our sticky-finger-licking days will be gone for good.

Guy. What do you mean?

Mindy. I'm talking about a newly discovered recipe for melt-resistant ice cream.

Guy. Ice cream that will melt in your mouth but not in your hands?

Mindy. Guy Raz, this could be the biggest scientific breakthrough of the twenty first century.

Guy. Well, that might be a bit overstating things. I mean, there was the discovery of stem cells to grow human organs and the discovery of water on Mars and...

Mindy. Back to melt-resistant ice cream.

Guy. Oh, right. So what's the scoop?

Mindy. The scoop. The scoop is that these Colombian researchers got together with these scientists from the University of Guelph in Canada and found a secret ingredient that would make ice cream nearly unmeltable or at least melt in slow motion.

Guy. What's the secret ingredient, Mindy?

Mindy. Well, if I told you, then it wouldn't be a secret, then, would it?

Guy. Since when are you able to keep a secret?

Mindy. Guy Raz, I am not going to tell you what the secret ingredient is.

Guy. (Groaning).

Mindy. I'm going to show you what the secret ingredient is.

Guy. Well, what's the difference?

Mindy. Hop in the Midsummer Night's Cream truck, Guy Raz. Just watch out for the sprinkle party down there on the floor. I had a little accident.

Guy. Are you sure this thing is safe to ride in, Mindy?

Mindy. Yes, of course I'm not sure it's safe to ride in, Guy Raz. Now go ahead and strap yourself into that vat of cookies and cream over there.

Guy. There are no seats in this ice cream truck?

Mindy. And I thought this truck was high maintenance.

Guy. My buns are freezer burning. My buns are freezer burning.

Mindy. Oh, wait. There's a seat that someone left on the curb over there. Hold tight, little buddy. I'll hop out and grab it for you.

Guy. But, Mindy, that's a...

Mindy. Don't go anywhere. I'll be right back. Run, run, run, run, run, run. Oh, man. Sorry. I had to fight off a pack of wild squirrels for it.

Guy. What? Mindy, that's a child's car seat.

Mindy. Now we're just going to squeeze you in. Stop wiggling. Stay still, Guy Raz.

Guy. Too tight. Too tight.

Mindy. There. Now you're not going anywhere for the rest of your life.

Guy. We better not be going too far.

Mindy. Nah, just a quick drive to South America.

Guy. (Groaning). Start up the engine, Mindy.

Mindy. Yes.

Guy. Anything for science.

Mindy. Anything for science, Guy Raz. Now hand me that wire coat hanger over there, so I can start this baby up.

Guy. What?

Mindy. Shove that in there. And - huh. Try this again. I wonder what's...

(Soundbite of car starting).

Guy and Mindy. (Screaming).

(Soundbite of whoosh).

Guy. Are we there yet?

Mindy. Nope. Still got a ways to go.

Guy. Are we there yet?

Mindy. Guy Raz, you'll know when we get there because we'll be there.

Guy. OK. Are we there yet?

Mindy. (Yelling). Guy Raz!

Guy. What? Are we there yet?

Mindy. No. We've hit a little snag in our travel plans.

Guy. A snag?

Mindy. Well, we've made it all the way to Panama. So that's the good news.

Guy. And what's the bad news?

Mindy. Well, we ran out of highway.

Guy. We ran out of what?

Mindy. This Pan-American Highway in Central America. We've reached the end. And now we've hit the Darien Gap that connects us to South America.

Guy. Wait. I've heard of the Darien Gap, Mindy. We're almost there. We're almost to Colombia.

Mindy. Not so fast, Guy Raz. The Darien Gap is a major swath of roadless jungle and swampland that sits right between us here in Panama and our destination in Colombia, South America.

Guy. No roads, huh?

Mindy. Nope.

Guy. And you said jungle and swampland?

Mindy. Yup.

Guy. So I guess we only have one choice left. And that's to turn around.

Mindy. ...Turn this ice cream truck into hyper drive.

Guy. What?

Mindy. Put this ice cream bucket on your head, Guy Raz, and hold on for your life.

Guy. You want me to...

Mindy. Yes.

Guy. Mindy, what does any of this have to do with the secret ingredient to melt-resistant ice cream.

Mindy. Brace yourself, Guy Raz. This is going to be a rocky road.
(Screaming). Oh, sorry. Sorry. I can fix that. That was crazy.

Guy. When did you learn to drive like that, Mindy?

Mindy. Grandma G-Force taught me how to drive monster trucks before I could even crawl.

Guy. Of course she did.

Mindy. OK, Guy Raz, you ready to explore the new science of ice cream that will melt in your mouth, not in your hand?

Guy. You know, I almost forgot why we were even on this wild adventure.

Mindy. OK. First things first, take a look over there.

Guy. Where?

Mindy. Over there.

Guy. Well, all I see are a bunch of people harvesting bananas.

Mindy. Yeah, that's it. Now we're going sneak go over there, and you're going to distract them while I grab all of their banana waste.

Guy. I'm not sure I follow.

Mindy. Guy Raz, look at me. Look me in the eye.

Guy. OK.

Mindy. Now, you're just going to have to trust me when I tell you that this next part is going to be very, very important to our mission. OK. You ready?

Guy. No.

Mindy. Now just tiptoe behind me. When we get close, you do something to distract them, and I'll sweep and snatch the goods, OK?

Guy. Well if it's trash, couldn't we just walk up and ask for it?

Mindy. Why would we want to do that, Guy Raz? Come on. Let's go.

Guy and Mindy. Creep, creep, creep, creep.

Mindy. Quick, now distract them, so they don't notice me.

Guy. OK. (Singing). I'm a little teapot, short and stout. Here is my handle, and here is my...

Mindy. Got it. Come on, Guy Raz, let's get out of here.

Guy. But I wasn't finished with my song. (Singing) I'm a little teapot, short and...

Mindy. Run, run, run, run, run...

Banana Harvester #1. (As character.) Hey, she took our garbage.

Banana Harvester #2. (As character.) So?

Banana Harvester #3. (As character.) Oh, yeah.

Guy. So long. Hey, Mindy, wait up. What are you running for? You're practically doing their job for them.

Mindy. What? Guy Raz, get in the ice cream truck before they catch us.

Guy. Mindy, we're running off with their garbage. Trust me - no one's trying to catch us.

Mindy. Did you just say garbage? You call all this garbage?

Guy. Well, you've got bushels of inedible banana stalks. So yeah, pretty sure that's the definition of garbage.

Mindy. Well, then what if I told you that these bushels of banana stalk garbage held the secret ingredient to melt-resistant ice cream, huh?

Guy. Go on.

Mindy. Well, as you can see here, bananas grow on plants in places like Colombia, South America and not in our neighborhood grocery store.

Guy. Please tell me that's not the secret.

Mindy. And they grow in bunches on these tree-like perennial herbs.

Guy. Yeah. Looking at these banana plants, I can see that they look sort of like trees. Hey, look. Some of them are almost thirty feet tall. And they have pretty sturdy stems, but they're not woody like an actual tree. So what about their trunks?

Mindy. Those, those aren't actually trunks at all.

Guy. What?

Mindy. They're pseudostems, which means that they're made up of leaves packed really, really tightly together.

Guy. And because they're packed so tightly together, that's what makes those stems hard.

Mindy. Yeah.

Guy. And you mentioned that they're perennial herbs?

Mindy. Yeah, so perennial is just a fancy-pants way of saying a plant that lives for more than two years.

Guy. And an herb is any plant that makes seeds and doesn't have a woody stem and also dies down to the ground after flowering.

Mindy. But a perennial herb will come back to life year after year after year.

Guy. Like these banana plants.

Mindy. Yep - or lilies or orchids. They're perennial herbs, too.

Guy. So what about all of this banana plant waste that you just snatched away from the harvesters? It looks like they were throwing it away after plucking the banana bunches from it.

Mindy. Oh, yeah. Here. This stalk is called a rachis. And once harvesters pick the banana bunches, they just get rid of it.

Guy. But...

Mindy. Oh, this is a big but.

Guy. Mindy.

Mindy. But these researchers had a hunch that maybe - just maybe - there was more to these banana rachis than just garbage.

Guy. So what did they do?

Mindy. Well, they started to extract - or suck out - of these rachis these teeny, tiny microfibers or threads - threads that have no smell or taste and are thousands of times smaller than the width of a human hair.

Guy. Do these tiny fibers or threads have a name?

Mindy. Yeah, but it's a mouthful.

Guy. OK. Well, try me.

Mindy. They're called cellulose nanofibrils - or CNFs for short.

Guy. Huh. Cellulose nanofibrils - has a nice ring to it. So when they got these fibers out of the plant, what did they do with them?

Mindy. Well, sprinkled them on their ice cream. OK. So maybe it was a little more complicated than that because, you know, scientists.

Guy. What?

Mindy. Anywho, they added teeny, tiny CNF fibers in different amounts to scoops of ice cream mix.

Guy. And what did they find?

Mindy. They found that with just the right amount of CNF fibers mixed in - that the ice cream lasted longer than the ice cream we're used to eating.

Guy. And by lasting longer, you mean...

Mindy. I mean that it lasted longer in the freezer without going bad, longer in the store and longer in these researchers' hands because it wasn't melting like crazy.

Guy. The secret to melt-resistant ice cream.

Mindy. And that's not all.

Guy. There's more?

Mindy. They also discovered that these CNF fibers from the banana plants helped low-fat ice cream have a creamier texture, meaning that low-fat ice cream can now be as delicious as regular ice cream.

Guy. Healthier ice cream. Now you're speaking my language, Mindy. So what's next?

Mindy. Well, the next step is to be the first to get this melt-resistant ice cream onto freezer shelves and into grocery stores all over the world.

Guy. Wait. Did you say the first?

Mindy. Yeah, the competition is starting to heat up. And that could melt some scientists' dreams. But you know what I always say...

Guy. Bonkerballs?

Mindy. No, I always say, why wait for science when you can just do it yourself?

Guy. Oh, no.

Mindy. What could possibly go wrong? Guy Raz, hand me those banana stalks and a straw.

Guy. A what?

Mindy. I'm going to suck the rachis out of this stalk and add it to my own recipe and then make us some melt-resistant ice cream right now.

Guy. I'm pretty sure that's not how it works, Mindy.

Mindy. Here goes nothing.

Guy. Oh, boy.

Mindy. (Sucking.) Do these look like tiny fibers to you? Close enough. Spitting them into the ice cream (spitting).

Guy. Mindy, that doesn't...

Mindy. Mixing it up. Here you go, Guy Raz. I call this flavor bananaconda.

Guy. Huh?

Mindy. Now step outside the ice cream truck and if it doesn't melt all over your hands.

Guy. Well, Mindy, it appears that your experiment has left me covered in ice cream soup.

Mindy. Man, I wonder where I went wrong.

Guy. Well, it all started when you rolled up in this falling-apart ice cream truck and then drove me through swampy jungles to South America and then...

Mindy. Speaking of which, we should probably head back. I'm losing business down here. This place is bananas.

Guy. Well, let me at least get back into the truck before you take off.

(Soundbite of engine turning over).

Mindy. Uh-oh.

Guy and Mindy. (Yelling). Reggie!