

JED: Hey Bridget, are you excited?

BRIDGET: Yes I am! We are back for another season of Million Bazillion and it's field trip day!

JED: We're going on a field trip?

BRIDGET: Yeah, did you forget? Your old economics teacher Miss Grizzle is coming to take us somewhere super cool. You've been talking about it forever.

JED: Oh, that's today? Huh, all right. Cool.

BRIDGET: Wait, if you forgot, why'd you ask if I was excited?

JED: It's triple scoop day at the ice cream truck, and they're unveiling a new flavor. *You've* been talking about it forever. Bridget? You ok?

BRIDGET: Where's my wallet?? I really hope it's something with mint!! [trails out]

JED: Oh wait, nope, actually triple scoop day is tomorrow. Wait, Bridgettttt!

--OPENING MUSIC--

BRIDGET: Welcome back to Million Bazillion, where we help dollars make more sense! I'm Bridget.

JED: And I'm Jed. Every episode, we answer a question that our listeners sent in about money. The hows, the whys, the "what's up with that's?"...and we are super excited to be back with a whole new season!!

BRIDGET: To kick off this first episode, we're starting with this question:

"Hi, my name is Owen and I am from Washington D.C. My question is, how is money made? How are the actual coins and bills made?"

BRIDGET: And I bet a lot of you are wondering about that. We got similar questions from Natalie, Van, Nathan, and Veira. And that's why we're here outside of the Mint in Philadelphia today. That's one of the factories where a whole lot of our COINS are made.

JED: Yes, and we're very excited to be joined by my old teacher Miss Grizzle. Here, she's pulling up now. Hi, Miss Grizzle!

MISS GRIZZLE: Hello class! Ted, look at how much you've grown!

BRIDGET: Ted?

JED: Don't worry about it. She never remembers any kids' names. Ted's actually pretty good for her.

MISS GRIZZLE: And I'm very pleased to meet you, young man.

JED: Miss Grizzle! I was the one who was your student. Not Bridget.

BRIDGET: Wait, you thought my name was Ted?

JED: Miss Grizzle has a special knack for teaching her students about money and making it fun. And since we're going on a field trip, that means we get to ride in her enchanted armored truck!

BRIDGET: Enchanted?

MISS GRIZZLE: We must find a way to get *inside* the Mint building - where money is made! Hop aboard my Enchanted Armored Truck! To really understand a quarter, you must become it!

BRIDGET: That's a weird thing to say. So is there a tour group parking lot we're looking for?

JED: It's not that kinda field trip, Bridget--

MISS GRIZZLE: Armored Truck, give us a ride, turn us into something that'll get us inside!

BRIDGET: Turn us into what now?

(VOICE: "Bee mode activated." SFX TRANSFORMATION/[Train horn/POP/TK Music sting])

BRIDGET: Bee mode? How did the truck get so tiny? So we're the size of a bee now??

[SOUND FX RISING UNDER BRIDGET, JED & GRIZZLE: truck movement noise + rising ambi, including coins dropping]

JED: This is awesome! This is the actual production floor of the Philadelphia Mint! It's huge, and there are so many machines and forklifts and conveyor belts! Now we can REALLY get up close to see how these coins are made!

MISS GRIZZLE: (over a PA speaker) Welcome to Miss Grizzle's tour of the Philadelphia Mint! If you'll look to your left, you'll see the room where nickels hatch out of their eggs. In no time at all, they'll grow to be silver dollars!

JED: Uh, that doesn't sound right...

MS GRIZZLE: (over a PA speaker) Wait a minute, what's this factory doing here?...where are the metal smythers, individually carving and shaping each quarter?

BRIDGET: What? You didn't think--

MS GRIZZLE: [ESCALATING] Where's penny pond? The Dime mine?

BRIDGET: Jed, can I talk to you...um, over here? [TONE SHIFT] Jed...she seems a little unprepared to help us answer this question.

JED: Yeah, I think you're right. Now, I'm remembering why I used to offer my nickels food to get them to grow.

MS GRIZZLE: (over a PA speaker) Did they get rid of the dragon?!!

JED: Hmm... to save this field trip, I think we'd better be the ones to give the facts about coin making. Hey, Miss Grizz? How about you focus on driving, and we'll explain to you what's going on.

MS GRIZZLE: You got it, kiddo! I'll take the wheel...you do the teaching spiel!

JED: Lucky I brought this Philadelphia Mint guidebook! Let me just flip through it real quick.

BRIDGET: Coming up after this, we're going to really find out how coins are made!

---ARKNSRQ---

ANNOUNCERY VOICE: And Now It's Time For...Asking Random Kids Not So Random Questions!

If you could have a never ending supply of one thing, what would you want?

[Answers Vary]

That was [Names of participants]... And that's all for Asking Random Kids Not So Random Questions.

[MINT AMBI FADES BACK UP]

JED: All right, so today we're finding out how coins are made by taking a tour of the Mint in Philadelphia. My beloved teacher, Ms Grizzle, is flying us around in her tiny enchanted armored truck. Bridget and I are handling tour guide duty!

MS GRIZZLE: I always say, let the students take the wheel. Especially when you're sleepy.

BRIDGET: Ooh, are they making quarters over there? C'mon, let's fly over for a closer look! [Truck moving sound] Listeners! Grab a quarter - it'll help you follow along with us! Wait, where's my lucky quarter?

JED: [obviously trying to distract Bridget] Wow, that looks like a giant tape dispenser -- but instead of tape it's got a spool of silvery metal!

MS GRIZZLE: I bet they use a shrink machine to get those down to quarter size!

JED: Eh, not quite. According to my guide book, those giant rolls of silvery metal are as long as five football fields. They go through this cutting machine. And then on the other side...

[travel truck sound + Blanking coins]

JED: Yep, here we are! The machine punches out hundreds of thousands of blank coins all from that one metal spool. 325,000 blanks per spool, if you want to be exact about it.

BRIDGET: These blank coins are the same size and shape as the coin in your hand but they're totally smooth - there are no heads or tails, no distinctive ridges! You can't flip a coin with these guys. Who would win?

JED: That's for sure. Next, these blanks need to get hot and a little melty so they're soft enough that they can get those heads and tails stamped onto them. Hey Ms Grizzle, can you take us a little closer to that furnace?

MS GRIZZLE: Sure thing. Hold on tight! [moving noise]

JED: This is basically an oven but it gets WAY hotter than the ones we have at home.

MS GRIZZLE: My dashboard thermometer here says it's up to 1600 degrees Fahrenheit!

(SFX - OVEN ROASTING)

JED: Um, Ms Grizzle... I think we're a little too close. it's getting VERY roasty in here...(SFX - ALARM SIREN)

BRIDGET: I think my eyeballs are sweating!

MS GRIZZLE: Let's keep moving and see what happens next! Ah, looks like they're jumping into water. Little-known-fact: new quarters are experts at the backstroke!

JED: It's a good thing that fact's little-known, because it's wrong. What's happening is that the blank quarters here, are a little TOO hot, so they'll be DUNKED into this vat of water that cools them down but not too cool ...we still need them soft and melty so they can be marked up! In fact, look at your quarter - see those ridges on the side? They get those next.

BRIDGET: Ooh, and after that, it's the press! My favorite part!

MS GRIZZLE: Mm-hmm, the coins are answering questions from reporters.

BRIDGET: No, not that kind of press. This press is a giant stamp that smashes the images of the heads and tails onto the blanks. It's art that's created violently -- my favorite kind.

JED: Ooh, and this is where coins get their Mint Mark!

MS GRIZZLE: Is that like a birthmark for quarters?

BRIDGET: Sorta. See, this isn't the only coin-minting factory in the country. But you can tell which factory made which coin by looking closely at the head side...if it has a tiny letter P, it was made here in Philadelphia. The letter D stands for Denver.

JED: We're getting kinda close to those stamping machines...and they are moving up and down really really fast!

MS GRIZZLE: You know what would be fun? How about I turn us INTO a coin so we can get stamped too?

BOTH: No! No! No!

MS GRIZZLE: No? Ah well!

SFX: Vroom

BRIDGET: Uh, Jed...does that guidebook of yours have any more fun facts about this place?

JED: Uh, yeah... Each press...get this now...can stamp 720 quarters in a single minute.

BRIDGET: That's REALLY fast!

JED: Ooh, and the Philadelphia Mint here makes somewhere between 30 and 35 MILLION coins...in a single day!

MS GRIZZLE: And to think, you could have been one of them!

JED: [GETTING MORE EXCITED] In a typical year, they make about \$455 million DOLLARS worth of coins!

BRIDGET: Wow. That's serious pocket change! What happens to all these coins once they're made?

JED: Oh, right -- uh, [flipping pages] the coins are spot checked to make sure they're all perfect. Then they're divvied up and put into those big bags [COINS DROPPING + FORKLIFT BEEP BEEP]. Wow, those bags must be heavy, they need forklifts to pick 'em up.

MS GRIZZLE: A weighty observation from my favorite student of all time... I wanna say, Brandon?

JED: No...

MS GRIZZLE: And THAT is how coins...are made.

BRIDGET: We answered part of Owen's question! But what about dollars?

JED: Oh...those are made in an entirely different factory. Instead getting stamped from a roll of metal, dollars are printed on giant sheets made of this cotton linen blend...sometimes there are 32 to 50 bills on every sheet! Then they get cut apart, wrapped up and sent out to banks.

MS GRIZZLE: I think I could break us into a bank...want to do that next?

JED & BRIDGET: No!!!

ALT: Jed: YES / Bridget: No! (over top)

[TOOT TOOT horn, fades into:]

<MUSIC>

BRIDGET: AND NOW! Sharon McPike from the Mint is going to answer a few more of the questions you have about money.

JORDYN: My name is Jordyn and I have a question for you. What is money really made out of?

SHARON 1: That's a great question. Nowadays, quarters and dimes are what we call clad coins. It's basically like a metal sandwich. Where the outside layers are made of copper and nickel and the filling is solid copper.

Isabella: I'm Isabella from Australia. I have a question about money. There's never enough money and people are always needing more. So, why can't the Mints just make more money and give it to those who need it?

Sharon 2: If the country makes too many coins and we don't have the resources to back up those coins then they're not worth anything. And we want the money to be worth something.

Nathan: How do we decide what goes on coins and bills?

Sharon 3: That's a great question. If it were up to me, I would put my own dog on the coin. But, unfortunately, we have to do what congress tells us to do. Each coin you see, somewhere, some law says that's what the image has to be. So if you decide you want a design on a coin, you'll have to write your congressman or senator and ask them to sponsor a bill so that design can be featured on a coin.

Suki: Hi, I'm Suki! Um, are coins in fountains wishes or money?

Sharon 4: Coins in fountains are still money but I like to think that they're also wishes come true.

BRIDGET: Keep sending us the questions you have about money and how it works...to Marketplace dot org slash Million.

JED: Now, we know where money comes from, next, we're going to talk about where it goes. That's coming up!

--Midroll--

BRIDGET: Okay so now we're normal sized again. And we've just learned how COINS are made...how they get from a big spool of metal to a shiny and perfectly formed quarter that fits in your pocket. But you might be wondering...how do they get to you and your pocket?

MS GRIZZLE: The Enchanted Armored Truck and I have got this! How about we turn into a quarter and see what happens?

JED: Hey, Ms Grizz, you know, you don't always have to use the Enchanted Armored Truck. Asking an expert to explain things is a great way to learn.

MISS GRIZZLE: Sounds unorthodox but I'm all ears!

JED: So, believe it or not, how physical paper and metal money moves from person to person is something that people actually study! People like economist Daniel Soques (soak-wes) He's a

professor at the University of North Carolina Wilmington, and he follows money the way a weather forecaster follows a thunderstorm.

SOQUES 1: very rarely does cash or even coins just sit somewhere in a piggy bank.

BRIDGET: Nope, it moves! Or as Daniel would say, it “circulates.”

SOQUEST 1.5: There's this constant circulation of cash and coins to the economy to help people buy and sell stuff.

BRIDGET: So let's follow some cash to see what Daniel means. This past weekend, Daniel saw an ice cream truck...and his son wanted some.

(SOUND MONTAGE BEGINS WITH SFX OF ICE CREAM TRUCK SONG)

SOQUES 2: So we brought out a \$10 bill (SFX WHIP CRACK) to pay for his ice cream and my daughter's ice cream.

Well, that \$10 bill, you know, (ICE CREAM TRUCK MUSIC REWINDS AND THEN STOPS) I got from change (SFX CHA CHING) for my the person that cut my hair, right. (SFX HAIR CLIPPER BUZZING)

BARBER (LADY): Here's ten dollars in change!

So like, there's that that transaction earlier in the week where I got that \$10 bill...and then now we paid it to the ice cream truck owner.

(SFX ICE CREAM TRUCK MUSIC AGAIN)

ICE CREAM SELLER: That's ten dollars, sir. .

BRIDGET: So that ten dollar bill moved from the person who cut Daniel's hair, to Daniel, to the ice cream man.

SOQUES 3: that ice cream truck owner most likely is going to deposit his bank at the end of the day.

BANK TELLER: (echoey) Ten dollar bill, to the vault! (SFX VAULT DOOR SLAMS RESONATINGLY)

SOQUES 4: And then the bank will then take that money and lend it out to somebody else to use.

JED: When money circulates, it shows that people feel good about spending money and they have things they can buy. Over the course of its lifetime, a piece of currency goes a lot of places -- all over the world! In fact, did you know that more than half of all U.S. bills are actually in foreign countries at this very moment? Money can really move!

BRIDGET: And not only can it move, it's actually really important that it *keeps* moving. Back in the early part of the Covid pandemic, people weren't going to stores as much or they weren't using cash, so coins weren't getting used as often. They kind of sat in cash registers or piggy banks, and that was a problem for businesses that *did* need to use coins. They ran out!

MS. GRIZZLE: All because the circulation slowed down?

BRIDGET: Yes! Circulation is important to keeping the economy healthy. Daniel says the economy is like a human body.

SOQUES 5 : Right, I kind of like the thinking that is as blood moving through your body because your your blood is needed at different points for different reasons across your body. And similar to you know, how the economy is it constantly in need of, of money at different places.

JED: Let's say you want to buy a book. You've gotta have money in your hand, ready to use. (SFX - CHA CHING) And then, once you get the book, you're good. You're done with needing that money, so it moves away from you (SFX - QUIETER CHA CHING), ready to make another transaction possible. (SFX - REALLY QUIET CHA CHING). You could say money is the lifeblood of an efficient economy.

MS. GRIZZLE: My goodness, I feel like I've learned so much!
But I must say, all this talk of blood and circulation has me positively bouncing to take another field trip! What do you say, Jed? Can we take a dive into your body to see blood circulation up close?

JED: Aw, you got my name right. Fine, but here's the deal. I want you to first go to my stomach. I accidentally swallowed Bridget's lucky quarter doing a magic trick yesterday. You gotta get it for me.

BRIDGET: That's where Ellen Quartermain went?! Oh, I am getting it back. Let me on that truck.

MS. GRIZZLE: Next stop, miniaturization and circulation up close and personal!

JED: Ok, now I swallow the tiny truck. (gulp) How you guys doing in there, Bridget? Over.

BRIDGET: (tinny through walkie talkie) Jed! There's way more than just a quarter in here. There's, like, a buck in dimes alone!

JED: I'm gonna want all that back. Over.

--VIOLET AND CHARLIE MONEY TRIVIA--

--FINAL THOUGHTS--

JED: We are just about done for this episode.

[MUSICAL SCORING]

And what an episode it was! Red hot metal, enchanted vehicles, millions of dollars worth of treasure!

BRIDGET: I loved thinking about all the places money goes. Next time you come across a quarter, stop and look at it, and consider how it was made...and the journey it went on to come to you. It's like money is a way that we all are connected.

JED: We learned so much. And it's all thanks to you, our listeners! That's why we're super duper pumped to be back answering your questions.

BRIDGET: So keep 'em coming. Money can be confusing. But we're here to help.

--CLOSE MUSIC & CLOSE--

BRIDGET: Thanks for listening to Million Bazillion -- where we help dollars make more sense...

JED: In our next episode, we'll explain why we pay taxes. If you have something you want to ask us, email us at Marketplace dot org slash million.

BRIDGET: If you liked this episode and you want more...check out our bonus newsletter for kids and their grownups who want a tip sheet, episode extras, and cool comics about how money is made. Sign up today at Marketplace dot org slash BONUS and we'll send it right to your email inbox. It's a great way to know when we've got new episodes.

JED: Plus, you can keep tabs on other fun stuff from the Million Bazillion Team -- like there's something exciting coming! Here's a hint: it starts with the letter T and ends with "shirts." That's all I can say right now! But go to Marketplace dot org slash BONUS to sign up!

BRIDGET: We couldn't have done this episode without the help of Sharon McPike and Brian Martin at the Mint. And the voicing talents of Kimberly Adams, Chris Julin, Melody Perkins, Erica Phillips, and Catherine Winter.

JED: Million Bazillion is brought to you by Marketplace in collaboration with Brains On! And American Public Media.

I'm your host, Jed Kim...

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BRIDGET: And special thanks to the people who provided the startup funding for Million Bazillion, and who continue to help keep us going: The Ranzetta Family Charitable Fund and Next Gen Personal Finance, supporting Marketplace's work to make younger audiences smarter about the economy.

JED: To all the grown-ups listening right now – we hope that you and the kids in your life are having some good conversations about money thanks to Million Bazillion. We created this podcast to help kids get an early start on learning about the economy – and to keep it going, we're counting on your support. Donate today at marketplace-dot-org-slash-givemillion, and thanks for chipping in to make our work possible.