

But Why: A Podcast for Curious Kids

How are images chosen for coins?

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Jane 00:21

This is But Why: a Podcast for Curious Kids from Vermont Public Radio. I'm the host of the show, Jane Lindholm. On this program, we take questions from kids all over the world and Melody Bodette and I find interesting people to help give you answers. Here in the United States where we're based, we just got a new quarter. I mean, new quarters are always being produced. But now there's a new picture on some of the quarters being made right now. If you look at an American quarter, it's our 25 cent coin. One side is a portrait of George Washington, this country's first president, flip it over though, and the normal quarter the regular standard quarter has an eagle on it. But you might find a quarter with a picture highlighting one of the U.S. states or territories, or a picture from one of our national parks. These are circulating commemorative coins, they're still used as regular money, but they have special pictures on them that have been approved by an act of Congress. Over the years, there have been few women and few people of color depicted on us money. So a new program is working to get more women onto U.S. currency. Over the next four years 20 Women who have contributed to the United States in various ways we'll get their picture on the quarter. The first one that's just been released is poet Maya Angelou. So if you live in the United States, keep an eye out for this new special quarter. Later in the year, you might start seeing the first US woman in space Sally Ride. The news about these new quarters got us wondering about our coins and Melody and I aren't the only ones asking questions.

Liam 02:00

Hi, my name is Liam. I live in Tacoma, Washington. I'm nine years old. And my question is, how do coins get made? And how do they get their logos?

Jane 02:11

Let's start with how and where coins are made. The process varies by country but in the US the treasury department is in charge of making money. Within the Treasury. The US Mint produces coins, and the Bureau of Engraving and Printing produces all of our paper money. We're mostly going to focus on coins today, which tend to change a little bit more. There are four mint locations where coins are currently being produced: San Francisco, Denver, West Point and Philadelphia, the largest mint in the world. You can usually see where your coin was produced by looking for a tiny letter on it that says S, D, W or P although the penny doesn't usually have any mintmark on it. In 2020, the U.S. Mint produce nearly 15 billion coins. In Australia coins are made at the Royal Australian Mint. Leigh Gordon, who is in charge of the mint says there's a lot going on there.

Leigh 03:11

The Royal Australian Mint is a very special place located in Canberra, Australia. All of Australia's circulating coins are produced in our factory. When you come for a visit to the Royal Australian mint's

gallery, you can get a bird's eye view of the factory and see how all the coins are made. From up on the gallery floor, you might even be able to spot our robot Titan, who helps us move thousands of kilograms of coins every day. The mint is more than a factory behind Australian coins. We're a keeper of stories and creativity. In our gallery exhibition, you can explore the history, art, science and traditions of coin and see precious pieces of history and the diversity of errors that can happen in the minting process.

Jane 04:03

I think that would be my favorite part seeing the errors the mistakes that have been made over the years, like the Australian coin that was made with the front side of a 10 cent coin and the backside of a \$1 coin. Oops. In the U.S. some of the quarters made in 2005 actually had a letter missing in the writing. So the phrase on the corner said "In God We Rust" instead of "In God We Trust." And some of the quarters that were made celebrating the state of Delaware said the "first stat" instead of "state." Now people try to find the coins that were made with errors on them to collect them. Lots of people collect coins just for the fun of finding something really cool or unique. Sometimes because they think those coins might be worth a lot of money. And often just because they like learning about history. Do you know what a coin collector is called? A numismatist I'm gonna say that again: numismatist. Numismatics is the study or collection of coins, paper currency and metals. Rodney Gillis is the education director at the American Numismatic Association.

Rod 05:11

Think of the Numismatic Association as being the largest coin club in the United States, because that's basically what we are.

Jane 05:20

Rod used to be a history teacher. And he says, learning about what was going on when old coins were made is really fun.

Rod 05:27

I think it's a wonderful hobby, because coins are really primary historical documents, they're windows back into our culture, and back into the history. And that's what I enjoy mostly about the collecting.

Jane 05:44

I asked Rod to help answer some of the questions you've sent us about how money is made.

Aven 05:49

Hi, my name is Aven, and I live in Westminster, Colorado, and I'm six years old. And my question is, how are pennies and coins made?

Bennett 05:59

Hello, my name is Bennett. I am six years old. I live in Seattle, Washington. My question is how our dollars and coins made?

Rosie 06:09

I'm Rosie. I'm from Albuquerque, New Mexico. I am four years old. And how are coins made?

Rod 06:19

In its most basic form how coin is made involves taking a piece of softer metal, placing it in between two pieces of harder metal and applying force. That's how the very first coins that were made. And that's how coins are made today. The real difference is in how that force is applied. When coins were first minted, it was someone who had a hammer, and they were using the hammer to apply force. Today in our modern mint it's done with machines. And back then someone who was coiner would would take about a minute or a little bit longer to be able to successfully mint a coin. Today thousands of coins are minted in the scope of a minute. So it really has changed a lot in how coins were made.

Jane 07:16

Round discs are punched out of sheets of metal by machines, kind of like how a cookie or biscuit cutter works on rolled out dough to create cookie shapes. Those discs are called blanks, the blanks are heated up to make the metal a little softer, and then squeezed by another machine to create a rim around the outside of the coin. And then the design is pressed into each coin by a metal die, which is basically like a stamp.

Maddie 07:44

My name is Maddie. I live in Des Moines, Iowa. I am eight years old. And my question is, why are coins in different sizes?

Rod 07:53

That's a wonderful question. And so the answer is that today our money is called a fiat money. And what we mean by that is that the metal that is used to make our coins does not have an intrinsic value. In other words, it's not made of precious metal. But that always wasn't the case. And as a matter of fact, if you look back to the days of the ancients, and you look back to medieval times, what happened is that the size of coins, because they were made with precious metal really was an indicator of their value. And so we get that out of tradition. You know, back in 1964, for example, a half dollar was made primarily of silver, 90 percent of silver. And the idea was that the silver that was used to make that coin was approximately the value of the coin itself, 50 cents, and so quarter was the denomination was smaller, hence the coin was smaller, until you get down to the dime. And so that's the reason we have different sizes out of tradition today, but it got its start, because of the precious amount of precious metal content that was used for coins.

Jane 09:13

Of course, the dime is worth 10 cents, but it's actually smaller than the nickel which is worth five cents, or the penny, which is just one cent. So that rule doesn't always hold true. Rod says there used to be an even smaller coin.

Rod 09:29

The smallest coin that the government actually minted in our history was a three cent piece that was made out of silver, and it was called a trime. And the three cent piece today for collectors is highly prized, basically because it's hard to find one that's not bent. And the reason why is that they were so small and so thin and people carry them around in their pockets, that they would bend very easily. So

that's the reason behind it. You know, a lot of people talk about how coins are different sizes, to help the sight impaired. And that's a really good theory. And there's also the idea that they're, you know, the edges of some coins are plain like cents in nickels. But then there are others that are bumpy at the edge. And we call that reeding, and reeding, for example, are on dimes and on quarters. And so when people think, well, you know, the dime, and the cent are very close in size. The reason that there must be reeding on the dime is so that people who are sight impaired can tell the difference between a dime and a cent. And that's a wonderful theory. But that's not true. The reason that reeding appears on some of our coins is that back during the days, when a long time ago, when coins were made out of precious metal. And before reeding existed, there were people who would shave the edges off of coins. And when they did that, they would be able to save enough shavings and be able to turn them in for something of value. And of course, that was illegal. So reeding was invented to prevent people from being able to shave the edges off of coins. And that's how reeding came about.

Dylan 11:28

Hi, my name is Dylan. I'm 7 years old. And I come from Baden, Switzerland. And my question is, how much does it cost to make money?

Jane 11:38

It used to be that the value of the metal in the coin kind of corresponded to the value of the coin. But now we don't make coins out of precious metal. So how much does it cost to make our coins? And then how do we determine their value?

Rod 11:56

It costs approximately two cents, to make a one cent coin. And nickel, the latest number that I have, it costs almost seven and a half cents to make a nickel. Now as you go up in the value of a coin, the amount goes down. So in other words, it costs less than 25 cents to make a quarter so we don't lose money on that. But yeah, that's basically it. So it does cost more to produce a cent than its actual value and the same for a nickel. So that's a really good question.

Jane 12:32

Since it costs more money to make a penny than the penny is worth some people have suggested we should stop making pennies altogether. Other countries have already done that, like Canada, Australia, New Zealand, the Netherlands and Sweden. Over the years, countries sometimes add new coins or bills or get rid of ones they don't think are needed anymore. Canada stopped producing \$1 bills in 1989 and \$2 bills a few years later, but they did start making one and \$2 coins. The \$1 coin has a bird called a loon on it. So it's often nicknamed the loonie. And the \$2 coin is called the toonie. Loonies and toonies are interesting for other reasons as well. The toonie has two different colors, a gold-colored inner circle and a silver-colored outer ring. Lots of countries have coins with two different colors, including Mexico and Botswana. And lots of countries have coins that aren't a circle. The loonie, which we already talked about has 11 sides. Twenty Pence and 50 Pence pieces in the United Kingdom have seven sides called a heptagon. Aruba has a 50 cent piece that's a square. And in Japan you can find holes in the center of the five and 50 yen coins. Okay, but what about the pictures on money? Coming up? Let's talk about how images are chosen for coins.

Jane 13:59

This is But Why: a Podcast for Curious Kids. I'm Jane Lindholm and today we're talking about how coins are made and how the pictures and designs on them are chosen.

Amyra 14:09

Hi, my name is Amyra. I am six years old. I live in Orange County, California. And my question is, how do presidents get on coins? Thank you.

Jane 14:22

Each country decides what it wants to have as the pictures or images on its money. Sometimes groups of countries get together to share currency, like the countries that use the Euro, but generally it's a government decision by each individual country. Rod Gillis runs educational programs for the American Numismatic Association, basically a nationwide non-profit coin collecting club. Rod says it's a pretty involved process to get a new image on a U.S. coin, but it usually just starts with someone who has an idea.

Rod 14:54

Then what happens is they contact their representatives And then a bill is made. And the bill then goes through Congress. And if it's successful, then it's signed off by the President. What happens then is that a design is chosen. And there's a Citizens Advisory Committee that is an integral part of that. And then they send it off to the mint, and the mint decides whether the design can actually be reproduced on a coin. And once all that is passed, and that takes a very long time. Once all that happens, the final decision goes to the Secretary of the Treasury. And if the Secretary of the Treasury gives it an okay, then the design is ready to be transferred onto a coin. And then it's understood that that design has to be, has to remain on a coin for at least 25 years. Although, you know, when we get into programs such as the the new program, the women on coins program, and the state program that we had a few years back, those programs are a special act of Congress, and they allow for a different design based on the subject. But some of our coins, the design has not changed for a very long time, at least for the front, or what we call the obverse of the coin, the Lincoln cents, a great example of that that has been around since 1909. So that's been around for a very long time.

Jane 16:31

Do we have a person, like an actual person's face on every single one of our coins?

Rod 16:39

Currently, yeah, there is a person and actual person on each of our coins. It hasn't always been that way. As a matter of fact, for most of our nation's history, Lady Liberty has been the primary person to appear on practically all of our coins.

Jane 16:59

Most of our coins today have an image of one of our former presidents, usually just their head and neck. But Poppy noticed something different about that penny Rod just mentioned, the Lincoln cent.

Poppy 17:11

I live in Virginia. And my question is, why does Abraham Lincoln get his shoulder in his coins? And all the other coins don't?

Rod 17:22

It's a really interesting question. Well, the person who designed the Lincoln Cent, his name was Victor David Brenner. And Brenner just decided that that was the profile that he was looking for, to be successful on the cent. So it wasn't a matter of he necessarily wanted to have a full shoulder. It's just a matter of that was the sort of the style back in the early 1900s.

Jane 17:52

U.S. rules say a person who is alive can't be on a coin. So anyone you see on a U.S. coin is no longer living. But that's not the case in every country. Lots of countries like some of the ones that have kings and queens have those living leaders on their money. That's true in the United Kingdom, which has Queen Elizabeth and other countries that are aligned with the UK, like Canada and Australia. They also have Queen Elizabeth on their coins. But in Kenya, there's a pretty new law that says no one gets to have their face on a coin. Just so you know, the side with a face on the coin is often called heads and the other side is called tails. The face side is usually considered the front of the coin. Another way to identify the front of the coin is that it's usually the side with the date it was made printed on it. And the back of the coin has a different image. In Australia, the back sides of coins feature super cool animals. Leigh Gordon, the CEO of the Royal Australian Mint, told us a little bit about how those coins came about. In 1963, the Australian government decided to change its currency from the Australian pound to the Australian dollar, which could be divided up into 100 cents, so they had to change all of their money. Lee says six leading Australian artists were invited to submit designs for the new coins.

Leigh 19:17

The rules included that the designs must be an Australian theme. Stuart Devlin was the artist selected, and he was given six months to complete his work.

Jane 19:27

Australia has six different types of coins. The 5, 10, 20 and 50 cent pieces were all designed by Stuart Devlin.

Leigh 19:35

They feature some of Australia's cutest animals including the echidna, the lyrebird, the platypus, the kangaroo, and the emu. The \$1 and \$2 coin were both designed in the mid 1980s to replace the \$1 and \$2 banknotes. The \$1 coin was designed by Stuart Devlin and features a mob of kangaroos. The \$2 coin was designed by Horst Hanhe and inspired by a drawing by Ainslie Roberts. It features an image of an Aboriginal Elder, the Southern Cross and some Australian plants. Since 1970, the Royal Australian Mint has also released a number of commemorative coins with special designs that commemorate significant events or occasions and people in Australia. These coins are all designed by coin designers at the Royal Australian mint. Most recently, the Mint has released a colored \$2 coin to commemorate Australia's brave firefighters, especially after the 2019-2020 bushfire season. This coin features two firefighters with a bright orange flame in the center of the coin. We also released a colored \$2 coin to commemorate Indigenous Australians who have served in the military. This coin was

designed by Aboriginal artist Chern'ee Sutton and features an Aboriginal dot pattern. And in 2020, in a world first, the Royal Australian mint released the donation dollar, the first ever coin designed to be donated. With this coin, we want to do encourage people to give back especially to those who need it most.

Jane 21:23

The Mint releases a few special coins each year. They're are real coins that you can use to buy things, but they have special designs. And they're usually only made for a short time. Unlike those ones with the Australian animals that have been made year over year. Lee wouldn't tell us what design is on it. But he said there's actually a new special coin being released in February. So let's say you have an idea for a coin that you want to see your government make. Could it actually happen? Could you design a new coin? Could your class petition your government representative to have a new quarter with a unicorn on it or something? Well, probably not. First of all, images on money are important symbols for a country. So it would be hard to just get a random design approved by Congress or your country's government. And there are way more ideas than actual coins that ever get made. But it does all start with an idea. So never say never. What we put on our money says something about who we are and what we value. Even if we don't use coins and dollar bills as much as we used to now that people have credit cards and often make online purchases, it's still important to think about who we elevate, who we celebrate, and who we think is worth honoring by putting their images on our money.

Rod 22:46

It is a representation of our culture. And I always when I'm in a classroom with youngsters, I always tell them that if a thousand years from now, people landed on Earth from Mars, one of the ways that they could tell about how we lived and what was important to us, is to study our money.

Jane 23:06

That's one reason these new quarters with American women are important to a lot of people. There have been as I said, very few women featured on us coins and bills that we use every day, and very few people of color over the years as well. So these new quarters are one step in changing that. And acknowledging, realizing, that it's important to represent all kinds of people on our money. So if you do have an idea for an important person or symbol you think should be on the money you get to use every day, get in touch with the people who represent you in your government. In the U.S. that might be your senator or congressional representative, and see if they can help you. And if you're interested in collecting coins and learning more about them, Rod Gillis and the American Numismatic Association actually run a program for kids.

Rod 23:56

And it's called Coins for A's. So any youngster who earns three or more A's in a marking period, or whatever this, I know that some school systems use numbers they use one through four, or for homeschoolers, you know, if you earn three or more top marks in a marking period, you can send a copy of your report card to me. And what I will do is I will send to you a a really neat world coin with a challenge to learn as much about the history of the country that minted the coin and the geography. We've had youngsters start in kindergarten and all the way up through high school, every marking period. Right now we have about 1, 800 kids nationwide.

Jane 24:41

Beyond this program coins for A's There are also plenty of books you can read that will tell you about coins and other clubs that you can participate in wherever you live. And I encourage you to look at the dates on the coins you find. See if you can find a coin that was made the year you were born, or others from the years, the adults you love were born. And then think about all the different places that coin might have been, and all the people who may have touched it over the years. Think about all the things that could have used that money for how many pockets that coin has been in and where it may have traveled. Pretty cool to imagine, don't you think?

Jane 25:21

Well, let's leave it there for today, shall we? Remember, if you have a question about anything, you can have an adult help you record yourself asking it. They can use a smartphone if they have one and then send the audio file to us. And if you don't have a way to record yourself, that's okay. Have an adult email your question to us? Our address is questions@butwhykids.org. We love hearing what you're curious about. Thanks to Lee Gordon of The Royal Australian Mint and Rodney Gillis of the American numismatic Association for helping us understand a little bit more about how money is made and who gets to be on it. But Why is produced by Melody Bodette and me, Jane Lindholm, at Vermont Public Radio and distributed by PRX. Our theme music is by Luke Reynolds. We will be back in two weeks with an all new episode. Until then, stay curious