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What Is Cryptocurrency?

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Cryptocurrency is decentralized digital money that's based on blockchain technology. You may be familiar with the most popular versions, Bitcoin and Ethereum, but there are more than 9,000 different cryptocurrencies in circulation.

How Does Cryptocurrency Work?

A cryptocurrency is a digital, encrypted, and decentralized medium of exchange. Unlike the U.S. Dollar or the Euro, there is no central authority that manages and maintains the value of a cryptocurrency. Instead, these tasks are broadly distributed among a cryptocurrency's users via the internet.



cryptocurrency is a novel and exciting asset class, purchasing it can be risky as you must take on a fair amount of research to understand how each system works fully.

[Bitcoin](#) was the first cryptocurrency, first outlined in principle by Satoshi Nakamoto in a 2008 paper titled “[Bitcoin: A Peer-to-Peer Electronic Cash System](#).” Nakamoto described the project as “an electronic payment system based on cryptographic proof instead of trust.”

That cryptographic proof comes in the form of transactions that are verified and recorded on a [blockchain](#).

What Is a Blockchain?

A blockchain is an open, distributed ledger that records transactions in code. In practice, it's a little like a checkbook that's distributed across countless computers around the world.

Transactions are recorded in “blocks” that are then linked together on a “chain” of previous cryptocurrency transactions.

“Imagine a book where you write down everything you spend money on each day,” says Buchi Okoro, CEO and co-founder of African cryptocurrency exchange Quidax. “Each page is similar to a block, and the entire book, a group of pages, is a blockchain.”

With a blockchain, everyone who uses a cryptocurrency has their own copy of this book to create a unified transaction record. Each new transaction as it happens is logged, and every copy of the blockchain is updated simultaneously with the new information, keeping all records identical and accurate.

To prevent fraud, each transaction is checked using a validation technique, such as proof of work or proof of stake.

Proof of Work vs. Proof of Stake

[Proof of work](#) and [proof of stake](#) are the two most widely used consensus mechanisms to verify transactions before adding them to a blockchain. Verifiers are then rewarded with cryptocurrency for their efforts.

Proof of Work

“Proof of work is a method of verifying transactions on a blockchain in which an algorithm provides a mathematical problem that computers race to solve,” says Simon Oxenham, social media manager at Xcoins.com.

Each participating computer, often referred to as a “miner,” solves a mathematical puzzle that helps verify a group of transactions—referred to as a block—then adds them to the blockchain



\$200,000) for validating a new block.

The race to solve blockchain puzzles can require intense computer power and electricity. That means the miners might barely break even with the crypto they receive for validating transactions after considering the costs of power and computing resources.

Proof of Stake

Some cryptocurrencies use a proof of stake verification method to reduce the amount of power necessary to check transactions. With proof of stake, the number of transactions each person can verify is limited by the amount of cryptocurrency they're willing to "stake," or temporarily lock up in a communal safe for the chance to participate in the process.

"It's almost like bank collateral," says Okoro. Each person who stakes crypto is eligible to verify transactions, but the odds you'll be chosen typically increase with the amount you front.

"Because proof of stake removes energy-intensive equation solving, it's much more efficient than proof of work, allowing for faster verification/confirmation times for transactions," says Anton Altement, CEO of Osom Finance.

In comparison, for example, the average transaction speed for Bitcoin is at least 10 minutes. Now compare that with Solana, a crypto platform that uses the proof-of-stake mechanism, which averages around 3,000 transactions per second (TPS), making it much faster than the sluggish Bitcoin blockchain.

The Role of Consensus in Crypto

Both proof of stake and proof of work rely on consensus mechanisms to verify transactions. This means while each uses individual users to verify transactions, each verified transaction must be checked and approved by the majority of ledger holders.

How Can You Mine Cryptocurrency?

Mining is how new units of cryptocurrency are released into the world, generally in exchange for validating transactions. While it's theoretically possible for the average person to mine cryptocurrency, it's increasingly difficult in proof-of-work systems, like Bitcoin.

"As the Bitcoin network grows, it gets more complicated, and more processing power is required," says Spencer Montgomery, founder of Uinta Crypto Consulting. "The average consumer used to be able to do this, but now it's just too expensive. There are too many people who have optimized their equipment and technology to outcompete."

Proof-of-work cryptocurrencies also require huge amounts of energy to mine. For example, [Bitcoin mining](#) currently consumes electricity at an annualized rate of 127 terawatt-hours (TWh),



While it's impractical for the average person to earn crypto by mining in a proof of work system, the proof-of-stake model requires less high-powered computing as validators are chosen randomly based on the amount they stake. It does, however, require that you already own a cryptocurrency to participate. (If you have no crypto, you have nothing to stake.)

How Can You Use Cryptocurrency?

While there are a number of goods and services that you can buy with crypto, particularly with [Litecoin](#), Bitcoin or Ethereum, you may also use crypto as an alternative investment option outside of stocks and bonds.

“The best-known crypto, Bitcoin, is a secure, decentralized currency that has become a [store of value like gold](#),” says David Zeiler, a cryptocurrency expert at financial news site Money Morning. “Some people even refer to it as ‘digital gold.’”

How to Use Cryptocurrency for Secure Purchases

Using crypto to make purchases securely depends on what you're trying to buy.

If you're trying to make a payment in cryptocurrency, you'll most likely need a cryptocurrency wallet. One type of wallet is a “hot wallet,” a software program that interacts with the blockchain and allows users to send and receive their stored cryptocurrency.

Remember that transactions are not instantaneous as they must be validated by some form of mechanism.

Best Crypto Exchanges

Cryptocurrencies can be purchased through crypto exchanges, such as [Coinbase](#). They offer the ability to trade some of the most popular cryptocurrencies, including Bitcoin, Ethereum and Dogecoin. Still, they may also have limitations. You'll have to check to see if your exchange supports the right crypto pairing you need to make a purchase.

For example, you can use your stash of [USD Coin](#), a crypto stablecoin, to buy Ethereum on Coinbase Exchange.

“It was once fairly difficult but now it's relatively easy, even for crypto novices,” Zeiler says. “An exchange like Coinbase caters to nontechnical folks. It's very easy to set up an account there and link it to a bank account.”

Keep an eye out for fees, though, as some of these exchanges charge prohibitively high costs on small crypto purchases.



We've combed through the leading exchange offerings, and reams of data, to determine the best crypto exchanges.

[Learn More](#)

How to Invest in Cryptocurrency

Some brokerage platforms—like [Robinhood](#), [Webull](#) and [eToro](#)—let you invest in crypto. That's in addition to crypto exchanges.

It's best to keep in mind that buying individual cryptocurrencies are similar to buying [individual stocks](#). In essence, they are risk assets.

If you want exposure to the crypto market, you might invest in individual stocks of crypto companies. "There are also a few Bitcoin mining stocks such as Hive Blockchain (HIVE)," says Zeiler. "If you want some crypto exposure with less risk, you can invest in big companies that are adopting blockchain technology, such as IBM, Bank of America and Microsoft."

Should You Invest in Cryptocurrency?

Experts hold mixed opinions about investing in cryptocurrency. Because crypto is a highly speculative investment, with the potential for intense price swings, some [financial advisors](#) don't recommend people invest at all.

Pros and Cons of Cryptocurrency

Peter Palion, a certified financial planner ([CFP](#)) in East Norwich, New York, thinks it's safer to stick to a currency backed by a government, like the U.S. dollar.

"If you have the U.S. dollar in your cash reserves, you know you can pay your mortgage, you can pay your electricity bill," Palion says. "When you look at the last 12 months, Bitcoin looks basically like my last EKG, and the U.S. dollar index is more or less a flat line. Something that drops by 50% is not suitable for anything but speculation."

That said, for clients who are specifically interested in cryptocurrency, Ian Harvey, a New York-based wealth advisor, helps them put some money into it. "The weight in a client's portfolio should be large enough to feel meaningful while not derailing their long-term plan should the investment go to zero," says Harvey.