Bitcoin – Mining – Blockchain in a nutshell

Year	Milestone	What it introduced
2008	*Satoshi Nakamoto* publishes the Bitcoin Whitepaper ("Bitcoin: A Peer-to-Peer Electronic Cash System").	The idea of a decentralized digital currency secured by cryptography.
Jan 2009	Genesis Block (Block 0) is mined; first 50 BTC are created.	The blockchain—a public, append-only ledger—goes live.
2009-2010	Early adopters run the reference client and start mining on ordinary CPUs.	Proof-of-Work (PoW): miners solve a cryptographic puzzle; the winner adds a new block and receives the block reward (new BTC + transaction fees).
May 2010	First real-world transaction: 10 000 BTC for two pizzas.	Demonstrates Bitcoin can be used as a medium of exchange.
2011-2013	Mining moves to GPUs → ASICs; network hash-rate explodes.	Mining becomes a specialized industry; difficulty adjusts automatically to keep block time ≈ 10 min.
2012	Halving #1 (block 210 000) cuts block reward from 50 BTC to 25 BTC.	Introduces programmed scarcity (total supply capped at 21 million).
2013-2017	Exchanges (Mt. Gox, Bitstamp, Coinbase) popularize buying/selling BTC; price volatility rises.	Wider adoption, regulatory attention, and the emergence of altcoins.
2016	SegWit (BIP141) activated.	Improves transaction capacity and lays groundwork for Lightning Network (off-chain scaling).
2020	Halving #3 (block 630 000) reduces reward to 6.25 BTC.	Reinforces deflationary trajectory; mining profitability spikes.
2021-2024	Institutional investors, ETFs, and DeFi projects integrate Bitcoin; Taproot (BIP341) activates (2021).	Enhances scripting flexibility, privacy, and future smart-contract possibilities.

Core Concepts in a Few Words

- Blockchain: A chronological chain of cryptographically linked blocks; each block contains a batch of transactions and a hash of the previous block, making the ledger immutable.

- Mining: Participants (miners) compete to solve a PoW puzzle; the first to find a valid hash proposes the next block, receives newly minted BTC + fees, and secures the network.

- Bitcoin: The first cryptocurrency; its supply is algorithmically limited, its security rests on decentralized PoW mining, and its blockchain provides a transparent, trust-less record of all transactions.