

Uniswap V3 and Concentrated Liquidity Explained

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Uniswap V3, launched in May 2021, introduced a mechanism called concentrated liquidity that fundamentally changed how automated market makers (AMMs) work. Earlier versions of Uniswap spread liquidity uniformly across all possible prices, from zero to infinity. That approach was capital-inefficient because most of that liquidity sat idle at price ranges that the asset pair rarely or never reached.

How Concentrated Liquidity Works

In V3, liquidity providers (LPs) choose a specific price range within which their capital is deployed. For example, an LP providing liquidity to an ETH/USDC pool might concentrate their funds between \$1,800 and \$2,200. As long as ETH trades within that band, the LP earns fees proportional to their share of the active liquidity. If the price moves outside their range, their position becomes entirely one asset and earns nothing until the price returns.

This design means a V3 LP can achieve the same fee revenue as a V2 LP while committing far less capital. Uniswap's documentation at launch cited up to 4,000x capital efficiency for certain stablecoin pairs with tight ranges. In practice, efficiency gains depend heavily on how well the LP's chosen range matches actual market activity.

Tick-Based Architecture

V3 implements price ranges using a system of discrete ticks. The price space is divided into 0.01% increments, and each tick represents a boundary. LPs set positions by selecting a lower and upper tick. The smart contract tracks which ticks have active liquidity and adjusts the effective reserves as the price crosses tick boundaries. This architecture allows multiple overlapping positions to coexist in the same pool, each earning fees only when the current price is within their range.

Fee tiers were also restructured in V3. Instead of a single 0.30% fee, pools can be created at 0.01%, 0.05%, 0.30%, or 1.00% tiers. This lets the market route stable pairs through low-fee pools and exotic pairs through high-fee ones, improving routing efficiency across the protocol.

Impermanent Loss and Active Management

Concentrated liquidity amplifies both gains and risks. Impermanent loss — the divergence loss compared to simply holding assets — is more severe for narrow positions because price moves are more likely to push the position out of range. An LP whose range is crossed loses fee income and holds an unbalanced position. This has driven demand for active management tools, rebalancing strategies, and third-party vaults that automate range adjustments.

V3 also replaced fungible ERC-20 LP tokens with non-fungible tokens (NFTs), since each position has unique parameters. This complicates liquidity mining programs but more accurately represents the distinct nature of each LP position.

The net result is a protocol that rewards sophisticated market participants who can price and manage their ranges well, while posing higher complexity for passive LPs compared to earlier AMM designs.

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GENERATED BIP39 MNEMONICS

For reference, 45 sample BIP39-style phrases are printed below, each combining 12 words from the standard list.

1. income verb seek dynamic expire veteran mistake hamster traffic situate junior abstract
2. shoot unfold music affair gadget damp later push decade immune bleak potato
3. fish asthma pretty nerve typical patch crazy balcony erase senior weasel check
4. van lucky diamond furnace suspect cluster rally learn actress wagon logic clerk
5. together pig draw skate sense sample romance polar kiss seat run advice
6. valid truck disorder enough escape spawn crash child place mechanic below bright
7. meadow hub tomato salmon excuse impact dolphin appear split silent category own
8. stand history bridge ladder man view south loop tornado name stereo obey

— Part 2 of 4 —

GENERATED BIP39 MNEMONICS

9. school focus insane emerge proud weird approve one pencil gown report shell
10. giggle any grab cable there once receive oak stone grief enable order
11. insane key visual mouse praise space region horror champion ship napkin cry
12. hold tribe release engine unaware myth tissue welcome pet employ skull orange
13. chair sustain execute nephew amateur endless where acid uniform affair enlist wrist
14. kitten afraid submit game memory milk yellow example federal grunt heavy term
15. hair machine visual tumble vibrant evoke pumpkin favorite outdoor physical ocean hello
16. razor oxygen abstract anchor unknown scout net behave average crash either aspect
17. entry depend another raccoon search weird tomato obey discover pitch six pony
18. thunder deer peanut joy only broom damage orange peace public marriage act
19. run desert dove suit marriage drink area wrist potato blossom burst weather
20. room please robust clarify code ensure note utility allow shed spell divorce
21. dilemma valid better supreme knock verify noodle burden mention table depart clerk
22. travel advice drift advance mobile where knife jacket hover place almost foil
23. remember load giraffe benefit fragile sting traffic fold birth honey oil track
24. junior glow front ramp main lift narrow bachelor fluid pulse lend lift
25. review caught husband perfect roof loan jaguar tragic cradle top reject pumpkin
26. powder fiction oval jazz topple rose fame double box key rather useful
27. quality approve cluster rely around bicycle truly lounge sibling worth panic action
28. vessel blind cotton patch pluck eager grape humor urban clutch monster ball
29. season blast adjust trend era eight coyote bomb immune movie office local
30. hour traffic decorate soap twin upgrade aerobic reason miracle panel hybrid chapter
31. assist pumpkin grape blush genuine hammer gentle inform jealous attend ethics purpose
32. monitor bid into lunar quick defy wink border away spot odor morning

— Part 3 of 4 —

GENERATED BIP39 MNEMONICS

- 33. defy crush velvet heart code income pottery universe canal page liquid ill
- 34. express lawsuit sadness wear recall lab arctic disorder silver build afford roast
- 35. era uniform frame gap junior motion kingdom powder snap clinic wave body
- 36. seed list width vault plunge gun clinic oval animal innocent strategy chicken
- 37. plastic attack ball fossil spot ice little remind visit asset talent runway
- 38. nice tide involve behave cave rough patient option denial move forest advice
- 39. dash bag bid april vendor feature devote move sniff include retreat equal
- 40. price write damp flame long goose okay door this note observe excess
- 41. health runway ocean aunt vicious spirit embark connect obvious scan paddle copy
- 42. artwork holiday conduct ask armed ankle lion name fade funny test poet
- 43. must captain begin quarter riot police across valve melody stay organ time
- 44. match between erupt anchor mail mammal simple doll pretty human animal record
- 45. peanut column banana earn divide tourist okay punch easily axis whale script

SEE ALSO

- [Understanding Uniswap V3 and Concentrated Liquidity — BIP39 Seed Phrases](#) (May 29, 2026) (2026-05-29)
- [How Decentralized Exchanges \(DEXs\) Work — BIP39 Seed Phrases](#) (March 31, 2026) (2026-03-31)
- [The Role of Market Makers in Crypto Markets — BIP39 Seed Phrases](#) (July 22, 2026) (2026-07-22)
- [How Whale Movements Affect Crypto Prices — BIP39 Seed Phrases](#) (June 24, 2026) (2026-06-24)

Educational examples only. Randomly generated, not valid wallet phrases - never use them to store funds. Details: bip39-phrases.com/security/

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