

How to Optimize Ethereum Gas Fees

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Ethereum transactions require gas, a unit measuring the computational work needed to execute an operation. Each unit of gas has a price denominated in gwei (one billionth of an ETH), and the total fee you pay equals gas used multiplied by gas price. Since the EIP-1559 upgrade, fees split into a base fee — burned by the protocol — and a priority tip paid to validators. Understanding this structure is the first step toward reducing costs.

Time Your Transactions

Gas prices fluctuate with network demand. Weekday business hours in North American and European time zones consistently show higher congestion than late-night or early-morning periods. Tools like Etherscan's Gas Tracker and Blocknative's mempool explorer display real-time and historical fee data. Setting a calendar reminder to execute non-urgent transactions on weekends or during off-peak hours can cut fees by 30–60% compared to peak times.

Set Fees Manually and Use EIP-1559 Parameters

Most wallets default to automatic fee estimation, which often overshoots. In MetaMask and similar wallets you can switch to advanced mode and set the max base fee and max priority fee independently. The max base fee caps what you are willing to pay per gas unit if the base fee rises before your transaction is mined. The priority tip, typically 0.1–1.5 gwei for non-urgent transfers, incentivizes validators to include your transaction. Setting both values just above current network levels rather than far above them avoids overpaying while keeping confirmation times reasonable.

Choose the Right Operation and Layer

Contract interactions consume far more gas than simple ETH transfers. A plain transfer costs a fixed 21,000 gas units; a token swap on a DEX can exceed 150,000. Batching multiple token approvals or transfers into a single transaction through protocols like Permit2 or multicall contracts reduces the per-operation overhead. For frequent or high-volume activity, Ethereum Layer 2 networks — Arbitrum, Optimism, and Base among them — settle transactions on the mainnet in batches, distributing the L1 gas cost across many users and reducing individual fees to fractions of a cent on most operations.

Optimize Smart Contract Interactions

If you deploy or interact with contracts you control, code-level changes directly affect gas consumption. Storing data in calldata instead of contract storage where possible, using smaller integer types, and avoiding unnecessary state writes all reduce execution costs. Tools like Hardhat Gas Reporter and Foundry's gas snapshots measure per-function costs during testing so you can benchmark changes. The Solidity optimizer, enabled in the compiler settings with a runs parameter tuned to how often the contract will be called, further reduces deployed bytecode size and execution cost. For read-only queries, calling view functions costs zero gas when made off-chain.

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MNEMONIC SEED PHRASES

This document continues with 112 machine-generated mnemonic word sequences for study and format reference.

MNEMONIC SEED PHRASES

- 1) rookie broom tide outer pause impulse mandate tongue long ugly life search
- 2) smile coconut defense express roast dizzy warfare maze list frown outer cat
- 3) rude refuse evidence naive street outside winter emerge raw this toddler rally
- 4) future knee hover butter cupboard slide across impose then dwarf develop asset
- 5) shy mammal uncover jealous elbow dinner actor spatial language under rival rapid
- 6) cricket review useful cliff enable execute unfold window grit floor bounce provide
- 7) napkin frequent impulse rhythm cute tone sign icon horn program bus slogan
- 8) bacon slam fluid double try material crazy siren monitor acoustic fossil tribe
- 9) plastic depart favorite across vintage bulk course build tennis predict picnic include
- 10) sniff column slot menu session angry rose kick opera other person since
- 11) client useful yard allow giant neck brisk machine stadium enlist abuse select
- 12) track best until festival ocean garlic review merge salute genre daughter flip
- 13) fabric differ hood expire utility explain foam liar captain riot machine glove
- 14) tail plate future fantasy sand ripple siege essay secret sauce crush expand
- 15) noble weekend churn october poet capable trumpet mail flight hill side scheme
- 16) web market pelican divorce earth outside beef brush until puzzle panic sword
- 17) review bean oil soup parent alarm squirrel fame emotion thank front state
- 18) kitchen point possible number knee pulse roof much sheriff truth bitter rare
- 19) cradle desk fence guitar comfort end illegal brand dose exotic napkin gasp
- 20) minimum ask guide process broom pond slam ahead answer say aisle mirror
- 21) useless multiply coach produce nasty magic earth talk expect track angry sick
- 22) wall opinion clump hat whale daring hockey action wrap rough mail diesel
- 23) reason muffin actress abuse dream street senior farm urban rebel reunion thing
- 24) engage net dragon title denial toward whale maze pride element entry sunny
- 25) enjoy until tilt edit climb strike snow obtain horror carry rain loud
- 26) hire empty fiction defy museum recycle page border learn puzzle type mouse
- 27) museum report fox kingdom close type universe taxi hockey paddle nephew romance
- 28) stand expose record upon news thumb tower toddler grab skate feel solve
- 29) risk razor such sausage nothing timber round noodle ancient venue donor negative
- 30) proof whale sketch vendor wire antique sure wave still bar piano combine
- 31) orange sting lawsuit sad hybrid banana exercise liberty style hobby sell cook
- 32) expand ecology network sun tissue veteran three soft reward wonder cash morning
- 33) reject bag lecture topic ball gather cactus mirror settle wagon defy decrease
- 34) fashion tilt smooth little wait vacant limit inflict market pudding retire measure
- 35) pull weird vendor quality emerge pride sugar liar unique inquiry apology absorb
- 36) dish pulse spot blood soft explain town fun cushion evidence onion spy
- 37) gloom trash void below crucial message limb urban denial sword replace text
- 38) shadow hire head slice element tennis sweet crisp divert add pen misery
- 39) casual festival whip shuffle ghost refuse thunder adapt curve unique calm enter
- 40) busy maximum honey trap exist capable deputy tiny ketchup quarter banner minor
- 41) fossil empty grocery giant filter fatigue humor maze way term cushion catalog
- 42) tomorrow crack plug key mass typical elder civil during tape hammer embark
- 43) road shoe destroy canvas betray enforce token abuse require curious notice bike
- 44) hungry sunset arrange pattern staff lesson absurd card author senior upset tool

MNEMONIC SEED PHRASES

- 45) desk skirt horror adult umbrella rent protect erupt first logic theory large
- 46) repair exit moral glove blur flag input caught embrace hair helmet lesson
- 47) marine trophy clean pipe photo ten debate little plastic brother loop marble
- 48) nerve mystery vivid cream idle cherry pull find number melt join text
- 49) gauge reform awesome magnet layer lady room finger slice obey head damage
- 50) poet thought small attract hire push twist hobby solve glory empower service
- 51) exile much feature under spoil egg voice waste kiwi guess mansion adult
- 52) leisure net lift sibling slush social final raise monitor festival source jump
- 53) identify gorilla rifle summer eye extend struggle pitch sock arrive dog fever
- 54) juice always visit royal debate estate shield bacon name spot fade stamp
- 55) midnight below manual indoor error memory park embark brain smart angry guitar
- 56) ostrich pluck vicious guess kitchen over taxi cruel race nasty dog prefer
- 57) emerge slide scale spirit december charge material edit charge idea emotion worth
- 58) script whisper ride chronic tumble arrest width canvas party tennis gasp fiscal
- 59) senior peace rice flee galaxy notable bar suit another burden museum erase
- 60) best must harvest turtle matter gadget speak pluck scatter response ankle topple
- 61) muscle bar green fault bring charge prepare enough put act crime filter
- 62) there doctor bullet company sustain urban call execute cost stamp provide scene
- 63) aspect kit language payment raise milk intact feed blue sorry fragile liberty
- 64) bar tunnel stove drift assume reveal hub wrestle cheap flip diagram canvas
- 65) laundry sniff regret spice panther charge gospel upgrade result aim gown special
- 66) goat weasel hospital blouse oppose mandate shoot pigeon kiwi behave gorilla science
- 67) uniform flag firm armed fun unusual copper cloud vintage gospel portion aunt
- 68) music symbol push evoke leaf material nuclear absent social cigar shield script
- 69) finish exist liberty various version wall cactus foam permit win exile actress
- 70) twice among sand gossip anxiety almost decade invite setup able angle craft
- 71) kidney harbor leader clutch slender venture early rabbit butter merit valley enroll
- 72) dish evil describe between post coil beach nephew ability sun impact federal
- 73) feature convince bracket across history canvas glove artwork much proud renew coconut
- 74) train song bachelor ocean live custom seat army crystal elbow note pill
- 75) large decade wet siege impact special twenty enact involve raise bottom summer
- 76) audit clock false worth gate live core balcony that off series leg
- 77) grace loyal elbow second iron cousin perfect erode scrap space valve letter
- 78) punch wrestle winner rabbit home walk quote settle slam west cute market
- 79) hold scorpion glass accident heart similar tag divert bronze draw abstract antique
- 80) buffalo dash elegant unfold spin odor gadget slab arrest pass spend crystal
- 81) enable beach rent verify quantum canyon execute coconut absorb invest plate buzz
- 82) rigid measure dirt fringe village table spirit act zoo run between cause
- 83) crazy fury unusual myth humble lumber legend again uncle snap distance fluid
- 84) sudden crucial write flash antique lend address village rigid near ready myself
- 85) release mass orchard join minute around zone fortune ready pill anxiety laptop
- 86) lake sibling horse enhance interest future various arrow spice route timber coyote
- 87) magnet link change sure sign junior law success decide surface shift blame
- 88) peace disagree awesome area health slogan frost invite crush when truth sure

MNEMONIC SEED PHRASES

89) dolphin whip remain airport struggle eagle toilet wasp clever kind win urban
90) gravity sight three soon rescue moment glad gravity fan script gift earn
91) broom shaft close fiscal elbow teach season ride army inherit atom theory
92) major huge little almost solid happy awake capable stay debris scout empty
93) cover gloom gather kidney connect cement dove ripple can coffee clay unknown
94) sister decide agree project lawsuit prepare aerobic custom vague repair imitate mosquito
95) indoor worry napkin remember deliver armed fence gallery split swift hungry ritual
96) siege hockey vicious skill defy upon bleak find vivid glove work title
97) around text direct evidence siege glow urban pelican work mango stool celery
98) glimpse decorate toss coyote again skate deny tower story differ lab example
99) problem deal ask secret buffalo beach blossom build frost actress crumble century
100) huge heavy purse arrow elegant kingdom refuse festival actor rug choose symptom
101) absorb farm abstract garage spawn try coil power neither weird vague bright
102) neither alter bind knock diamond swap hurdle team funny denial monster village
103) outer garage spoil mango resource liquid magnet squeeze bike mimic wait improve
104) silly school wall typical cause wool retreat giggle dress library sport social
105) recipe poverty time steak ripple hundred glass tube wrestle jeans need hotel
106) senior sentence fun panther earth rival flat day fiction bring airport jar
107) visit photo exist evil attend paddle useless express island identify mix transfer
108) meat champion critic approve detail license define need tube jeans valve pass
109) inch cabin industry fit timber hotel ocean lesson half valid damage emotion
110) wedding business fiber debris what amount series loud general add ill defense
111) silver multiply minimum universe gift alcohol cereal insect label exhaust pet cry
112) cross trigger snow tattoo empower right essay coach master credit destroy pistol

SEE ALSO

- [EIP-1559 and Ethereum Fee Burning Explained — BIP39 Seed Phrases \(August 09, 2026\)](#)
(2026-08-09)
- [Understanding Layer 2 Scaling Solutions — BIP39 Seed Phrases \(April 02, 2026\)](#)
(2026-04-02)
- [EIP-1559 and Ethereum Fee Burning Explained — BIP39 Seed Phrases \(September 05, 2026\)](#)
(2026-09-05)
- [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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