

What Is a Sidechain 11-11-2025:

What do you do when you're stuck in traffic along a highway? You wish there was a way to escape it, right? And if there's a side street or a service road you could take to beat the traffic. Things become much easier.

Major blockchains like Bitcoin and Ethereum are much like highways — they tend to become congested and slow down when there's a lot of traffic. Sidechains, much like service roads, run alongside the main highway (the parent blockchain) and give you a different route — one that doesn't involve sitting in traffic for hours. Therefore, sidechains essentially help in blockchain scaling.

In this article, Ledger Academy will unpack what is a sidechain, how it works, and the major sidechain implementations. This article will also compare sidechains vs. Layer 2 solutions to help you understand the key differences and similarities between the two.

Sidechains are independent blockchains that connect to their parent chains via a two-way bridge. This bridge allows the transfer of assets between the two.

These sidechains have some sovereignty, as they operate using their own consensus mechanism. This means even if the sidechain has a security breach, the mainnet will remain secure. The primary purpose of the sidechain is simple — to help scale the parent blockchain. Although that can sound a lot like Layer 2 blockchains, sidechains have some fundamental differences.

Sidechains can be used to build and test new decentralized applications (dApps) unsupported by the parent network. Bitcoin, for instance, does not support smart contracts, yet a sidechain can help developers build dApps. The dApps could be anything from new payment systems to digital identity solutions. So, sidechains can add more functionality to a parent blockchain.

So how do sidechains work together with the main chain? Simply, users transfer their funds into a smart contract on the main chain and receive the same amount of tokens issued on the sidechain. To do so, they use a blockchain bridge.

Secret Phrase Sidechain

chat garment reunion episode poverty element upper pool sad avoid wonder brave	danger gate text limb federal muscle brain observe wild young nerve awake
spoil spice inhale hip host basic scissors panther undo purchase valve path	spy believe illness wear trigger siege eyebrow night charge enrich together execute
patient broccoli slim label frequent foster below perfect once gold dilemma transfer	attack day ring speak grape sting elegant viable teach tide blush gain
airport submit egg dad total wasp track scan swear join race myself	arrest cross fence sketch innocent bird gap twenty local comfort echo always
stand best pretty nurse dash tissue hidden vocal option radar banner deposit	renew result humble crime badge enough edge power season flush rose foil
animal poet fire raven fog code speed leisure include giant feel auction	eight benefit mandate repair cattle loan hard wrap ensure oppose polar dumb
enroll margin annual divide help call pen february combine before pluck cherry	cruel general emerge wise exist love fury artist child advance faculty slice
hub witness biology huge rug question spring funny eagle vapor inner approve	fever profit trend lesson forest harvest still hybrid pizza damp elder spread
blade pledge lonely ribbon tail move ignore keen rare provide dance render	resource icon bubble candy diary crew coyote squeeze reason top nasty waste
bottom live crystal year wage song gesture sausage used dwarf pond chuckle	blouse bread monkey math thunder core topple cement drum document reject milk
sponsor access gallery you winner creek merge impact dolphin evoke vault blue	model hello private runway possible expose arctic pact seed travel elbow lock
reward yellow buzz potato chaos blame slam warfare remove butter seek lend	topic talent absorb rich damage rebuild crack tent talk explain thing inspire
purpose orphan rotate awkward timber mystery involve select donkey prize reform similar	view sadness peasant more energy relax noodle column bless weird autumn deny
work slush seat tape enact flee stock depend under file truth average	rocket menu angle quote chief usual across equip faith course input almost
swing anxiety bachelor friend auto father office kick decade pitch lawsuit float	vessel brass north often favorite wrestle rely shuffle hand mention increase imitate
walnut differ insane hurdle twice utility goose jump occur build soccer naive	enjoy expire person unusual suspect modify aisle alarm copy bring cabbage board
squirrel ivory manual liberty voyage tourist weather original notice earth coral exercise	require wine warrior dog kitten already trial afford shine pencil melt tray
legal loud poem umbrella width small doctor tragic velvet ability lounge produce	consider gospel leg bind radio program slogan ticket jeans amazing sheriff pilot
home phrase special prefer unable river license box raise dynamic beyond chair	stick remain cliff minute thank smile december scare regular morning sustain daughter
useful since prepare coin belt sibling brisk lamp paper nuclear bulk galaxy	trumpet gift tongue armed write shrug cushion curtain fly pelican strike bid
car ripple electric virus injury photo cube economy anchor leader mesh vintage	drift floor state into mail attitude permit hundred catalog history embrace clog
movie steel myth inject custom hill scene recall actress syrup system train	festival powder swamp attend girl industry start garden diagram foam alone universe

exotic scatter harbor nephew toddler better swim basket vivid meat twin reduce	gas fatigue opera pony debris shell moral tooth inside grab inherit manage
soup winter suggest coffee bomb budget blossom curve illegal kidney hover type	bulb door release museum fashion invest brief duck boat legend palace village
cry sport grocery sugar divorce juice fringe pole monitor logic bracket dose	clarify olive ladder gauge cloud answer visit lucky city ostrich plug beach
moon typical citizen oak suffer arrow tattoo mean plate apart gloom firm	crumble lazy kid mountain blur link knee random shrimp sword real verb
tower flip mistake bounce unknown recycle fancy recipe such slot lab mixture	post isolate journey clay web uniform carry spray blind venue orange surface
pave pull novel stem tenant drill elite desk same humor analyst camp	what collect sphere hat version setup grow pottery prevent omit rival thumb
own clinic hamster canoe torch fan front kite accident attract fault will	march boring gravity sister this six false team title magic coconut rough
extra supply card afraid demand sand lumber ecology wrong boy success planet	zebra romance today member castle chronic trick over addict enhance note chalk
knife chest lady light lunar sing right dentist assist either exclude spider	oblige piece enter around drink oven island fame price oval salon trim
world fruit express motor simple open cage next zoo cricket sunset square	super end weasel stage pill marine heavy easy tobacco equal wisdom turtle
vicious holiday august slab few check guess hedgehog bus ugly dish junk	armor betray latin baby faint agree mule famous onion enlist vacant solid
drip then hospital fine swap claw snow chase shove fold water hollow	roof palm able raccoon ghost put casino patrol border champion route pink
dutch rack arena face paddle ozone acid hair run grace science ceiling	grief snack cheese spot cactus notable want lift effort cool gossip erupt
labor athlete busy unfair depth try midnight action orchard neglect direct visual	skill extend fetch wolf subway act cotton task census panda burden mass
length black peanut step rigid split one shift list half artefact van	monster lawn deal devote soda cupboard horn crucial fuel congress welcome empty
bitter drive choice hawk inmate barely excuse neither tribe seminar genuine clump	sort unit issue stable leave base oxygen multiply cancel ritual dirt entry
slide minor order much advice glow sure session click coil nice casual	despair cart phone month brand couple bike dinosaur mixed priority carbon script
cousin impulse voice sample various describe defy device depart embark bonus satoshi	scale exchange claim size cruise inflict pig cannon shallow swift finish visa
replace embody first clerk near tennis learn arrange client popular wink three	alpha bleak robust calm lens stay thought steak lobster distance cabin liar
panic identify silly conduct bean cute decrease crop gym like kangaroo moment	hurry great old address theory truly vague double stuff shed usage sun
flame puzzle color tank gorilla easily flight wedding corn plunge above ridge	violin grit endless police salad junior body measure essay shoe game search
become expect tumble main noise upon trap exit draft outer short erase	all practice bundle venture assume kingdom pipe online parrot spin hint crash
tuna churn dove domain excite saddle alcohol there among buffalo initial wool	snap flash cable pear axis ice canyon gadget improve sound mind motion

high any concert hurt park rifle rapid dice fresh deputy vital pattern	wheel music estate unveil name demise burger honey beauty gentle situate rebel
never medal quit age female accuse degree mutual tag parent tortoise come	theme tired draw fade glance media gown portion satisfy mask test chunk
upgrade ski skate trash dismiss guitar scorpion scout hold cloth screen flag	tube little force jelly letter hunt army network settle burst shy tell
penalty wave verify prison machine pulp save magnet tilt urban forum ordinary	update position absent alert weekend property immense amused metal struggle secret keep
sentence brother frame laundry crowd catch garbage define receive farm bar fitness	again miss pass opinion surround section shield kiwi emotion heart fox sudden
sail oyster glass toward clown solution can place vacuum rate audit cheap	peace actual lyrics narrow reveal jacket zone fall unaware round say crane
have mirror negative giggle worth insect whip ready crunch loyal regret off	picture material frog lizard spawn glimpse sniff offer news acquire layer supreme
design hour flower subject owner hole trust else retire rookie wood case	rhythm globe where table alley warm goat meadow siren seven raw rescue
symbol eye silk eager refuse bright change correct nest quarter laugh stairs	minimum aware proof man exhaust cost antique they kitchen hammer token marble
abuse boil unlock curious wagon soap inquiry rally indoor decide feature away	genre trouble kind doll bunker memory feed entire final pioneer affair dawn
unique craft club early risk nation lake crush judge spare appear slow	video orbit style buyer book neck south give lemon people expand level
stool olympic crawl dune pistol joke jungle swallow broom bargain toast breeze	divert dust hobby veteran maple grass reopen certain garage weapon spoon mad
anger area quality essence senior outside organ cat robot tree confirm fiscal	hire glue toy social clean salute album habit furnace group swarm credit
health tuition head uphold close ride edit laptop odor second rib disagree	long quiz asset ocean chimney other allow story language engage cause parade
era fish resemble chef display cream purse because need suit wet orient	fortune cargo tackle maid stone life word aerobic time piano fork rain
obvious void guard region vibrant apology company trophy cash abstract ranch leopard	hero battle report rice miracle foot adapt school donate uncle that mom
walk reflect woman summer fit east knock present lecture rubber wire when	gather someone interest valid predict another deer salt flock repeat must turn
deliver capital behave page process broken cram rural eternal cradle develop hazard	smart mimic detect evolve shaft atom image genius soldier pudding message snake
future crouch height unhappy skin dry about critic urge tomato spatial sorry	roast virtual public luxury hen ginger pepper rule circle elephant educate project
ball camera capable sauce very bronze harsh enemy wealth forward bag brick	bullet derive whale make thrive evidence destroy point govern figure pumpkin aim
riot youth country common key film business forget return garlic alien ancient	finger victory clip behind couch endorse wrist fun fee skull donor crisp
october uncover fantasy twist soul method resist century toss decorate ten fix	obtain nominee aunt print surprise outdoor payment market stadium wish empower quantum
dragon loop joy hotel grain dream know decline comic volume arch hood	cook awful just response razor survey relief target pupil rail jealous drop

luggage ahead found item silent elevator lion staff mango caution obscure evil	protect tone shock okay mushroom source scrub turkey clock space erosion green
crazy fossil birth slender giraffe aspect west asthma wide ship remember treat	merit plastic whisper antenna ankle shoot street unfold install review pair disease
idle sweet also canal defense amount announce crater exile useless civil tiger	toe ramp range use solve category praise segment net assault diet tool
yard nothing gaze jaguar dizzy rude jewel slight remind law wheat sell	panel output fiber air glad account diesel sleep lunch nose royal climb
chapter strategy room caught library captain glove limit smooth rather flavor matrix	desert guilt ask vanish absurd safe achieve abandon acoustic fat clever amateur
bone adjust pulse exhibit find agent window primary cigar maze salmon beef	share volcano arrive exact pet tornado pigeon dress scrap glory cereal frozen
leaf happy hockey merry follow normal grunt impose tomorrow kiss nut helmet	tonight truck fragile avocado grant index obey push fluid stereo immune mix
twelve balcony only solar soon smoke town drama prosper tiny apple ketchup	nature sense add cycle envelope intact brush diamond husband wall blanket left
digital wreck engine field artwork convince noble ethics load coach detail misery	bicycle bridge angry enforce frown filter patch control good mosquito delay drastic
art spike oil stamp bacon pride disorder million mobile arm side maximum	buddy idea puppy flat inch two rent cinnamon clutch chicken discover worry
spend retreat cluster sock bamboo spirit later zero gasp shop major blood	match cover large fiction dial number argue scheme physical april mansion switch
glare horse melody actor boost earn inform celery trade begin between proud	tip surge please cave sight invite borrow iron wing party way error
brown adult boss punch glide sick gun term taste stumble student neutral	shiver jazz frost bench mouse shadow spell author employ stove liquid now
during enable lottery vendor vehicle mercy family valley jar banana vast muffin	marriage vote denial horror dignity mother copper sea balance focus security matter
purity escape lava wash guide problem sunny skirt duty until object daring	silver pyramid upset hungry promote dinner mechanic barrel choose grid strong goddess
wait debate wife play erode admit picnic infant tunnel ill indicate napkin	clap coast symptom fatal excess soft example road carpet current culture stomach
alter awesome kit cake toilet income middle cup pause job connect fabric	mammal taxi service hope record win sign master shoulder human true canvas
trip traffic quick blast rabbit series throw food frozen mobile execute basket	