• WEB3 COMPETITION GAMING

ViperScore

How It Works

A comprehensive guide to the ViperScore ecosystem — competitive gaming, tokenomics, and reward mechanics on Base.

Base	$VPR	52M	Live
Blockchain	Token	Max Supply	Game

Viperscore.io

. Overview

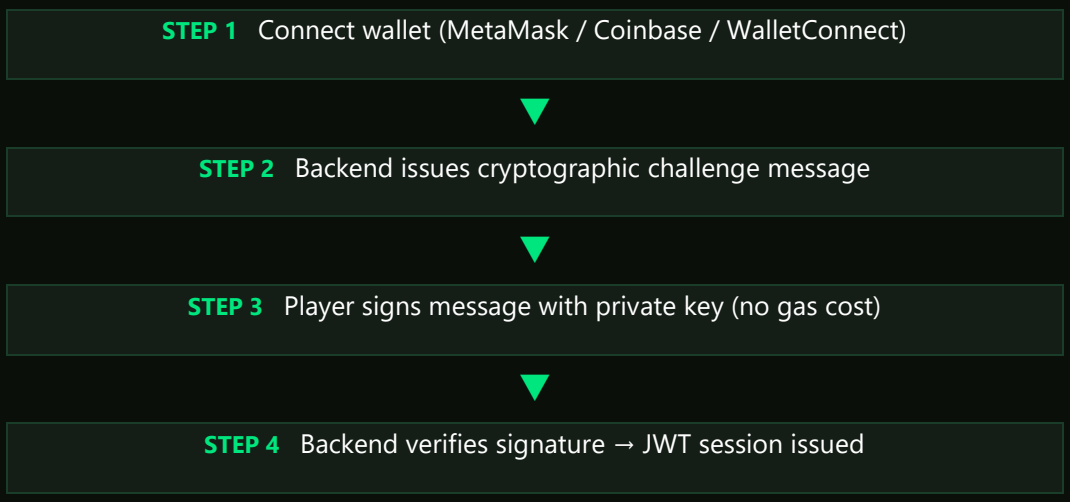
ViperScore is a competitive, skill-based arcade game deployed on the Base blockchain (Layer 2, chain ID 8453). Players navigate a viper through a grid-based environment, consuming targets to accumulate points. Entry fees are collected on-chain and algorithmically distributed into tiered prize pools. Top-performing players earn rewards claimable in ETH, USDC, or $VPR tokens, with financial controls enforced by immutable smart contracts.

> ◆ **Core Principle**
>
> ViperScore is purely skill-based — no pay-to-win mechanics, no luck-based advantages. Every player competes on equal terms within their entry tier. The only differentiator is skill.

1. Authentication

Players connect a supported Ethereum wallet (MetaMask, Coinbase Wallet, or any WalletConnect-compatible provider) to the application. Authentication follows a challenge-response protocol: the backend issues a unique, time-limited message, and the player signs it with their private key. This cryptographic handshake verifies wallet ownership without incurring gas costs. Upon successful verification, the backend issues a JSON Web Token (JWT) that governs session authorization for all subsequent requests.

Authentication Flow



2. Entry Tiers & Payment

Players select an entry tier and submit payment on-chain to the VPRTreasury smart contract. Three payment currencies are accepted: ETH, USDC, and VPR. Players who pay in VPR receive additional bonus plays as an incentive, distributed on a tier-dependent basis.

Tier	Price (USD)	Base Plays	VPR Bonus Plays
Basic	$0.50	5	+1
Bronze	$1.50	7	+3
Silver	$3.00	5	+5
Gold	$5.00	5	+9

> ◆ **First Entry Bonus**
>
> First-time entrants receive 10 plays upon their initial paid entry. The backend verifies each payment transaction on-chain before creating a game session. Play balances are maintained server-side and cannot be manipulated client-side.

Rewards from leaderboard placements may be claimed in the player's currency of choice. Top 3 finishers may elect to receive their rewards in ETH, USDC, or VPR. Players who choose VPR receive a 5% bonus on their payout. Ranks 4 through 100 receive a winner reward denominated exclusively in VPR.

3. Gameplay — ViperScore

The core gameplay consists of a grid-based arcade game rendered on a 20×20 canvas. Players control a viper, directing it to consume various target types while avoiding collisions with walls and the viper's own body. Movement speed increases proportionally with viper length, raising the difficulty as a session progresses.

Target Types

Target	Points	Effect
Standard	+1	Base scoring target
Golden (power-up)	+3	High-value bonus

Green bonus	+5	Extra segment growth
Red trap	−2	Score penalty
Countdown	+2	Disappears after 3 seconds

Daily Modifiers

Each day, a global modifier alters gameplay conditions for all players. Examples include double points, increased speed, mirrored controls, gravitational pull, obstacle placement, and progressive area reduction. These modifiers introduce variety and test adaptability across the player base.

> ◆ **Score Cap**
>
> The maximum achievable score per game is capped at 349 points, enforced server-side. All gameplay events are recorded as a replay and independently re-simulated by the backend to derive an authoritative score.

4. Anti-Bot Protection

ViperScore employs a multi-layered behavioral analysis system to detect and flag automated play. Each game submission includes a complete replay of all player inputs, which the backend independently re-simulates to derive an authoritative score. Any discrepancy between the submitted score and the server-computed score results in rejection.

Movement patterns, input timing, and gameplay characteristics are analyzed against statistical models of human behavior. Submissions that exhibit anomalous patterns are flagged, escalated, or rejected. The specific detection parameters and thresholds are proprietary and not disclosed.

5. Leaderboards & Prize Pools

Scores are ranked on tiered leaderboards segregated by entry tier. Each tier has its own independent prize pool, ensuring players compete only within their cohort.

Leaderboard Pools

- Starter Pool — Basic and Bronze tier players (minimum 10 participants)
- Silver Pool — Silver tier players (minimum 5 participants)
- Gold Pool — Gold tier players (minimum 5 participants)

Prize Pool Period Allocation

Period	Pool Allocation
Daily	40%
Weekly	20%
Monthly	20%
Yearly	20%

Entry Fee Distribution

The proportion of entry fees directed to each allocation is phase-dependent. During the launch phase, a larger share is allocated to liquidity provisioning to establish market depth. In the normal phase, the prize vault share increases.

Allocation	Launch Phase	Normal Phase
Prize Vault	65%	75%
Liquidity Reserve	18%	11%
Operations	10%	8%
Buyback $VPR	5%	4%
Gas Reserve	2%	2%

Winner Distribution Per Period

Placement	Share	Currency Options
1st Place	40%	ETH / USDC / VPR (+5% bonus)
2nd Place	25%	ETH / USDC / VPR (+5% bonus)
3rd Place	20%	ETH / USDC / VPR (+5% bonus)
Top 4–100	10%	VPR only
Game Liquidity	5%	ETH → Liquidity Pool

◆ Top 4–100 VPR Distribution

The winner reward for ranks 4–100 is distributed across four sub-tiers: ranks 4–20 receive 50%, ranks 21–50 receive 30%, ranks 51–89 receive 16%, and ranks 90–100 receive 4% of the VPR bonus pool.

6. Reward Claims

Earned rewards are recorded as entitlements in the backend. The claim process employs EIP-712 typed data signatures to ensure cryptographic integrity and prevent phishing attacks.

Claim Flow

STEP 1 Player views earned entitlements (ETH / USDC / VPR)

▼

STEP 2 Player initiates claim → backend generates EIP-712 signature

▼

STEP 3 Signature contains: amount, unique nonce, expiration deadline

▼

STEP 4 Player submits signature to VPRGame smart contract on-chain

▼

STEP 5 Contract verifies signer, nonce, deadline → transfers payout

On-Chain Safety Limits

$50K	$150K	500K
Per Claim	Daily Cap	VPR Daily

7. Battle Mode — Team Competition

Battle Mode introduces asynchronous team-based competition. Players are matched into teams and compete over a fixed 4-hour window. Individual scores are aggregated to determine the winning team. Entry fees are held in escrow by the VIPERBattle smart contract for the duration of the battle.

1v1	2v2	4v4	10v10
Format	Format	Format	Format

Battle Tier	Entry (USD)	Entry (VPR)	Plays	Min. Eligible
Tier 1	$2.50	250 VPR	5	3 plays
Tier 2	$5.00	500 VPR	5	3 plays

Prize Distribution

Component	Tier 1 ($2.50)	Tier 2 ($5.00)
Winners	90.0%	95.0%
Burn	5.0%	2.5%
Treasury	2.5%	0.0%
Gas	2.5%	2.5%

◆ Winning Streak Bonus

Consecutive victories yield cumulative bonuses: 3 wins = +10%, 5 wins = +15%. Subject to a hard cap of $25.00 per battle. A 1-hour dispute window follows each battle finalization.

8. Community Tournaments

Community tournaments operate independently from the standard leaderboard system. These are time-bound competitions consisting of a 24-hour registration phase followed by a 24-hour live competition phase. Tournaments are initiated through a community voting mechanism with configurable vote thresholds and a 24-hour voting deadline.

Tournament Tier	Entry Fee
Low	$1.00
Medium	$2.00
High	$4.00

Allocation	Share
Tournament Prize Pool	80%
Participant Rewards	5%
Yearly Rewards Pool	5%
Dev Wallet	5%
Buyback $VPR	3%
Burn	2%

Placement	Prize Share
1st Place	60%
2nd Place	25%
3rd Place	15%

9. Demo Mode

Players without a connected wallet may access a limited demo mode. Demo mode grants 5 plays per 24-hour period at no cost. Demo scores are recorded on a separate leaderboard and do not generate reward entitlements. This mode serves as a risk-free introduction to the ViperScore gameplay experience.

10. $VPR Token

$VPR is the native ERC-20 token of the ViperScore ecosystem, deployed on Base. It serves as the primary medium of exchange within the platform for entry fees, rewards, shop purchases, battle escrow, and governance participation.

52M	10.5M	29.5M	520K
Max Supply	Initial Circ.	Operations, marketing and higher quality games for the ecosystem.	Monthly Cap

Parameter	Value
Maximum Supply	52,000,000 VPR (immutable hard cap)
Initial Circulating	10,500,000 VPR (treasury)
Developer Allocation	29,500,000 VPR (vested, 4-day intervals)
Monthly Inflation Cap	1% of max supply (520,000 VPR)

Early Sell Fees

To discourage short-term speculation and protect long-term holders, early sell fees are applied on a declining schedule:

Period	Sell Fee
0–6 months	20% (<48hr)
6–12 months	10%(24hr)
12+ months	5% (12hr)

Sell fee proceeds are distributed as follows: 50% toward VPR buyback, 30% to liquidity provision on Aerodrome (Base DEX), 15% to development, and 5% permanently burned.

Inflation & LP Staking Airdrops

Newly minted VPR from controlled inflation is allocated to incentivize liquidity provision and ecosystem growth. The inflation distribution is as follows:

Allocation	Share	Recipient
LP Stakers Airdrop	70%	VPRLPAirdrop contract
Treasury	30%	Protocol treasury

> ◆ **LP Staking Airdrop Eligibility**
>
> Airdrop eligibility requires active participation in liquidity pool staking. All addresses that have staked in the VPR/ETH LP within the preceding 6 months qualify. Distribution is proportional to each address's staked amount. This mechanism rewards long-term liquidity providers and aligns incentives with protocol health.

11. Security Architecture

ViperScore implements a defense-in-depth security model across three complementary layers: backend authorization, on-chain financial guards, and behavioral analysis.

- Backend-Authoritative Gameplay — Play consumption, score validation, and reward calculation are governed exclusively by the server. The frontend is untrusted for all financial and scoring operations.
- On-Chain Financial Guards — Payout caps, nonce-based replay protection, and escrow mechanisms are enforced by immutable smart contract logic.
- Idempotent Transaction Processing — Each on-chain transaction hash may only be used once for payment confirmation, preventing double-spend attacks.
- Multi-Layer Rate Limiting — IP-level and wallet-level rate limits protect against abuse, backed by Redis with MongoDB fallback.
- EIP-712 Typed Signatures — All reward claims use structured, typed data signing to prevent signature phishing and ensure claim integrity.

ViperScore

All payments, rewards, and token transactions are executed on Base mainnet and are independently verifiable on-chain.

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