

 **Explore the Chain – Using a Blockchain Explorer**  
**Objective/Aim:**

To understand how to use a blockchain explorer as a transparent, real-time tool to search, verify, and analyze transactions, blocks, wallet addresses, and smart contracts on a blockchain network

**Apparatus/Software Used:**

* Etherscan (Ethereum), Mempool.space (Bitcoin)
* BRAVE(web browser)
* MetaMask(Wallet software or transaction details )

**Theory/Concept:**

A blockchain explorer is essentially a search engine for blockchain data. It fetches and organizes live blockchain data from nodes, presenting it in a user-friendly interface that lets users trace the flow of transactions, monitor wallet balances, view block details, and interact with smart contracts. This transparency supports trust, auditing, and better interaction with blockchain networks.



**Procedure:**

* Open a blockchain explorer website for the target blockchain (e.g., etherscan.io for Ethereum).
* Enter a transaction ID (hash), wallet address, block number, or smart contract address into the search bar.
* Review the displayed detailed information such as transaction status, timestamp, sender and receiver addresses, amounts, gas fees, and confirmation count
* Browse block details including block height, miner address, list of transactions, block size, and mining difficulty.
* For token holders or developers, explore token transfers, smart contract source code, and contract interactions.
* Use the explorer’s tools to verify transaction confirmations, monitor mempool for pending transactions, and analyze wallet activity patterns.

**Observation:**

* Blockchain explorers provide transparent, tamper-proof access to blockchain data.
* Users can confirm transaction success, track asset movement, identify all interactions of a wallet, and analyze network health and activity.
* Developers can audit smart contracts, and users can compare transaction fees and block times.
* These tools enhance security, understanding, and trustworthiness of blockchain ecosystems through open data accessibility.