

 Explore the Chain – Using a Blockchain Explorer

**Objective/Aim:**

To explore and analyze blockchain transactions, blocks, and addresses using a public blockchain explorer.

**Apparatus/Software Used:**

* Blockchain Explorer (e.g., https://etherscan.io for Ethereum, https:/[/www.blockchain.com/explorer](http://www.blockchain.com/explorer) for Bitcoin)
* Web browser
* Metamask Wallet

**Theory/Concept:**

A Blockchain Explorer is a web-based tool that allows users to interact with blockchain data. It provides an interface to search and view:

* Transactions (sender, receiver, amount, fees, timestamp)
* Blocks (block height, hash, miner, number of transactions, block reward)
* Addresses (balance, transaction history)
* Smart contract details (in case of Ethereum and similar blockchains)

Explorers make blockchain data transparent and accessible, helping developers, miners, and users verify and trace transactions in real time.  
**Purpose**

Blockchain explorers make blockchain data **transparent, traceable, and accessible** to everyone. They help:

* **Developers** debug and analyze contract or transaction data.
* **Miners** confirm block rewards and transaction inclusion.
* **Users** verify their transactions and wallet balances in real time.



**Procedure:**

1. Open a blockchain explorer in a web browser (e.g., Etherscan or Polyscan).
2. Enter a **block number**, **transaction hash**, or **wallet address** in the search bar.
3. Observe the details displayed:
4. For transactions: hash, sender, receiver, value, gas/fee, confirmation status.
5. For blocks: block height, timestamp, miner, number of transactions, difficulty.
6. For addresses: balance, list of incoming and outgoing transactions.
7. Record the observations from at least one block and one transaction.
8. Compare values such as transaction fees and block confirmation times.

**Observation Table:**

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| **Query Type** | **Example Input (Tx Hash / Block No. / Address)** | **Output Observed (Details)** |
| Transaction | 0x1234...abcd (sample Tx Hash) | Sender, Receiver, Amount, Gas Fee, Status |
| Block | 15000000 (sample Block No.) | Block Hash, Miner, Timestamp, Tx Count |
| Wallet Address | 0x5678...efgh (sample Address) | Balance, Total Transactions, Tx History |



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