**Introduction to Gas:**

**Transaction Fee and Gas Price: What are they?**

While inspecting an Ethereum transaction, two terms invariably catch the glance: “transaction fee” and “gas price”. Let’s clarify what they are and why they matter.

The transaction fee is the amount rewarded to the block producer for processing the transaction. It is paid in Ether or GWei. The gas price, also defined in either Ether or GWei, is the cost per unit of gas specified for the transaction. The higher the gas price, the greater the chance of the transaction being included in a block.

Gas price is not to be confused with gas. While gas refers to the computational effort required to execute the transaction, gas price is the cost per unit of that effort.

Now, let’s address an important question: who gets these transaction fees and why?

**The Role of Nodes in Blockchain:**

Blockchains are run by a group of different nodes, sometimes referred to as miners or validators, depending on the network. These miners get incentivized for running the blockchain by earning a fraction of the native blockchain currency for processing transactions. For instance, Ethereum miners get paid in Ether, while those in Polygon get rewarded in MATIC, the native token of Polygon. This remuneration encourages people to continue running these nodes.

**Understanding Gas in Transactions:**

In the context of transactions, gas signifies a unit of computational complexity.

The higher a transaction’s complexity, the more gas it requires. For instance, common transactions like sending Ether are less complex and require relatively small amounts of gas. However, more sophisticated transactions like minting an NFT, deploying a smart contract, or depositing funds into a DeFi protocol, demand more gas due to their complexity.

The total transaction fee can be calculated by multiplying the gas used with the gas price in Ether (not GWei). Therefore, `Transaction fee = gasPrice \* gasUsed`.