```sql
--Retrieving Transaction Details:
SELECT value, gas_price, receipt_gas_used
FROM bigquery-public-data.crypto_ethereum.transactions AS transaction
WHERE value > 0
LIMIT 1000;

--Total Ether Value and Total Transaction Fee per Day
SELECT
    SUM(value/POWER(10,18)) AS total_ether_value,
    DATE(block_timestamp) AS date,
    SUM(gas_price * (receipt_gas_used/POWER(10,18))) AS total_tx_fee
FROM
    bigquery-public-data.crypto_ethereum.transactions
WHERE
    value > 0
GROUP BY
    date
ORDER BY
    date;

--Ether Value and Average Transaction Fee per Day within a Date Range
SELECT SUM(value/POWER(10,18)) AS ether_value, DATE(block_timestamp) as date,
AVG(gas_price*(receipt_gas_used/POWER(10,18))) as avg_tx_fee
FROM bigquery-public-data.crypto_ethereum.transactions
WHERE DATE(block_timestamp) BETWEEN '2022-03-27' AND '2023-01-01'
GROUP BY date
ORDER BY date;


--Total Ether Value and Average Transaction Gas Cost per Day
SELECT SUM(value/POWER(10,18)) AS sum_tx_ether,
AVG(gas_price*(receipt_gas_used/POWER(10,18))) AS avg_tx_gas_cost, DATE(timestamp) AS
tx_date FROM bigquery-public-data.crypto_ethereum.transactions AS transactions, bigquery-
public-data.crypto_ethereum.blocks AS blocks WHERE TRUE AND transactions.block_number =
blocks.number AND receipt_status = 1 AND value > 0 GROUP BY tx_date HAVING tx_date >=
'2023-01-01' AND tx_date <= '2023-11-01' ORDER BY tx_date
```

```python
#trail using google drive csv file (1GB of rows) instead of local csv
file (16k rows - 10 MB) for the query
import pandas as pd
URL =
'https://drive.google.com/file/d/13FVM20oN9XIahx9AEQvwxez1GWWW_NR3/view
?usp=sharing' #Google Drive File is set to Sharing mode.
path =
'https://drive.google.com/uc?export=download&id='+URL.split('/')[-2]
df = pd.read_csv(path)
df.head()
```

	sum_tx_ether	avg_tx_gas_cost	tx_date
0	5.145055e+05	0.001562	2023-01-01
1	6.599594e+05	0.001752	2023-01-02
2	7.014153e+05	0.001920	2023-01-03
3	1.789437e+06	0.003393	2023-01-04
4	1.080415e+06	0.001730	2023-01-05

```
import matplotlib.pyplot as plt
import matplotlib as mpl
import seaborn as sns
```

```
plt.style.use('ggplot')
sns.set_context("notebook", font_scale=1.5, rc={"lines.linewidth":
2.5})

f, g = plt.subplots(figsize=(12, 9))
g = sns.lineplot(x="date", y="avg_tx_fee", data=df, palette="Blues_d")
plt.title("Average Ether transaction cost over time")
plt.show(g)
```