**GCP**

**Cloud functions:**

1. **Fetch Free # of Cloud Functions**

There's no direct metric to count the number of functions, instead we can track the number of invocations to monitor your usage against the free tier.

* **Metric**: “cloudfunctions.googleapis.com/function/execution\_count”
* **Description**: Tracks the number of times a Cloud Function is invoked.
* **Free Tier**: 2 million invocations per month

1. **Fetch # of Free CPUs for Cloud Functions**

CPU usage in Google Cloud Functions is proportional to memory usage and is calculated as part of the GB-seconds metric. There's no separate metric for CPU, but you can track the compute time.

* **Metric:** “cloudfunctions.googleapis.com/function/execution\_duration”
* **Description:** Measures the execution duration of functions. This can indirectly reflect CPU usage since CPU is tied to memory and execution time.
* **Free Tier:** 400,000 GB-seconds per month (this includes CPU and memory).

1. **Fetch # of Free Memory for Cloud Functions**

Memory usage is also part of the GB-seconds metric. You can monitor memory usage indirectly through execution time and memory allocation.

* **Metric:** “cloudfunctions.googleapis.com/function/execution\_duration”
* **Description:** Measures the duration of function execution, from which memory usage (GB-seconds) can be inferred.
* **Free Tier:** 400,000 GB-seconds per month (this includes both CPU and memory).

**Message queue:**

1. **Fetch Free # of Messages**

To track the number of messages published to a Pub/Sub topic, you can use the following metric:

* **Metric:** “pubsub.googleapis.com/topic/send\_message\_count”
* **Description:** This metric counts the number of messages published to a specific Pub/Sub topic.
* **Free Tier:** Google Cloud Pub/Sub provides **10 million messages** per month for free.

1. **Fetch Free # of Message Sizes**

To track the total size of messages published to a Pub/Sub topic, you can use the following metric:

* **Metric:** “pubsub.googleapis.com/topic/send\_message\_size”
* **Description:** This metric tracks the total size (in bytes) of messages published to a specific Pub/Sub topic.
* **Free Tier:** Google Cloud Pub/Sub provides **10 GB of message data** per month for free.

**Google Cloud Storage:**

1. **Fetch free amount of storage**

**A. Total Storage Used**

* **Metric:** “storage.googleapis.com/storage/total\_bytes”
* **Description:** This metric tracks the total amount of data stored in a Google Cloud Storage bucket.
* **Free Tier:** Google Cloud Storage offers **5 GB of Regional Storage per month** for free.

**B. Filestore Storage Used**

* **Metric:** “filestore.googleapis.com/instance/disk/used\_bytes”
* **Description:** This metric tracks the amount of storage used in a Google Cloud Filestore instance.

**C. BigQuery Storage Used**

* **Metric:** “bigquery.googleapis.com/storage/total\_bytes”
* **Description:** This metric tracks the total storage usage in BigQuery datasets.

**GCS bucket:**

1. **Fetch free amount of storage**

* **Metric: “**storage.googleapis.com/storage/total\_bytes”
* **Description:** Measures the total storage used by a specific bucket.
* **Free Tier:** 5 GB of Regional Storage per month is free.