In this lesson, we are going to take a look at the types of data you find in digital analytics tools and define some of the common metrics in Google Analytics.

In any analytics tool, you will find two types of data.

- The first will describe characteristics of your users, their sessions and actions. We call these “dimensions” in Google Analytics.
- The second type of data are “metrics.” These are simply the quantitative measurements of users, sessions and actions. Metrics are numerical data. They’re numbers.

Every report in Google Analytics will contain both dimensions and metrics. Most commonly, you’ll see dimensions and metrics reported in a table, with the first column containing a list of the values for one particular dimension, and the rest of the columns displaying the corresponding metrics.

Dimensions
Let’s review a few of the common dimensions that you’ll see in Google Analytics.

- A dimension of your users is their geographic location.
- A dimension of a session, is the traffic source that brought the user to your site.
- And a dimension of an action a user takes on your site could be the name of the page they viewed.

Metrics
Metrics help you understand the behavior of your users. They count how often things happen -- like the total number of users on a website or app. Metrics can also be averages -- like the average number of pages users see during a session on your website. This is a very common way to measure engagement.
You can also configure Google Analytics to track conversion metrics that measure when users take valuable actions -- like the number of signups for a newsletter or purchases.

**Visitors (Users)**
The metric called "visitors" or "users" measures the number of unique users that visit your site during a certain time period. This metric is most commonly used to understand the overall size of your audience.

You can segment users into "new users" and "returning users" for your website or for your app.

**Visits (Sessions)**
Visits, also known as sessions, are defined as a period of consecutive activity by the same user. By default, in Google Analytics, a session persists until a user stops interacting with the site for 30 minutes. We call this the session timeout length. You can define the session timeout length in your Google Analytics configuration settings.

Why would you want to customize the length of a session? Think about how a user’s behavior might differ between a basic text-based site and a streaming video site.

On a text site a user may read a few pages and leave. Their period of engagement is rather short, so setting a session timeout of 30 minutes seems reasonable.

But what about the video site? Perhaps the user might watch a long video that’s more than 30 minutes. With the default implementation of Google Analytics the user’s session will automatically end after 30 minutes of inactivity. But in reality the user will still be active on the site.

In this case it would make sense to set the session timeout length to something longer than the longest video.

**Pageviews and events**
Let’s talk about websites for a moment. Within each visit or session, your users will engage in one or more interactions with your pages. Google Analytics will automatically track these interactions as “pageviews.” The pageview metric literally counts every time a page is viewed on your site.
Google Analytics can also track other interactions, like watching a video. These are called “events” and require additional customization to your implementation.

It’s these interactions -- the pageviews and events -- that keep a visitor’s session “active” according to Google Analytics. Remember, by default, once a visitor stops engaging with your pages, or does not generate an event for more than 30 minutes, his session will expire.

**Time-based metrics**

It’s important to keep in mind that all of the time-based metrics in Google Analytics rely on the stream of user activity, or hits, to be calculated properly. Google Analytics keeps track of when each interaction happened in order to calculate time metrics.

For example, to calculate the metric “visit duration” Google Analytics subtracts the time of the user’s first interaction on your site from the time of the last interaction. Remember, an interaction could be viewing a page, or if you have a more complicated implementation, an event.

To calculate the metric “time on page” Google Analytics takes the time that a user landed on a particular page, and subtracts that from the the time of the next pageview. Again, if you have a complicated implementation and use events, Google Analytics will use the time of the last event on a page to calculate the “time on page.”

**Bounce rate**

Finally, one key metric that is important to understand is “bounce rate.” Bounce rate is the percentage of sessions with only one user interaction.

Traditionally, in web analytics, bounces are counted for users who land on a page of your site and leave immediately. It does not matter how much time they spend on the page. If they land on a page, and leave immediately from that page without viewing any other content, it counts as a bounce.

Since bounced visits only consist of one interaction, Google Analytics does not have a second interaction to use for the calculation of visit duration or time on page. These visits, and the one pageview included in the visit, are assigned a visit duration and time on page of zero.
Why might you have a high bounce rate? First, it can be an indication that you aren’t setting the right expectations for users entering the site. Or it could be that you aren’t providing a good enough experience for them once they arrive. Alternatively, if you expect a user to only view one page, like on a blog, a high bounce rate is okay.

This metric is especially useful when you’re trying to measure your landing page effectiveness for your marketing campaigns.

Remember, time metrics and bounce rate depend on keeping track of a user’s activity throughout a session. This can actually be difficult for sites that don’t load new pages frequently.

For example, sites that use AJAX or flash do not generate a lot of pageviews. You should consider adding Event Tracking to your implementation to generate more accurate data about a user’s activity on your site. Otherwise, for these sites, you may see a very low average visit duration and a very high bounce rate.

It’s important to keep these concepts and definitions in mind as you begin using Google Analytics reports so that you are correctly interpreting your data!

**Conclusion**

Let’s review what we covered in this lesson. Google Analytics displays two types of data -- dimensions and metrics. Dimensions are characteristics of your users and their sessions. Metrics are the quantitative measurements -- sums, averages and ratios -- that describe user behavior.

For a complete list of the metrics and dimensions available in Google Analytics, check out the Google Analytics [developer documentation](#).

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