I'm looking forward to introducing you to some of the **tools data analyst use each and every day**.

There are tons of options out there.

But the **most common ones** you'll see analyst use are **spreadsheets, query languages and visualization tools**.

**Spreadsheets**

Let's get started with **spreadsheets**.

* Again, there are lots of different spreadsheet solutions, **but two popular options are Microsoft Excel and Google Sheets.**
* To put it simply, a spreadsheet is a digital worksheet. It stores, organizes, and sorts data.
* This is important because the usefulness of your data depends on how well it's structured.
* When you put your data into a spreadsheet, you can see patterns, group information and easily find the information you need.
* Spreadsheets also have some really useful features called **formulas and functions**.

**Formula**:

* A formula is a set of instructions that performs a specific calculation using the data in a spreadsheet.
* Formulas can do basic things like add, subtract, multiply and divide, but they don't stop there.
* You can also use formulas to find the average of a number set.
* Look up a particular value,
* return the sum of a set of values that meets a particular rule, and so much more.

**Function**:

* A function is a **preset command** that **automatically performs a specific process or task** using the data in a spreadsheet.

**Query language**

The next data analysis tool is called **query language**.

* A query language is a computer programming language that allows you to retrieve and manipulate data from a database.
* You'll learn something called **structured query language**, more commonly known as SQL.
* SQL is a language that lets data analysts communicate with a database.
* A **database** is a collection of data stored in a computer system.
* SQL is the most widely used structured query language for a couple of reasons.
  + It's easy to understand and works very well with all kinds of databases.
  + With SQL, data analysts can access the data they need by making a query.

Although query means question, I like to think of it as more of a request.

So, you're requesting that the database do something for you. You can ask it to do a lot of different things such as insert, delete, select, or update data.

**Visualization**

Lastly, let's talk about data **visualization**.

* You've learned that data visualization is the graphical representation of information.
* Some examples include graphs, maps, and tables.
* Most people process visuals more easily than words alone. That's why visualizations are so important.
* They help data analysts communicate their insights to others, in an effective and

compelling way.

* When you think about the data analysis process, after data is prepared, processed and analyzed, the insights are visualized so it can be understood and shared.
* This makes it easier for stakeholders to draw conclusions, make decisions, and come up with strategies.
* Some popular visualization tools are **Tableau and Looker**.

Data analysts like using Tableau because it helps them create visuals that are very

easy to understand.