Create a report in Data Studio

To create our first report in Data Studio, we are using a data set from fueleconomy.gov. This data set has fuel efficiency information about different vehicles available in the year 2020 in the US. We downloaded this data set and imported it into Google Sheets and from there we filtered out a few fields, and this is the final table that we'll be using. We'll be sharing a link to this spreadsheet, so you'll be able to use the same data set that we're using here, and you'll be able to follow with whatever steps we are doing and then create your own report.

A little bit about this data set, it has information about different vehicles each row in this data set is a single vehicle. The fields include name of the manufacturer, the name of the division of the manufacturer, the car line for that specific vehicle. This column over here is unique for each row, it's the index number. We also have information about engine displacement, number of cylinders in the vehicle, the fuel efficiency information, the mileage, the combined mileage, the highway mileage and the city mileage. And then other fields that describe different aspects of the vehicle and its engine.

There is also a release date, a fuel efficiency rating from one to ten, and dollar values about how much you save over five years by using this vehicle, or how much you end up spending over five years by using this vehicle. To use this data set we'll go back into Data Studio and try to create our first report. We'll go to this left hand side, click on the "create" button and then select "report". This creates a blank report in Data Studio. Now this blank report does not have any data source attached to it. On the right hand side you can see all the data sources that I already have access to on this account. If you have existing data sources you can attach them to any new report that you create, or you can select to create a new data source. We will click on this "create new data source" button and that will give us a list of all the connectors that are available in Data Studio. These can be the Google built connectors, the native connectors, or the partners connectors that are available, or any other connector that you have added in Data Studio.

To select our data set, we will look for the Google Sheets connector and select this sheet's connector, and from there you can see a list of all the spreadsheets this account has access to. You can also add files by URL. So, for this specific file we'll be sharing the link with all of you and you can use this, that link over here to use that same file. Now we'll go to the "all items", we will select this file that we've created and we will select the "selected data" spreadsheet. As you can see this is the spreadsheet name, it is the worksheet name. And from there we'll click "connect". This lets Data Studio create a new data source based on the sheets' connector and the configuration that we have provided.

This is now showing us the field screen, and over here we can see all the different fields that are available in the data. Here you can see the field names and the names are colored in blue and green. The blue ones are basically metrics and the green ones are dimensions and we'll go into details about what they mean. Over here you can see the different types of data, and as you click over here you can change that type of the data. Data Studio parses the data by itself and tries to guess the data type, but you can always go in and change that data type. And for numerical data types you can also change the default aggregation method for this data. Let's start to understand what are dimensions and metrics.

This help page on the Data Studio support site talks about what dimensions and metrics are. So easy way to describe this are, is basically what dimensions describe and metrics measure. In this table "item name" and "colors" will be dimensions whereas "quantity sold" will be measure. Though not all numerical fields are metrics and we'll see an example of that in our data set. In this data set we had this index field which is a numerical field, but it doesn't really mean 18 numerically, it's just an ID that we are using to uniquely identify each vehicle. And we would like to treat this as a dimension. So we'll go back to our report and from here we can see index has been colored as blue and all the blue colored ones are metrics. So we will go in and change this into a text, and as we can get into a text this becomes a dimension from a metric. We won't change anything else here, we can see that the release date has been automatically identified as a date. We'll just go onto the right side and click on "add to report". As we click on "add to report" again, this is creating a new data source based on the Google Sheets' connector and the configuration that we provided and attaching that data source to our report. Now our data source and our report is ready and we have a blank canvas where we can create visualizations based on our data set.