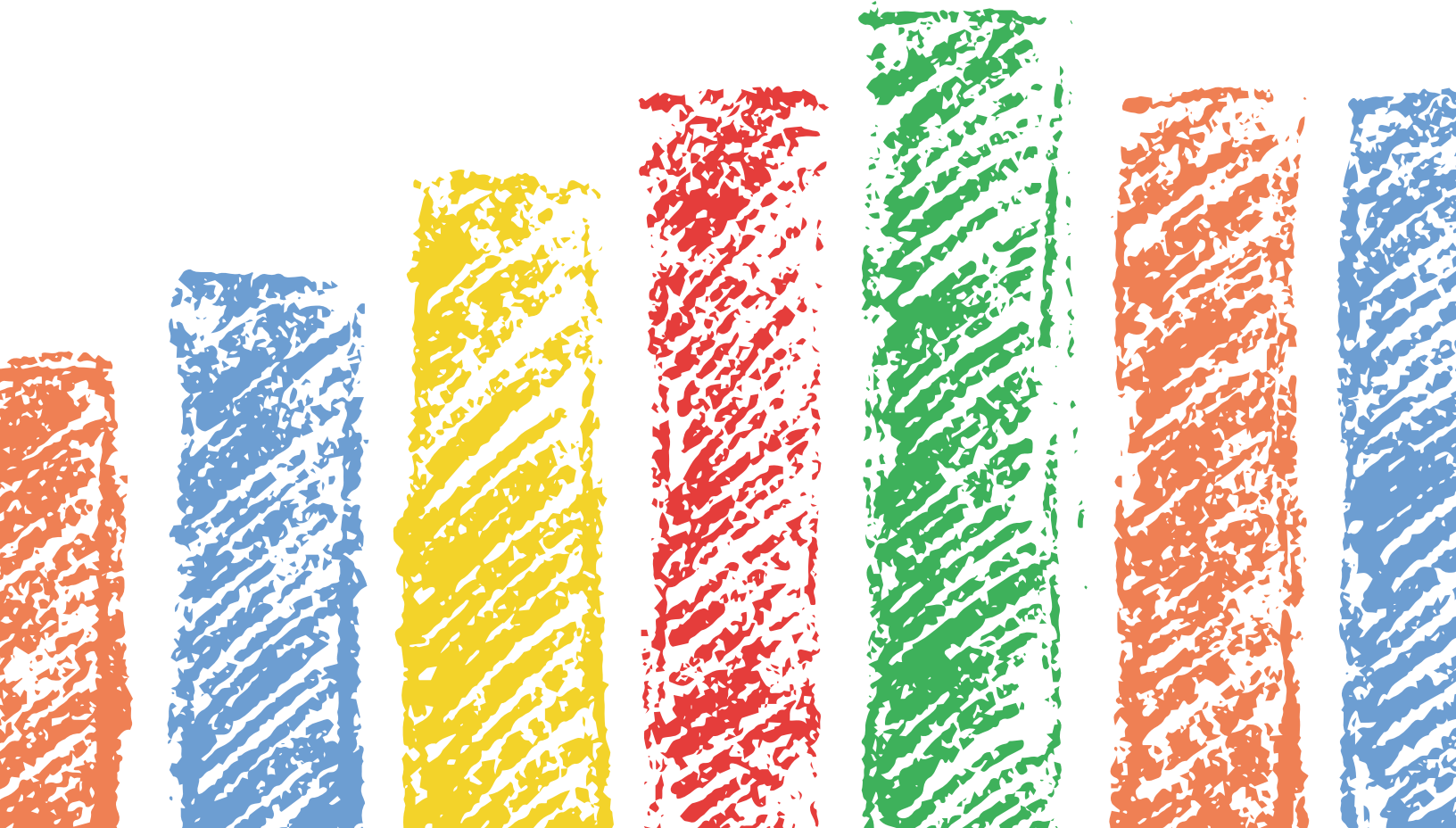




DATA KIDS

Dear Data Diary — Am I Walking on Sunshine?



Activity Title: Dear Data Diary—Am I Walking on Sunshine?

Presented by: [Lisa Chen](#)

Timing: 5 minutes a day for seven days

Overview: Create a visual diary of your daily mood and the weather. Every day for 5 minutes, track how you feel (on a scale of 1 - 5) and the weather (is it sunny, cloudy, or rainy?). Draw a symbol that represents your mood and a different symbol representing the weather. Examples: Smiley, Sad, or Excited Faces

Do you think your mood is related to the weather? Let's collect some data and find out.

This activity is designed for learners ages 8 through 13. Depending on age, some children will need adult supervision, while others can complete the steps independently. Family participation is encouraged.

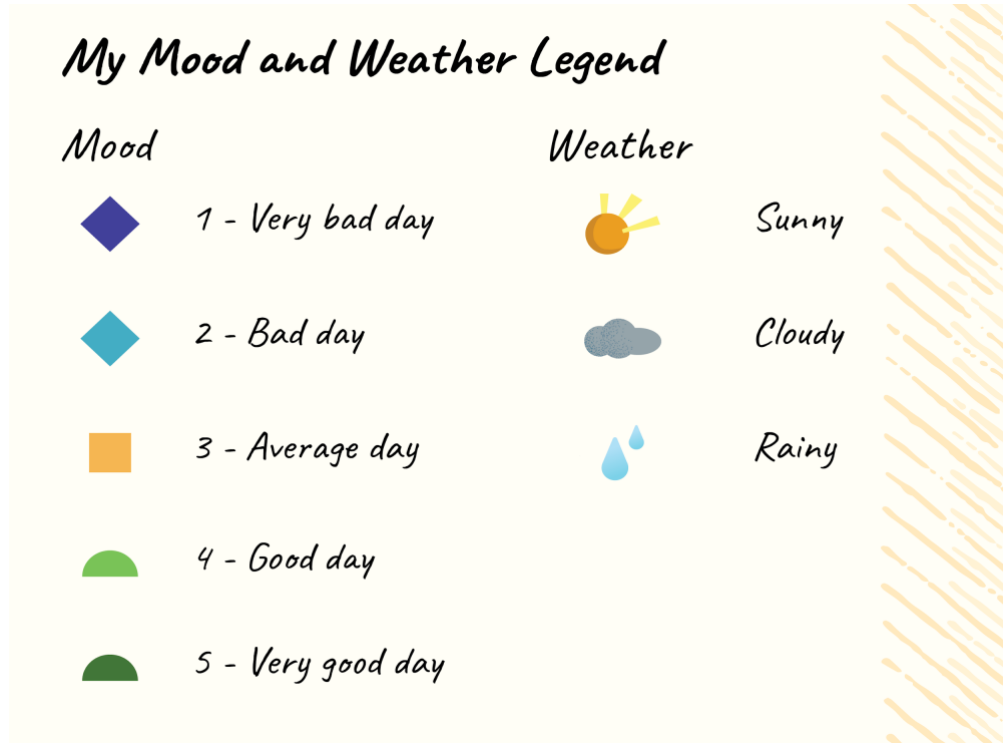
Learning Objectives:

1. Learn the benefits of data visualization for pattern identification.
2. Learn how data can be collected and used to answer abstract questions (i.e., what factors impact my mood?).
3. Learn about measures of central tendency (mean).

Supply list: paper, coloring tools (i.e., pencil crayon, marker, paint),

Instructions:



1. On a piece of paper, create a legend to show people how to understand the drawings in your data diary. You can use the example below\ or make your own.





2. Write the days of the week on a sheet of paper in your diary in whatever direction you'd like, as long as you leave enough space between them for a small drawing.

<i>Date</i>	<i>Weather</i>	<i>Mood</i>	<i>Notes</i>
<i>Sunday</i>			
<i>Monday</i>			
<i>Tuesday</i>			
<i>Wednesday</i>			
<i>Thursday</i>			
<i>Friday</i>			
<i>Saturday</i>			















3. Complete the first entry in your data diary. Think about how the weather has been. Add your symbol for the weather to your log. Next, think about how you feel on a scale from 1 - 5 (1 being the worst, 5 being the best). Draw the symbol for this feeling under the correct day of the week.

<i>Date</i>	<i>Weather</i>	<i>Mood</i>	<i>Notes</i>
<i>Sunday</i>			
<i>Monday</i>			
<i>Tuesday</i>			
<i>Wednesday</i>			
<i>Thursday</i>			
<i>Friday</i>			
<i>Saturday</i>			




4. If something important happened that you want to remember in the future, make notes about it next to your drawing.

Date	Weather	Mood	Notes
Sunday			- Baked cinnamon rolls with Meerah at home
Monday			
Tuesday			
Wednesday			
Thursday			
Friday			
Saturday			




5. For the next seven days, go back to the same sheet of paper and add the symbol for your mood and the weather.

Date	Weather	Mood	Notes
Sunday			- Baked cinnamon rolls with Meerah at home
Monday			- Started reading "Harry Potter and the Prisoner of Azkaban" today
Tuesday			- Wanted to go kayaking but looked like it would rain
Wednesday			- Went kayaking with Patrick!
Thursday			- Finished reading Harry Potter and went to Indigo to pick up the next book with mom
Friday			- Went to Algonquin park, lots of mosquitoes!
Saturday			- Felt tired, stayed home and watched Netflix with Meerah

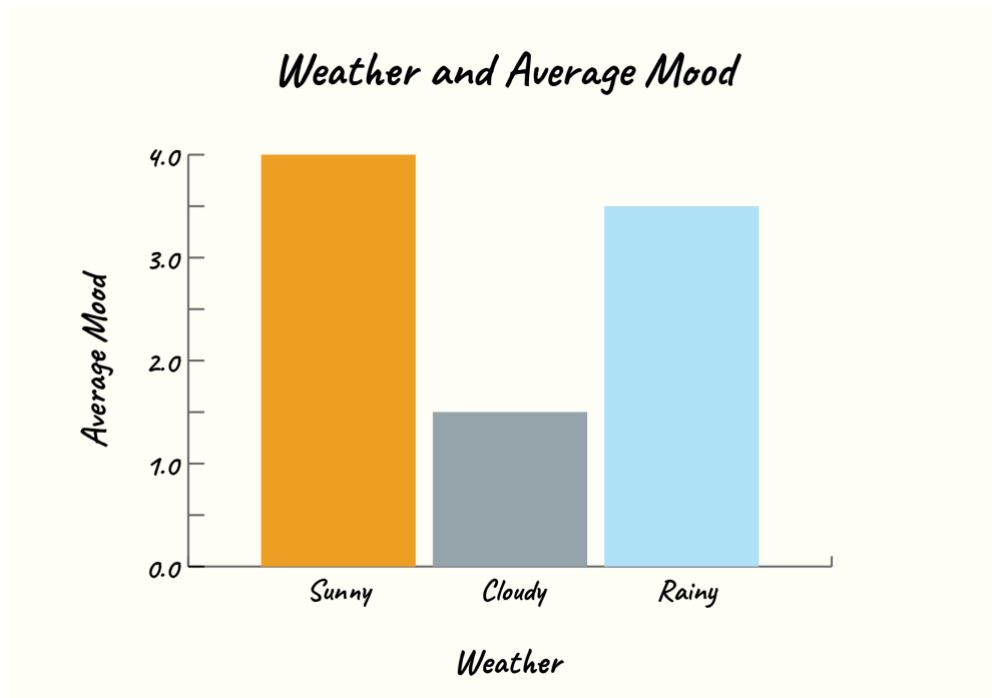
6. When you have completed seven days of data diary entries, you can begin to look for trends. Create a table with a row for each of the weather types. Create a column for the mood you had for each of the weather types. *Note: if the weather is the same for all seven days, you may need to extend your observations over two weeks.*

<i>Weather</i>	<i>Mood</i>
	4, 5, 3
	2, 1
	4, 3

7. Calculate your average mood for each weather type by adding up all the mood ratings for that weather type and dividing the total by the number of days with that weather. Let's calculate the average mood for **Sunny weather** as an example.
- Add all the numbers you have for mood.
 - $4 + 5 + 3 = 12$
 - Divide the total (12) by the number of results you had for mood (3).
 - $12 \div 3 = 4$
 - The average mood for **Sunny weather** is **4**. This number is called the average, or the mean.
 - Repeat these steps for all the different weather types.

<i>Weather</i>	<i>Mood</i>	<i>Average</i>
	4, 5, 3	4
	2, 1	1.5
	4, 3	3.5

8. Now try to visualize the relationship between your average mood and the weather using a bar graph. The horizontal line is called the x-axis, and the vertical line is the y-axis. Typically, the independent variable is on the x-axis. The dependent variable (the variable we suspect is influenced by or related to the independent variable) is on the y-axis.



9. Analyze the average (mean) mood for each weather type. Is there a particular weather type where you have a higher average feeling? Is there a specific weather type where you have a lower average mood? Take notes in your diary as to why you think this is.

Extra Credit: Family Edition

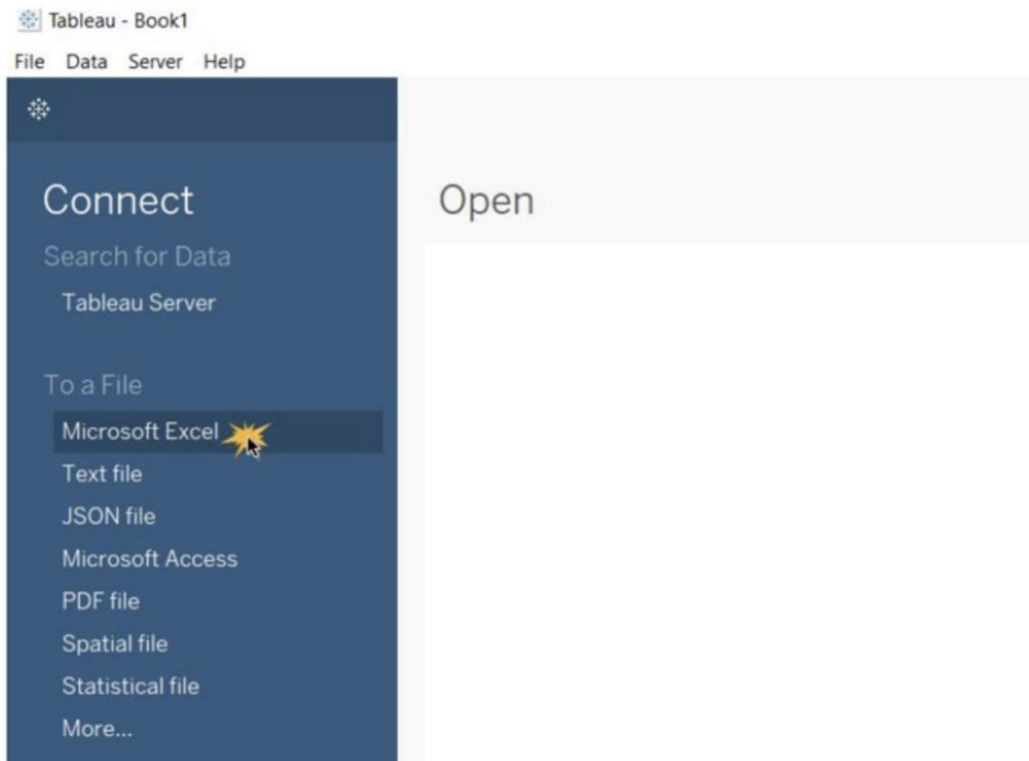
With the help of an adult, digitize your Data Diary by creating it in Tableau.

If you have it already, use Tableau Desktop. If you don't have Tableau Desktop, you can download [Tableau Public](#) for free.

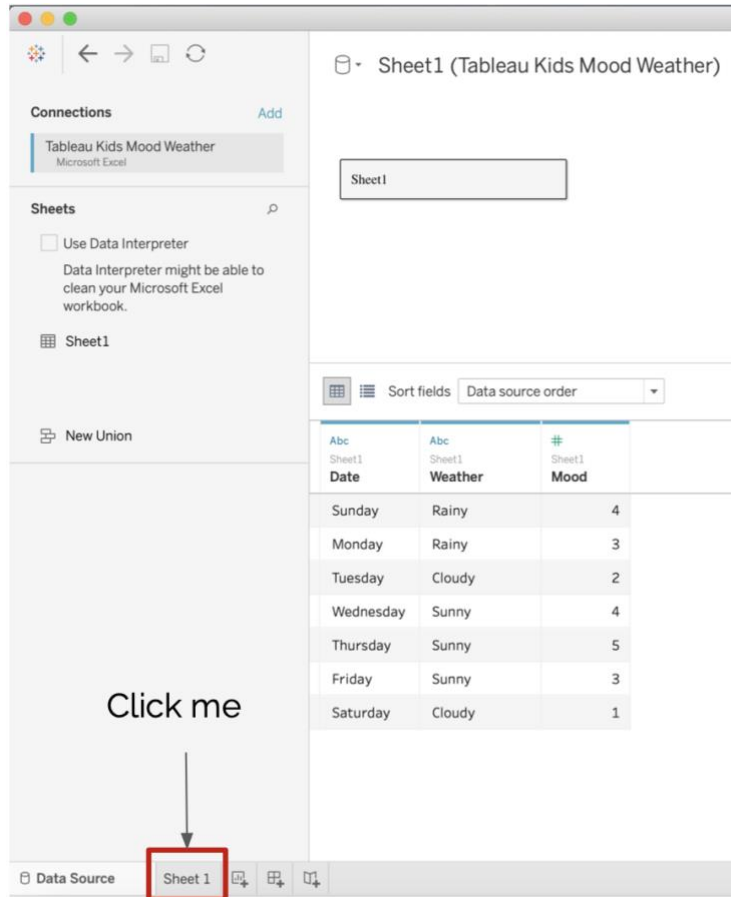
1. Digitize your data journal by entering the information you captured into Microsoft Excel or Google Sheets (if you do not have Microsoft Excel). It should look something like this:

	A	B	C
1	Date	Weather	Mood
2	Sunday	Rainy	4
3	Monday	Rainy	3
4	Tuesday	Cloudy	2
5	Wednesday	Sunny	4
6	Thursday	Sunny	5
7	Friday	Sunny	3
8	Saturday	Cloudy	1

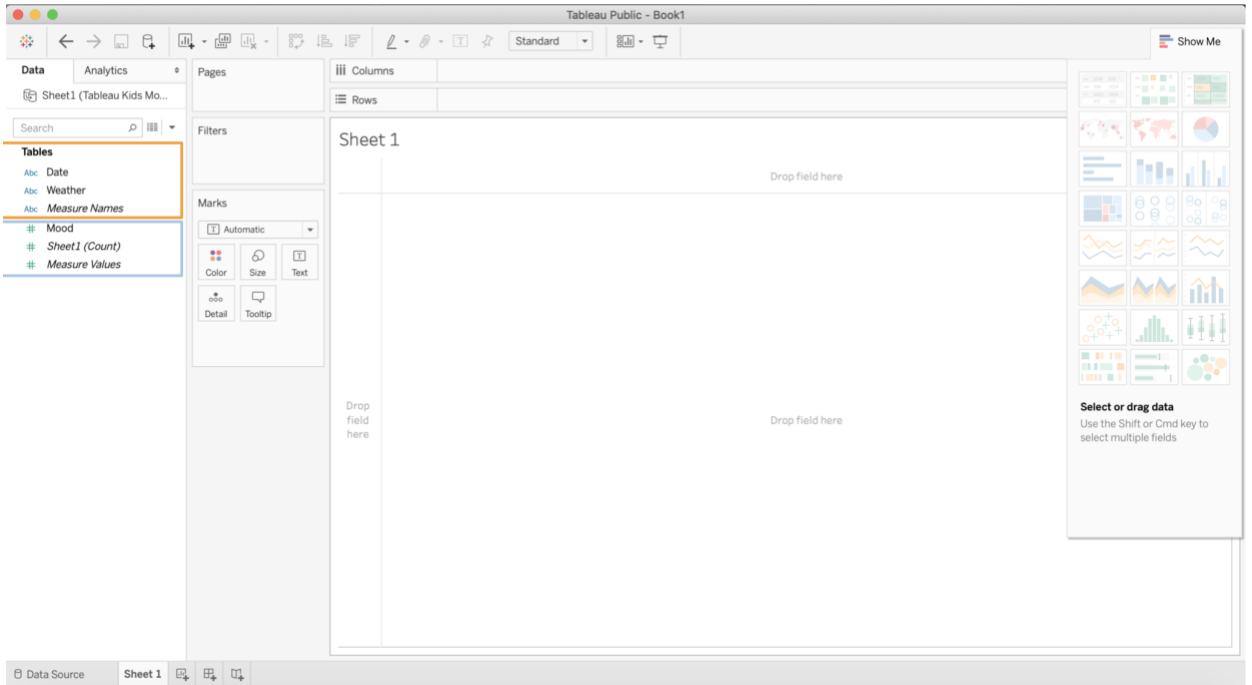
2. Open Tableau Public and import the file.



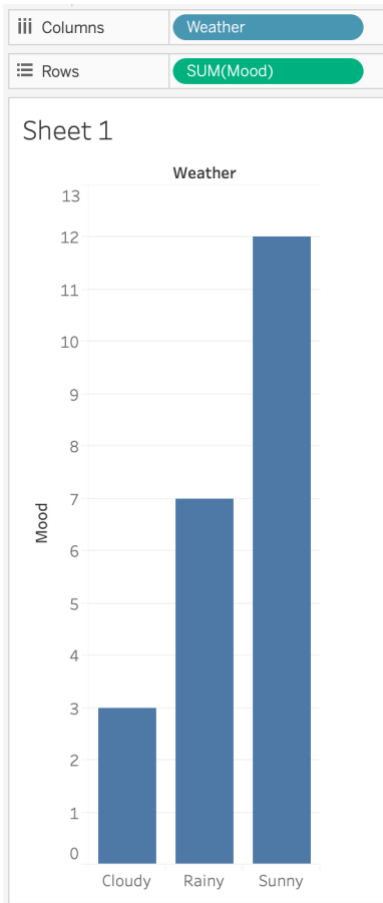
- Once you open your saved Excel sheet, the “Data Source” pane will open. The worksheet should automatically open, and a sample of your data will be available. Click the “Sheet 1” tab highlighted in the image below.



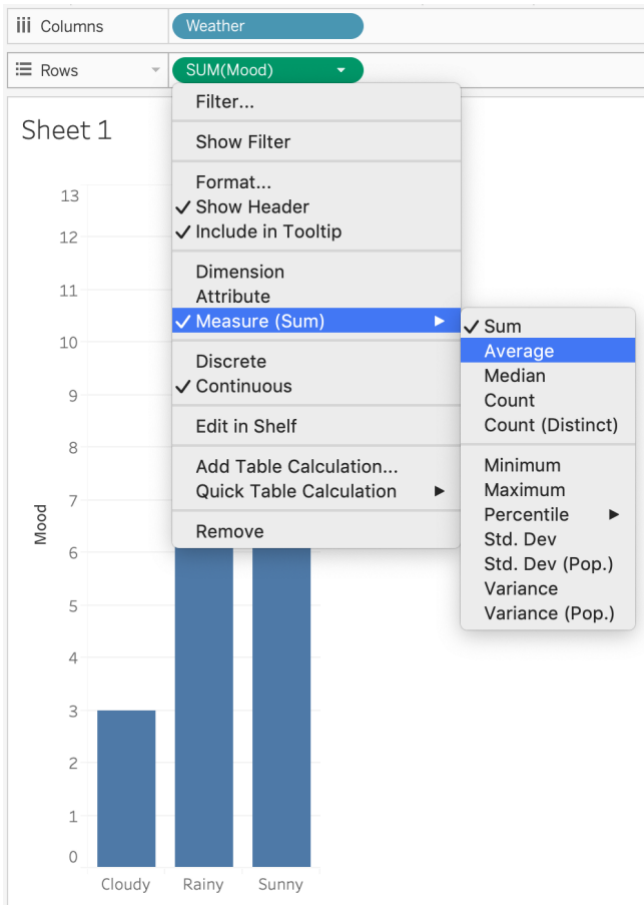
4. This is where you will build your data visualization. Your screen should look similar to the image below. The sections outlined on the left are the columns you imported. The columns in orange are categorical data (non-numerical information, like “rainy” or “sunny”), and the column in blue is numerical data (i.e., 5, 2, 1).



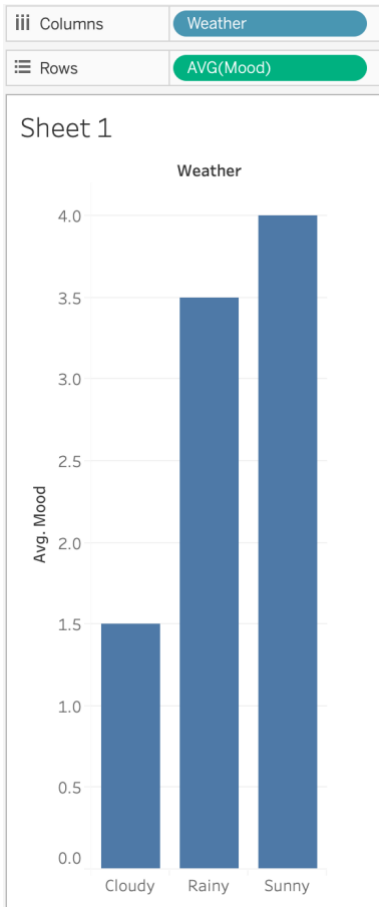
5. Drag “Weather” to the columns section at the top and drag “Mood” to the rows section to recreate your bar chart.



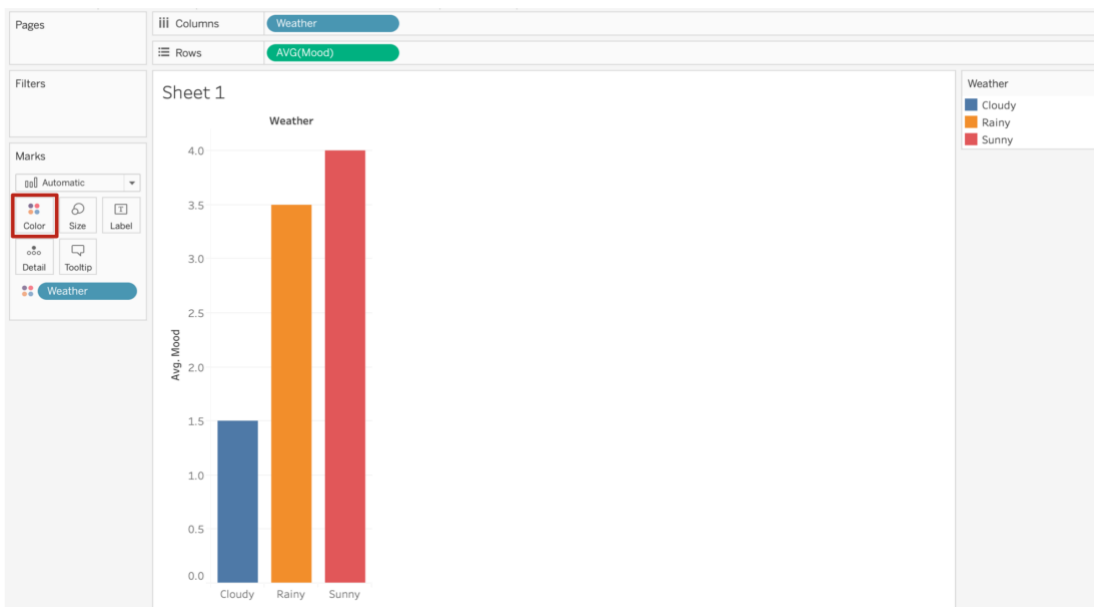
6. It looks a little different than the bar chart you created. Sunny has a y-axis value of 12, but your mood scale only went from 1-5. How is this possible? Tableau's default treatment of numerical values is to sum them. So Tableau added the mood values for each weather type and gave the bar graph for that. Hover over SUM(Mood) and choose "Average" from the drop-down menu.



- You've changed the y-axis value from the sum to the average mood for each weather, and now this graph has the same values as the one you made earlier. You'll notice a few other things you could've done in the drop-down menu, like getting the median, minimum, or count of moods. Play around and see what those look like.



8. Your bar chart is still missing something: some color! Color helps you understand if data belongs to different groups, and trends in data—particularly when you have graphs with more bars. Drag “Mood” to “Color” and let go.



9. Congratulations, you've digitized your data diary for your mood and the weather. Have some fun and try playing around with a few other attributes in the columns (i.e., Date) and see how this changes your visualization.

Conclusion:

You've learned:

- how to collect data
- how to represent abstract things like your mood through data
- how to analyze and visualize data
- how to calculate averages

You only collected information for one week. But the more data you collect, the closer it will be to representing the truth.

Share your data diaries with us by uploading them to Instagram, tagging @data.illustrations, and @tableausoftware and use the hashtag #datakids.

We can't wait to see your results.

Data Diary Template for Printing

<i>Date</i>	<i>Weather</i>	<i>Mood</i>	<i>Notes</i>
<i>Sunday</i>			
<i>Monday</i>			
<i>Tuesday</i>			
<i>Wednesday</i>			
<i>Thursday</i>			
<i>Friday</i>			
<i>Saturday</i>			