

Lab 5: Collecting Quantitative Data

Introduction

Your activity is to collect quantitative data using a survey tool. You will analyze the data during the next lab.

Learning Objectives

1. Learn how to collect quantitative data using a survey tool
2. Gain an understanding of different types of data

Assessment

To get full credit, you will need to create a survey that:

1. Has a specific topic or theme (not random questions)
2. Has 10 questions
3. Collects data from 25 participants
4. Has four categories of data
 - a. Binary
 - b. Nominal
 - c. Ordinal
 - d. Interval or Ratio

Data Types Overview

- **Binary:** Nominal attribute with only 2 states (0 and 1)
 - Male/Female; Yes/No
- **Nominal:** categories, states, or “names of things”
 - Hair_color = {auburn, black, blond, brown, grey, red, white}
 - Group number; zip codes
- **Ordinal:** Values have a meaningful order (ranking) but the difference between the values is not known.
 - Size = (small, medium, large); grade levels in school, military ranking, number of times a day
- **Interval:** Measured on a scale of equal-sized units, but no true zero-point.
 - Time, temperature in C or F, IQ test, age/dates, 5th grade,
- **Ratio:** Measured on a scale of equal-sized units, with a true zero-point.
 - Weight, height, distance, the Kelvin scale: 50 K is twice as hot as 25 K., number of siblings

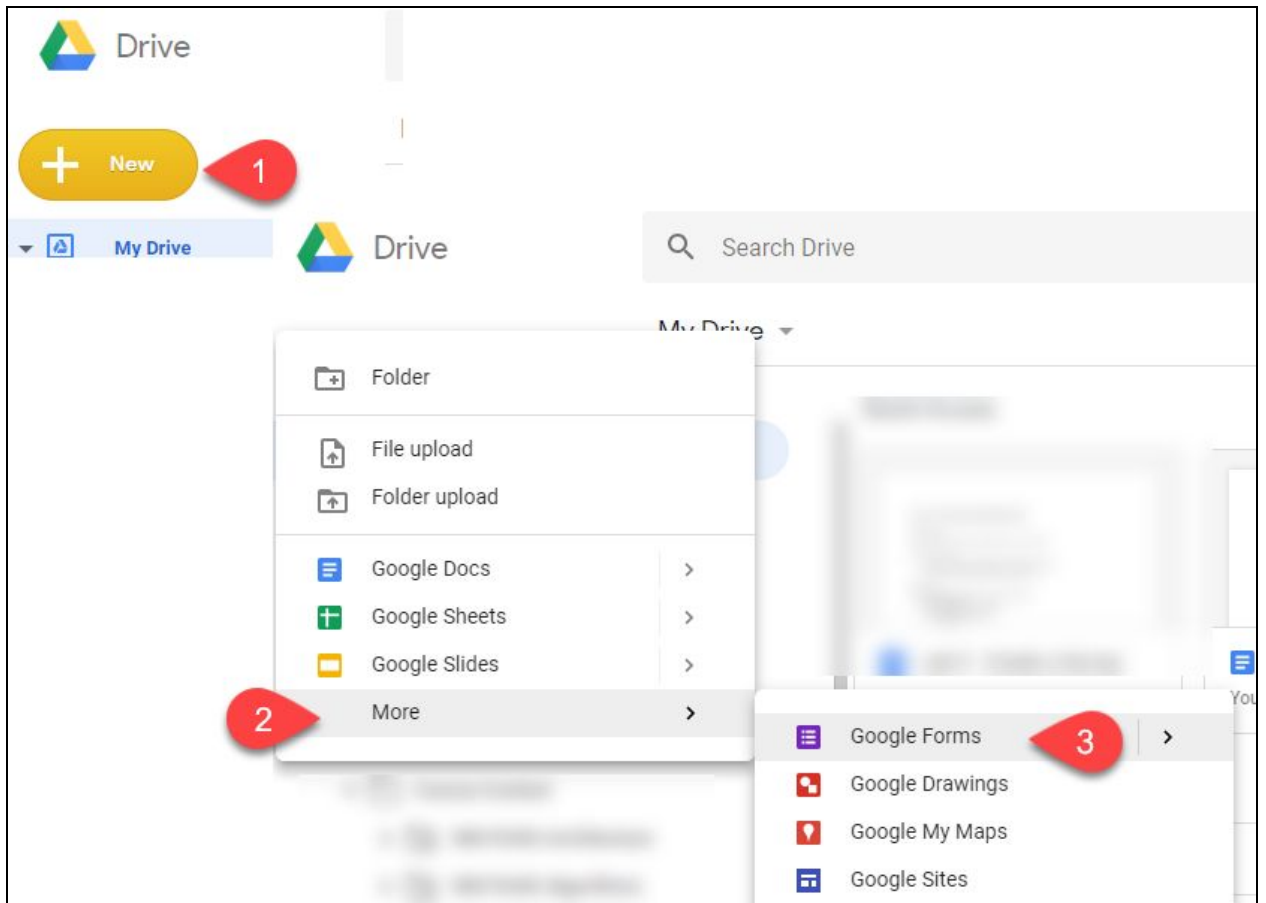
Task 1: Chose a survey topic

1. There is an unlimited number of topics that you can choose. Find something of interest to you. Here are some ideas to get you thinking.
 - Demographics (data about a population of people)
 - Age, gender, language, physical characteristics, where they live, preference of technology, mode of transportation, etc.
 - Be careful about asking personal questions
 - About education
 - How many hours a week they spend studying, their favorite subject, preference of food in the school cafeteria, favorite teacher, do they like their department (what they study)
 - Entertainment, activities
 - Do they play computer games, how many hours they spend playing games, watching movies, reading, etc, favorite sport
 - Travel
 - Have they traveled to another country, been another oblast' capital, stayed in a hotel, what is the longest bus ride they took, what mode of transportation do they prefer (bus, train, airplane)
 - Food
 - Opinion about a current topic or a range of topics
 - How do you rank the effectiveness of your president, should smoking be allowed inside, cleanliness of the city
2. Think about the type of data that you will gather. Your survey should collect data on four of these categories.
 - **Binary data:**
 - Yes/No; M/F
 - **Nominal:**
 - Which do you prefer? Bananas, peaches, or apples;
 - **Ordinal:**
 - **Opinion data:** On a scale of 1-5, what do you think about...
 - **Factual data:** What grade did you get in ICT last rating (A,B,C)? What floor is your flat on?
 - **Interval:**
 - How long does it take to get the university? What year were you born?
 - **Ratio:**
 - How tall are you? How much do you weight? How far do you live from the university?

Task 2: Build your survey

This section describes how to create a new survey using Google Form.

1. Navigate to <https://drive.google.com>
2. Log into your Google account when prompted
 - a. If you do not have a Google Account, sign up for one using any email address (you do not need a Gmail address)
 - b. For help, see [Help Creating a Google Account](#)
3. Once logged in: Click New → More → Google Forms → Blank Presentation



4. Give the form a title that relates to your topic

← **Untitled form**

QUESTIONS

Untitled form

Form description

Untitled Question

Option 1

5. Type in your question
6. Choose the type of question
 - a. Short answer: User types in the value
 - i. How old are _____
 - b. Multiple choice (one possible answer)
 - i. Do you attend classes on Saturday (yes / no)
 - ii. What do you think about....
 1. Strongly disagree
 2. Somewhat disagree
 3. Neither agree nor disagree
 4. Somewhat agree
 5. Strongly agree
 - c. Checkboxes (multiple answers)
 - i. What did you eat for lunch?
 1. Salad
 2. Samsa
 3. Soup
 4. Plov

Culture Survey

Form description

Untitled Question 1

2 Multiple choice

Option 1

Add option or [ADD "OTHER"](#)

Required

7. Fill in the selection for the user to choose

In what year were you born? *

Short answer text

Have you been to Russia? Multiple choice

Suggestions: [Maybe](#)

Yes ×

No ×

Add option or [ADD "OTHER"](#)

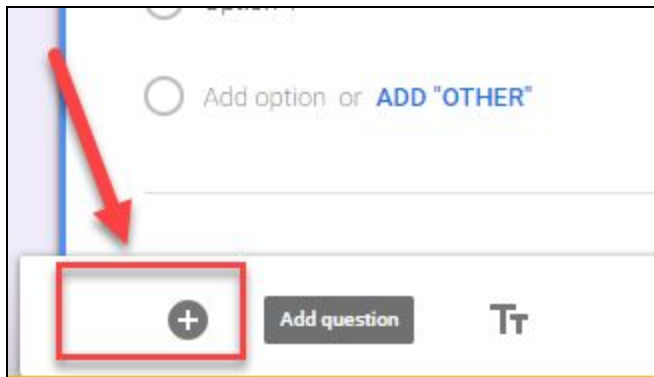
Required

8. Important!

- a. Check the required box if you want them to answer the question. Otherwise, you might get a survey with missing data



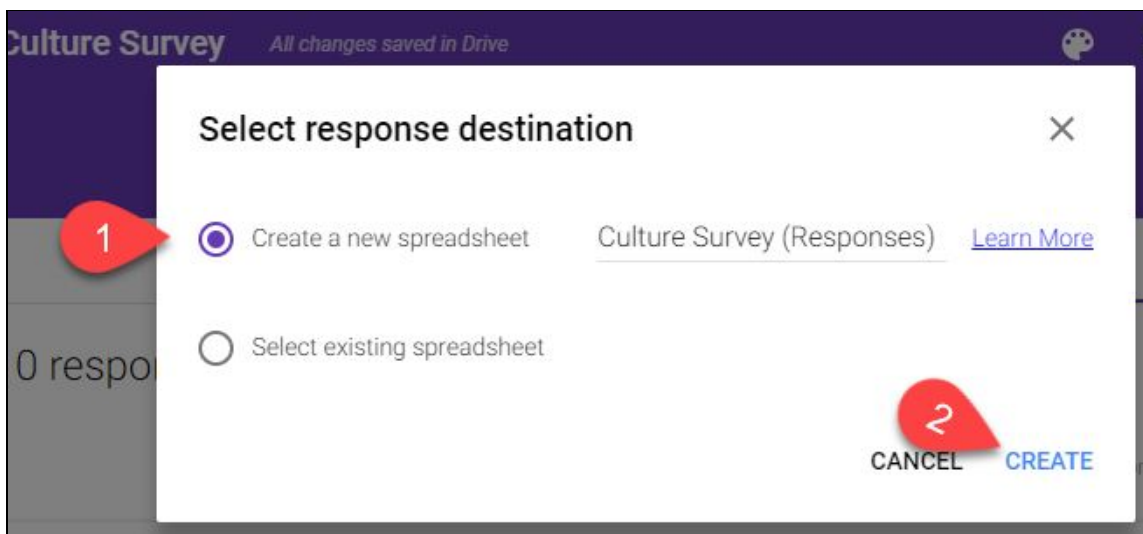
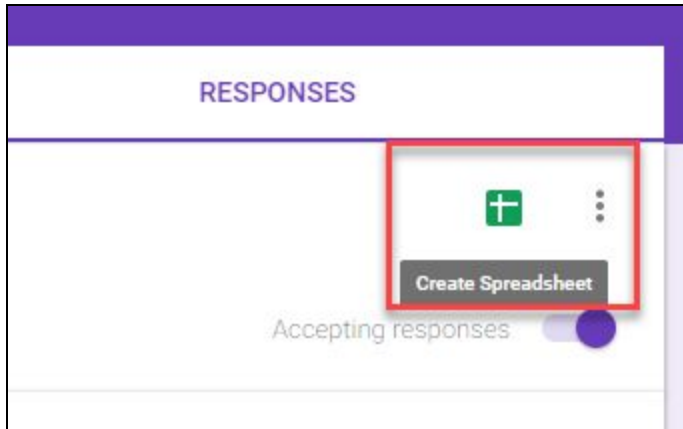
9. Click the + button to add another question.



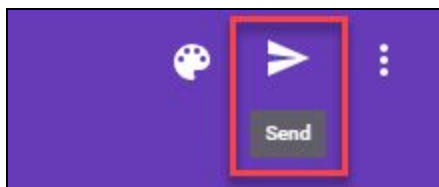
Task 3: Send your survey

When you are finished, you will want to send the survey to your friends!

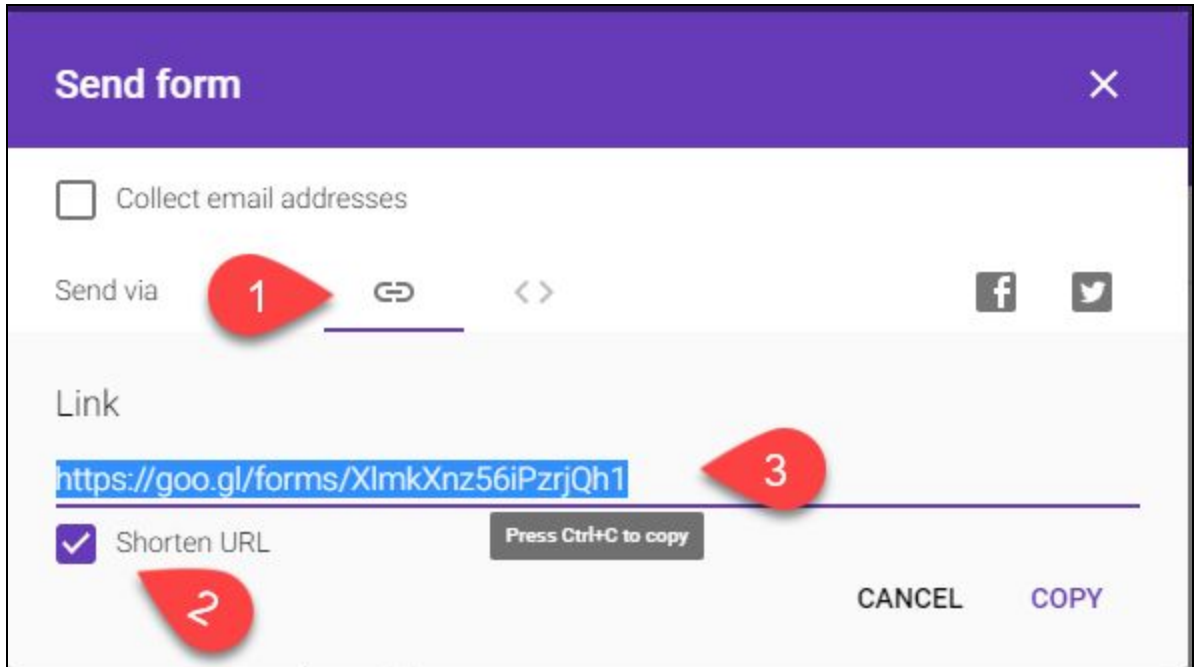
1. But first, you should link the data to a spreadsheet so you can download easily when you are done.
 - a. **Note:** You should not change the survey once you link the survey to a spreadsheet.



2. Click the **Send** button



3. Click the link icon, check the Shorten URL box, and then copy the link!



4. You can view the number of responses by clicking the responses tab

