

Project: Part 1

Exploring Dollar Street

The purpose of the course project is to give you opportunities to think like a statistician/data scientist and to provide you with experiences in the statistical investigative process.¹

The purpose of **Part 1** of the project is to explore Dollar Street. This particular portion of the project should be completed in your groups, unless a group member is absent.

Follow the steps given below. When there is a question requiring response, it is highlighted in green. Write your responses after each question number and title (e.g., 2. Your first family, 3. Your 2nd family, etc.).

1. Exploring

- Go to <https://www.gapminder.org/dollar-street>.
- Click around to explore the website. (Nothing needs to be written for problem #1)

2. Your first family

- Go back to the dollar street home page. At the top you should see a line of gray and black homes along what is called “Dollar Street,” which has “POOREST” on the left and “RICHEST” on the right. You should see pictures of many different families from different parts of the world. When you mouse over a family, it shows where their house lands on the POOREST to RICHEST spectrum.
- Click on a family. You should see where they are located and their monthly \$ per adult equivalent ranking. Record these aspects of the family. Then click “Visit this family.”
- Now you should be able to see photographs of many different aspects of the family’s home including their toothbrushes, toilets, furniture, etc. Think about what you find interesting or surprising in the photos. If applicable, discuss with your group. Record your responses in a few sentences.
- Make sure you have recorded everything highlighted in green for problem #2 in your assignment. Then you can move on to problem #3.

3. Your 2nd family: Similar \$ ranking, different location

- Go back to the dollar street home page and try to find a family with a **similar monthly \$ ranking** but in a **different region** of the world. You can “narrow down” the possible results by dragging the black tabs to make a smaller interval of \$ rankings. For instance, in the

¹ This project has been adapted from the Progressive Project designed by Jennifer Ward (Clark College). Millions of thanks to Jennifer for her ideas and inspiration.

image below I have moved the black tabs to limit the \$ rankings from \$163 to \$230 per month. (Green arrows are pointing at the black tabs you can drag to move.)

- **Record this family's location and dollar ranking.** Then click to visit the family and examine their photos.
- What do you notice about this family, what is similar, and what is different from the first family you visited? Discuss with your group (if applicable). **Record your responses in a few sentences.**

4. A rich family

- Go back to the dollar street home page and use the tabs to “narrow down” the results so that you are only looking at relatively rich families. Choose one rich family that lives in a different region than you.
- **Record this family's location and dollar ranking.** Then click to visit the family and examine their photos.
- What do you notice about this family, what is similar, and what is different from your lifestyle? Discuss with your group (if applicable). **Record your responses in 1-3 sentences.**

5. A poor family

- Go back to the dollar street home page and use the tabs to “narrow down” the results so that you are only looking at relatively poor families. Choose one family that lives in a different region than you.
- **Record this family's location and dollar ranking.** Then click to visit the family and examine their photos.
- What do you notice about this family, what is similar, and what is different from your lifestyle? Discuss with your group (if applicable). **Record your responses in 1-3 sentences.**

6. A different location

- Go back to the dollar street home page and click on the dropdown button on “The World” (near the top). Limit the location to a country you think you will likely never visit in the world. Choose one family that lives in this country.
- **Record this family's location and dollar ranking.** Then click to visit the family and examine their photos.
- What do you notice about this family, what is similar, and what is different from your lifestyle? Discuss with your group (if applicable). **Record your responses in 1-3 sentences.**

7. Learning about Dollar Street

- Go to <https://www.gapminder.org/about-gapminder/> to read about the organization that created Dollar Street. You need only read as much as you are interested to learn about the organization.
- Go to the “About Dollar Street” page ([link](#)) and read about Dollar Street. Pay particular attention to “How were the \$ values calculated?” near the bottom.

Suppose a study was conducted using Dollar Street photos to make inferences about the world. What biases do you think would affect the results? Discuss with your group, if applicable, and then **record your responses in 1-3 sentences.**

8. Identifying variables of interest

- Think about / Discuss with your group: **What aspects of their lifestyle as displayed in the photos did you find most interesting? Translate that into 6 different variables that could be studied and give the type of variable (categorical or numerical).** Some examples are given below.
 - o Example: “I was interested in the family’s light sources in the living room and kitchen.” The variables could be: whether the light appears safe for children (Yes/No, categorical), whether the light has wires attached to a wall (Yes/No, categorical), the type of light (electrical, candle, window), the number of lights (quantitative).
 - o “The floors interested me.” Variables: Whether the floor *could* be cleaned enough for me to eat off of it (Yes, No, Maybe, Not sure; categorical); how many materials I recognize in the floor (e.g., tile & grout → 2, numerical).

9. Research question proposals

- Think about / Discuss with your group: Based on the few families you’ve explored, what would you like to know more about? What aspects of might you be interested in studying for a group project on Dollar Street? **Record 6 candidate statistical questions that could be answered using dollar street.** Your questions could be about the percent of families who have some feature, comparisons across world regions, or comparisons across dollar rankings. Some examples are given below.
 - o What percent of the world has toothbrushes with wood handles?
 - o Does the percent of toothbrushes made with wood handles vary across continent?
 - o If the toothbrush is made out of wood, can that help predict financial ranking?
- The questions don’t need to all be about the same variable; I’m just showing you how the same variable (in this case, whether the handle is made of wood) can be in several different types of statistical questions.

10. Submission Instructions

- Be sure to make sure all the green highlighted prompts are answered and numbered according to the question numbers in this assignment.
- Ensure all “full time” group members’ names are listed at the top. (If someone missed part of the assignment, they need to submit separately).
- Save your responses as a pdf file
- Choose one group member to upload the file after saving the file name as YourlastnameYourfirstnameProject1.pdf
- Only one copy per group needs to be submitted.

Well done! You're finished!