Schrader, Dorothy V. “The Newton-Leibniz Controversy Concerning the Discovery of the Calculus.” The Mathematics Teacher, vol. 55, no. 5, 1962, pp. 385–96, <http://www.jstor.org/stable/27956626>.

This source is a detailed telling of the events concerning the controversy between Newton and Leibniz. It begins by discussing the mathematical climate of the seventeenth century in which infinite and infinitesimal math had begun to crop up which created the conditions for the discovery of calculus. The source goes on to quickly explain Newton’s method, which he called the method of Fluxions, and then Leibniz’s method which he called differentials. The next section outlines the timeline of the controversy and why it came about. It also presents the arguments that both sides made. It finishes by talking about the modern perception of the conflict and the effects that the conflict had on the mathematics community for centuries.

This article gives me a great idea of the shape of the conflict and its causes. It also includes some information about the cultural contexts of the time. Newton’s method of fluxions is also described which may be useful.

Alexanderson, Gerald, and Leonard Klosinski. “About the Cover: The Newton–Leibniz Controversy.” Bulletin of the American Mathematical Society, vol. 53, no. 2, Apr. 2016, pp. 295–99. www.ams.org, <https://doi.org/10.1090/bull/1526>.

This source begins by discussing reasons that it may be uncertain if Leibniz copied Newton’s work or if he did not. Then it explains an anagram that Newton sent to Leibniz when asked about his methods for what is now known as integration. Which was not of use to Leibniz. The paper next says that Leibniz published his discovery of calculus and was renowned for 15 years as the man who made the discovery. After those years a man named Fatio de Duillier accused Leibniz of plagiarizing Newton, which kicked off the controversy. The author next describes the controversy, and then the differences between the notion of Newton and Leibniz, in which Leibniz has the upper hand. The author suggests that this is a reason that Leibniz came out on top.

This gives me another account of the controversy to draw from.

Bressoud, David. “SA: Calculus Before Newton and Leibniz.” AP Central, 10 July 2006, <https://apcentral.collegeboard.org/courses/resources/calculus-before-newton-and-leibniz>.

This source talks about Archimedes and ibn al-Haytham’s methods for evaluating areas and volumes. Next, it talks about the invention of polynomials and formulas for sums of powers. It also says that Pascal’s triangle was invented by Abu Bakr al-Karaji in Baghdad and Jia Xian in China.

This source is helpful to describe the concepts in a simpler and more succinct way.

Rosenthal, Arthur. “The History of Calculus.” *The American Mathematical Monthly*, vol. 58, no. 2, 1951, pp. 75–86. *JSTOR*, <https://doi.org/10.2307/2308368>.

This text talks about Archimedes’ achievements in finding the volumes of shapes for which the volumes had not been previously known. It then mentions that further work was primarily done by Asian and Middle Eastern mathematicians but does not go into detail. This paper next goes on in great detail about the work that European mathematicians did on differentiation, integration, limits, and infinite series which led up to Newton and Leibniz’s discovery.

This will be useful for the information it has on the specific developments made by several European mathematicians. For example, it precisely describes Fermat’s method of finding tangent lines. It also helps make it clear that a lot of the specific concepts of calculus were invented by several different mathematicians over the centuries but that it was first formalized and generalized by Newton and Leibniz.

Katz, Victor J. “Ideas of Calculus in Islam and India.” *Mathematics Magazine*, vol. 68, no. 3, 1995, pp. 163–74. *JSTOR*, <https://doi.org/10.2307/2691411>.

This text starts by saying that some ideas which mathematicians in Europe had thought to be invented in the 16th or 17th centuries had actually been known for hundreds of years in other parts of the world. It then describes Fermat’s method for finding the area under a power function. In the following section, the text describes a similar method to Fermat’s which was used in the 11th century in Egypt to perform the integration of paraboloids. In the final section, the author shows the discovery of power series for trigonometric functions.

This source helps add more context to the history of calculus. Even though this information was unknown to Newton and Leibniz, it is still important to know that the work done by them and their contemporaries was not the only work that had been done, and in other parts of the world, it had been done earlier. To leave this out would be to imply that only Europe made any discoveries or that the only mattered when made in Europe.