

## Online Resources for Covid 19 and Differential Equations

Collected by Lina Ellis, The Westminster Schools

**Covid-19 Data Repository at Johns Hopkins -Data by state and country:**

<https://isaac-flath.shinyapps.io/coronavirus2/>

**Mathematics Consortium Working Group (MCWG) Problems:**

<https://mcwg.github.io/covid/>

Note: To gain full access to all of the resources at this site, you must first create a github account at <https://github.com/>. Then email your github username to the MCWG at [mcwg.contact@gmail.com](mailto:mcwg.contact@gmail.com).

**Resources on Covid 19 and exponential growth on related topics:**

3blue1brown on the exponential growth of epidemics: <https://youtu.be/Kas0tlxDvrg>

Kurzgesagt on COVID-19: <https://youtu.be/BtN-goy9VOY>

Washington Post simulator: <https://www.washingtonpost.com/graphics/2020/world/corona-simulator/>

Extended presentation by Nick Jewell for MSRI: <https://youtu.be/MZ957qhzcjI>

**Resources on the SIR Model:**

Really good Numberphile video: <https://www.youtube.com/watch?v=k6nLfCbAzgo>

Case study of Covid 19 in Italy: <https://www.nature.com/articles/s41598-020-72529-y>

SIR Model Simulation: <https://www.geogebra.org/m/utbemrca>

Tom Crawford on the SIR Model: <https://youtu.be/NKMHhm2Zbkw>

**Predator Prey Model:**

Numberphile Video: <https://www.youtube.com/watch?v=M0nRWcF1WJw>