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| Time | Activity | Materials Needed |
| 5 min | Introductions:* Welcome students & provide overview of the session
* Overview of Disease Modeling
 | Powerpoint Slide: Overview of Session |
| 7 min | Outbreak in a Cup Activity (in groups of 2-3) | Powerpoint Slides: DirectionsRed and white beansCupsPaper and pencil |
| 5 min | Groups Pair & Share | Powerpoint Slides: Questions (Share!) |
| 5 min | Class Discussion | Powerpoint Slides: Mathematical model & A more complicated disease model |
| 3 min | Intro to Malaria | Malaria Powerpoint Slide |
| 5 min | Introduction to Gapminder | Powerpoint slides: Introduction slides to GapminderGapminder.org “200 years that changed the world” video |
| 10 min | Gapminder: Impact of Water Sources on Malaria Outbreaks | Gapminder desktop app on computersExploring Gapminder handout |
| 10 min | Exploring Gapminder: * Ask students to experiment with changing the x and y axis to further explore the impact of Malaria on countries.
 | Gapminder desktop app on laptopsExploring Gapminder handout |
| 5 min | Closure:* What interesting trends did you notice?
* What questions do you have about using mathematics to understand diseases?
 | Powerpoint slide: optional final slide about malaria |

Module Plan: The Mathematics of Understanding Disease

Estimated: 50 minutes