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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: Directions  Red and white beans  Cups  Paper 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 Gapminder  Gapminder.org “200 years that changed the world” video |
| 10 min | Gapminder: Impact of Water Sources on Malaria Outbreaks | Gapminder desktop app on computers  Exploring 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 laptops  Exploring 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