

Epidemic Worldmaker model

This is a very simple model to show how epidemics such as **SARS** spread. There are three files, EPIDEMIC.DB, EPIDEMIC.SER AND EPIDEMIC.MB which need to be saved with the other Worldmaker data files, probably in C:\Program Files\Worldmaker\Worlds.

1. The entire 'World' is populated with uninfected people. Keeping a boundary around the perimeter stops infection from going across the northern border of the World and re-entering at the Southern, or similarly nipping around the back from side to side.
2. 'Dot' one or more infected people in the World, and set the program running. Use the chart to monitor the changes in numbers.
3. Repeat, without changing the probabilities. Sometimes the epidemic will die out quickly, sometimes it will spread.
4. Adjust the probabilities associated with the changes. These are:
 - 'Become infected' for the uninfected people. This is the probability of catching the disease during each cycle of the model while next to an infected person. This is set to 10% to start with.
 - 'Recover' in one possibility for the infected people, and 'die' is the other. Clearly the mortality rate is the fraction of the latter probability of the two probabilities added. If the ratio of the two probabilities here is kept the same but the values changed, this will change the time for which the infected person is infectious. Start with 'recover' set at 20% and 'die' at 4%. If these are changed to 10% and 2%, the mortality rate should be the same, but the disease will spread more easily.
5. Resizing the grid will give better statistics at the expense of not resolving the little people so well.
6. Further possibilities include changing the geometry of the World, e.g. putting a nearly-complete boundary down the middle to represent a not quite perfect quarantine.