CALIFORNIA STATE SCIENCE FAIR
2006 PROJECT SUMMARY

Name(s)

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Project Number

S1315

Project Title

Outbreak, Epidemic, Pandemic: An Investigation into the Patterns of the Spread of Infectious Disease

Abstract

Objectives/Goals

The main objective of this experiment is to determine patterns in the spread of infectious disease. This experiment can then be used as a representation of an actual human disease. Comparisons with historical pandemics and a possible future pandemic, such as Bird Flu, can then be created.

Methods/Materials

GloGerm Bacteria Simulation and the Eubacterium, Micrococcus roseus, were used to simulate infectious disease outbreak scenarios. Various human-human and human-object interactions were investigated.

Results

The method of infection spread was deduced based on the patterns of several different instances of infection spread. Vector-borne illness and human-to-human contact illness reveal different patterns of infection.

Conclusions/Discussion

Epidemiological analysis can differentiate the means by which infection is spread. Historical analysis, experimentation, and prediction of future events can be correlated.

Summary Statement

My project illustrates the spread of infection using a high school classroom as a model and shows that patterns of infection are correlated with the means of infection.

Help Received