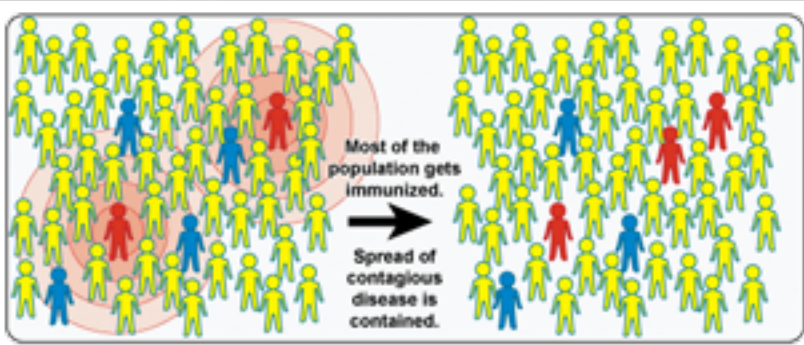


# Prep Steps

## Unit 2: Lesson 3

# The Development of Vaccines



# Lesson Questions

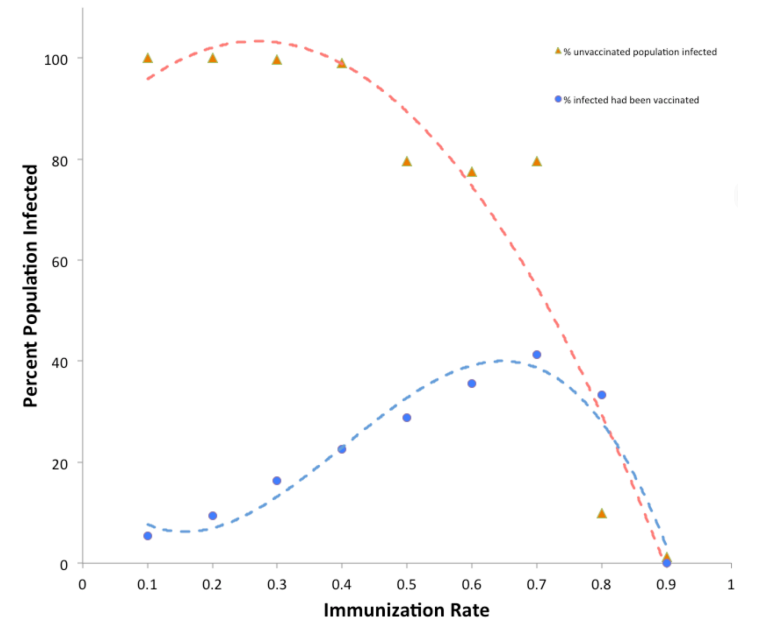
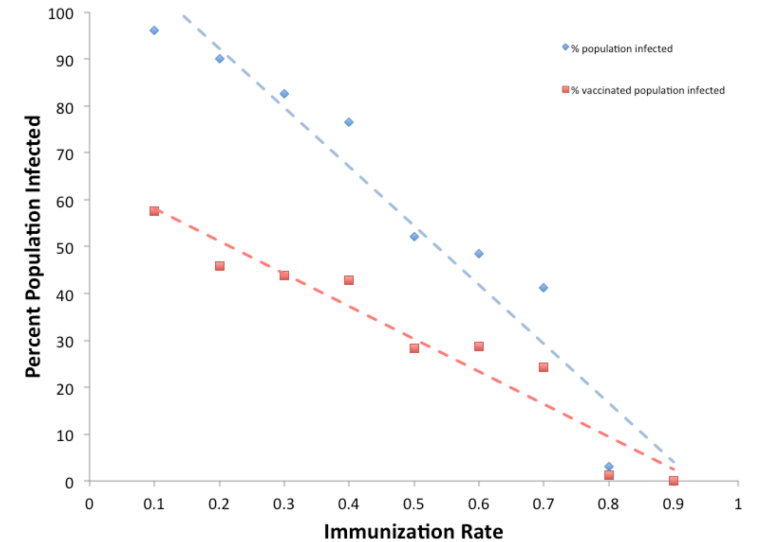
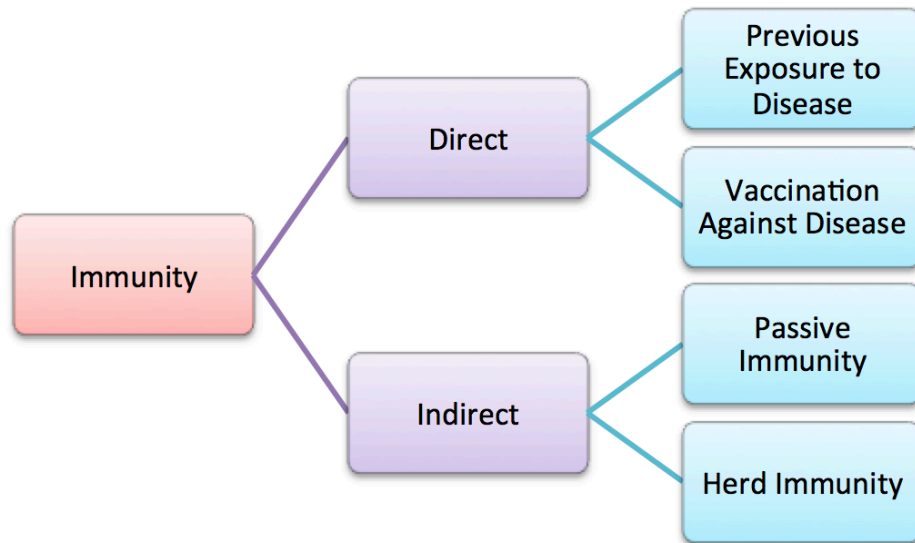
- What is the purpose of a vaccine?
- What are the different ways in which vaccines are made?
- How do vaccines protect populations of people?

# Lesson Objectives

- State the purpose of a vaccine.
- Give examples of different ways in which vaccines are made.
- Analyze how vaccines protect populations of people.

# Unique Lesson Features

- Computer simulation of herd immunity
- Model of types of immunity



# Lesson FAQs

- What's in the lesson?
  - Students explore the function and manufacture of vaccines.
  - Students evaluate the advantages and disadvantages of the various approaches to making vaccines.
  - Students analyze and graph data from a computer simulation of herd immunity and describe the concept of herd immunity.
- What interactives are there?
  - Students use an online simulator to model herd immunity given various scenarios.

# Lesson FAQs (cont.)

- What other activities are there?
  - Small groups research how a particular type of vaccine is made and completes a worksheet.
  - Groups present their findings to share with the class.
  - The class discusses various vaccine types, methods of production, advantages, disadvantages and examples.
  - Students work in small groups to explore a computer simulation of herd immunity.

# Lesson FAQs (cont.)

- What other activities are there? (cont.)
  - Students calculate various statistics from the simulations and graph their results.
  - Students self-evaluate responses to questions on their worksheets and are assessed based on their presentations and completion of the activity questions.
- How long is the lesson?
  - Two to three 45-minute sessions

# Lesson FAQs (cont.)

- What are the lesson pre-requisites?
  - Students should have:
    - Passed high school biology and chemistry
    - Completed all lessons in Unit 1 and Lessons 1 and 2 in Unit 2.
- Who is the lesson designed for?
  - College prep students
  - Honors students
  - Advanced placement students
  - GED students (lesson may need adapting)



# Lesson Content and Timing

