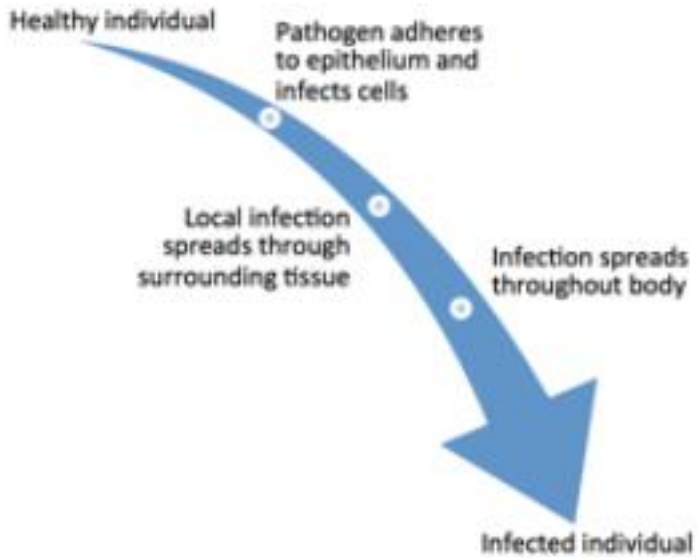


# Prep Steps

## Unit 2: Lesson 1

# The Development of Disease



# Lesson Questions

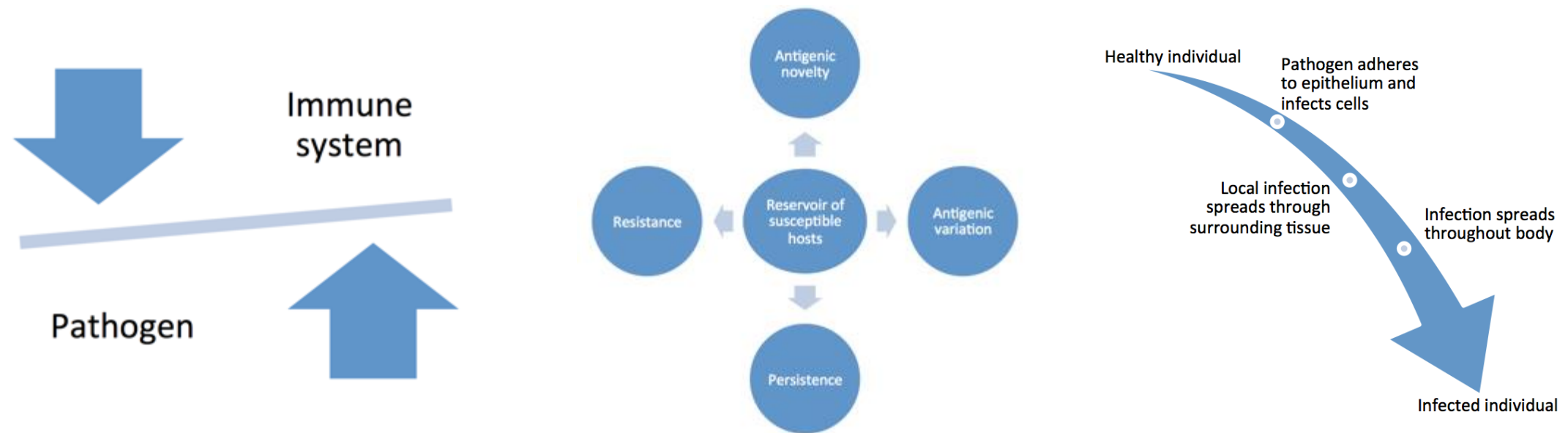
- How do antigens and the immune system affect each other's evolution?
- What are key steps in the process of the development of infection and disease?

# Lesson Objectives

- Define glossary terms related to the causes and development of infection and disease.
- Explain the roles of antigens and the immune system in the development of infection and disease.
- Describe key steps in the process of disease development.

# Unique Lesson Features

- Development of Disease—infection simulation game
- Models of disease



# Lesson FAQs

- What's in the lesson?
  - Students explore the origins of diseases, and pathogens that cause disease.
  - In a hands-on activity, students simulate an attack by pathogens on the immune system.
  - Students analyze models of the disease and the infection process.
  - Students explore glossary terms associated with disease.
- What interactives are there?
  - Students watch animations: *How Does Hepatitis B Combat the Immune System?* and *A Virus Attacks a Cell*.
  - Students drag and drop terms into fields in an interactive diagram of the infection process.

# Lesson FAQs (cont.)

- What other activities are there?
  - Students read a passage: *The Eternal Arms Race: The Constant Battle Between Pathogens and the Immune System*.
  - Students use simple graphical models to discuss the evolutionary balance between pathogens and the immune system.
  - Students play a game that simulates features of the infection process and the immune response.
  - Students write a post or article to explain how infection and disease develop.
  - Students create a concept map of how infection and disease develop.

# Lesson FAQs (cont.)

- What other activities are there? (cont.)
  - Students choose a disease to research in more detail and create a presentation that describes the development of the disease and the immune response.
  - Students 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.
- Who is the lesson designed for?
  - College prep students
  - Honors students
  - Advanced placement students
  - GED students (lesson may need adapting)



# Lesson Content and Timing

- Create list of disease scenarios in pop culture
- Write about disease scenarios
- Watch animations
- Explore interactive glossary
- Read passages
- Discuss pathogens and the immune system
- Play infection process game
- Write article
- Create concept map
- Explore interactive
- Research a disease
- Create presentation
- Assess students

