**Topic Review Guide-** Plant & Animal Defenses **Name \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_ # \_\_\_\_**

 **Read**: Chapter 43: Immune System

**Watch**: *Bozeman Science* videos by Paul Anderson

**Practice:** 

* **Quizlet:** [**https://quizlet.com/\_49svdu**](https://quizlet.com/_49svdu)
* Test Prep for AP Biology Unit 8

**Listen & Look:**

Here are key terms you will come across as you begin to learn this material. Familiarize yourself with them! At the end of the topic, create a concept map connecting them to one another.

**Key Terms**

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| --- | --- | --- | --- |
| * Pathogens
* Defense mechanisms
* Nonspecific/innate immunity
* Specific/adaptive Immunity
* Passive Immunity
 | * Humoral Response
* B-Cells
* Plasma Cells
* Antigen
* Antibodies
 | * Cell Mediated Response
* T-Cells
* Cytotoxic T-cells
* Cytokines
* Perforin
 | * Plant defenses
* Invertebrate defenses
 |

**Focus Questions:** Watch the [Plant and Animal Defense Video](http://www.bozemanscience.com/023-plant-and-animal-defense) and use your textbook and/or the video to help you answer these questions.[[1]](#footnote-1)

1. How do invertebrates and animals without a specific immune system defend against invaders? Plants? HINT: Watch the first six minutes of the [*Plant and Animal Defenses*](http://www.bozemanscience.com/023-plant-and-animal-defense) to answer this question.
2. Differentiate between a nonspecific and specific immune response.
3. **Compare and contrast** the two specific mammalian immune responses, *cell-mediated* and *humoral immunity* in terms of their sites of action, action, and cells involved.
4. **Define** *antigens* and *antibodies* and **describe** the relationship between them
5. **Describe** the cell-mediated response, including a definition and role of cytotoxic T cells, antigens, and antibodies.
6. **Describe** the humoral response, including a definition and role of B cells, antibodies, and antigens.
7. **Explain** the role of helper T-cells in the immune system. How are they different from B-cells?
8. **Identify** at least TWO different types of cellular communication present in the cell-mediated and/or humoral immune system of mammals and when/where these types of communication occur.
9. Why is it that you don’t get the chickenpox, once you have already had it (**Explain how and why** the second exposure to an antigen is different than the first OR **Explain** how immunity is acquired during a vertebrate’s life cycle)? *These are three different ways of asking the same question...can you identify the concept?*
10. If you are bitten by a venomous snake, what type of immunity are you given when you receive an anti-venom injection? When you received your hepatitis vaccination, what type of immunity are you given?
11. **Explain** why vaccines are effective tools in preventing disease.
12. **How** do invertebrate defenses differ from vertebrate defenses?
1. Focus questions modified from David Knufke, <http://mrknuffke.net/ap-biology> and Ruth Gleicher, <https://sites.google.com/a/d219.org/gleicher/ap-biology> [↑](#footnote-ref-1)