This worksheet is intended solely as a support resource to aid your studying. It is **not created, reviewed, or endorsed by the professor**. The material is based on approaches used by past SI leaders and reflects general patterns observed in exam-style questions. While it is designed to help you practice and strengthen your understanding, it should be used alongside official course materials.

1. Why is innate immunity fast but nonspecific, while adaptive immunity is slow but highly specific?
2. Why do neutrophils arrive first and macrophages later at infection sites?
3. Why do immune cells rely on chemokines instead of random movement?
4. Why is PGE2 considered the final mediator of fever instead of cytokines directly?
5. Why can both external (LPS) and internal (cytokines) cause fever?
6. Why are haptens not antigenic alone but become antigenic when bound to proteins?
7. Why are NK cells part of innate immunity, even though they kill infected cells like T cells?
8. Why don't antibodies directly kill pathogens but instead mark them?
9. Why is complement activation divided into recognition → activation → attack phases?
10. Why are there multiple T cell types (helper, cytotoxic, regulatory, memory) instead of one?

1. Which cell is MOST likely to arrive first at an infection site?
A. Macrophage
B. Neutrophil
C. T cell
D. B cell

2. Chemotaxis refers to:
A. Random movement of immune cells
B. Movement toward chemical signals
C. Cell division
D. Antibody production

3. Fever is directly caused by:
A. IL-1
B. TNF-α
C. PGE2
D. LPS

4. Which enzyme pathway produces PGE2 during fever?
A. Lipoxygenase
B. Cyclooxygenase
C. Adenylyl cyclase
D. Phosphatase

5. Lipopolysaccharide (LPS) is classified as:
A. Endogenous pyrogen
B. Exogenous pyrogen
C. Antibody
D. Complement protein

6. NK cells are activated primarily by:
A. Antibodies
B. Interferons
C. Complement proteins
D. Histamine

7. Which lymphocyte is part of innate immunity?
A. B cell
B. T cell
C. NK cell
D. Plasma cell

8. Antibodies primarily function to:
A. Destroy pathogens directly
B. Increase body temperature
C. Mark pathogens for destruction
D. Produce cytokines

9. Opsonization refers to:
A. Antibody production
B. Enhanced phagocytosis
C. T cell activation
D. Complement inhibition

10. Which complement protein initiates the classical pathway?
A. C3
B. C5
C. C1
D. C9

11. The membrane attack complex (MAC) primarily causes:
A. Phagocytosis
B. Cytokine release
C. Cell lysis
D. Antibody production

12. CD8+ T cells are responsible for:
A. Antibody secretion
B. Killing infected cells
C. Activating B cells
D. Producing histamine

13. Which T cell type suppresses immune responses?
A. Helper T cell
B. Cytotoxic T cell
C. Regulatory T cell
D. Memory T cell

14. IgE antibodies are most associated with:
A. Bacterial infection
B. Viral infection
C. Allergic reactions
D. Autoimmune disease
15. A hapten becomes antigenic when it:
A. Is large enough
B. Binds to a protein
C. Activates complement
D. Enters circulation